5.8 LAND USE

5.8.1 INTRODUCTION

This section characterizes land uses in the East of the Rockies (EOR) Region and describes some land use on the Canadian side of the border that could be affected by some U.S. Customs and Border Protection (CBP) activities. For example, construction projects that introduce noise and light pollution along the border could affect the suitability of land to support its current or planned use on both sides of the border. Other actions, however, such as direct removal of land from existing uses for CBP-related infrastructure construction, would not affect the Canadian side. The U.S. Geological Survey (USGS) and Natural Resources Canada (NRC) define land cover and land use classifications.

5.8.2 AFFECTED ENVIRONMENT

This section describes land use and cover for the EOR Region. The summary tables characterize land use and cover according to the USGS Multi-Resolution Land Characteristics Consortium (MRLC) National Land Cover Database (NLCD) and USGS's Gap Analysis Program (USDOI, 2001; USDOI, 2010). The summary tables for Canada summarize land use and cover according to NRC's Advanced Very High Resolution Radiometer (AVHRR) land cover data and NRC's protected areas data on regions of 10 sq km or larger compiled by the Canadian Council on Ecological Areas (CCEA) (NRC, 2009; NRC, 2007).

5.8.2.1 Land Cover and Related Land Uses in the EOR Region

The EOR Region covers about 68 million acres, approximately 34.7 percent of the land area of the states in the region (Minnesota, Montana, and North Dakota). The most prevalent land cover type within the study area is agricultural land (39.0 percent total with 35.3 percent in cultivated crops and 3.7 percent in pasture/hay), which makes up the majority of the study area in North Dakota (62.3 percent). Herbaceous land cover (26.1 percent) is the next most prevalent land cover type and covers almost half of the study area in Montana (Table 5.8-1). Forest and water/wetlands together constitute about another quarter of the land cover of the EOR Region (14.8 percent forested and 13.0 percent water/wetlands), but make up three-quarters of the land cover of the study area in Minnesota (43.1 percent forested and 30 percent water/wetlands). Snow/ice/barren land cover (4.5 percent); developed areas (2.7 percent) are the least prevalent.

The study area includes a high percentage of agricultural lands (specifically cultivated crops) and herbaceous land relative to the entire country, though their relative presence is proportional to the land cover in the states as a whole. The amount of developed land in the study area is low compared to the country, but similar to that of the region's states. The study area has a relatively low percentage of snow/ice/barren and water/wetlands land cover relative to the entire country.

Table 5.8-1. Land Cover for the East of the Rockies Region

Border State and Study Area East of the Rockies Region		Total Land Area (thousands of acres)	Developed (%)	Cultivated Crops (%)	Pasture/ Hay (%)	Herbaceous (%)	Forested (%)	Water/ Wetlands (%)	Snow/Ice/ Barren Land** (%)
Minnesota	Study area EOR Region	19,636	2.4	16.8	3.9	1.1	43.1	30.0	2.7
	Statewide	55,687	5.1	38.1	7.8	2.7	26.7	18.2	1.4
Montana (EOR Region)	Study area EOR Region	27,911	1.7	33.9	0.7	48.0	4.2	3.0	8.5
	Statewide	95,383	1.3	14.2	1.8	42.1	22.2	2.4	16.0
North Dakota	Study area EOR Region	20,538	4.3	54.7	7.6	20.3	2.1	10.2	0.9
	Statewide	45,227	4.0	46.6	8.4	29.7	1.7	8.3	1.3
EOR Region	Study area EOR Region	68,085	2.7	35.3	3.7	26.1	14.8	13.0	4.5
	Selected states	196,298	3.0	28.4	5.0	28.1	18.8	8.2	8.5
Total United States* **		**2,053,000**	**5.0**	**21.9**		**14.1**	**31.2**	**27.7**	

* The EOR Region includes all areas 100 miles south of the U.S.-Canada border in Minnesota, North Dakota, and the portion of Montana east of the Rocky Mountains.

** "Barren Land" includes the NLCD land classification "Shrub/Scrub."

** Data for the United States as a whole are shown as calculated in USEPA, 2008. This report sums land cover categories for cultivated crops and pasture/hay to account for total agricultural cover, and sums snow/ice, barren, and wetlands land cover. This table aggregates the USEPA, 2008 calculation of water and shrub/scrub land cover with their category of snow/ice/barren/wetlands, though water alone covers 1.6 percent of the land area in the United States, while snow/ice/barren/wetlands cover 5.7 and shrub/scrub covers 20.4 percent.

Source: (USDOI, 2001.).

Figures 5.8.1 and 5.8.2 show maps of land cover and use in the WOR region.

Recreation also occurs on other land not specifically designated for the activity and land other than that profiled in Section 5.17 (Recreation), which focuses specifically on major Federal recreation sites. For example, wildlife viewing or hiking may be permitted on some conservation or natural areas in the study area. In addition, hunting and snowmobiling may occur on public or private forested land areas. Absent information on the specific distribution of recreational activities across the landscape, this analysis relies on the above categories of land as low-end estimates of the area in which recreation is likely taking place.

Recreational land use in the EOR Region accounts for 848,000 acres or 1.2 percent of the total land area, which is lower than the share of recreational land use for the country as a whole (10.1 percent) (Table 5.8-2). The National Park Service (NPS) manages the most recreational land in the region, just over half of the total recreational acres. The majority of these NPS-managed lands are in Montana. Much of the NPS land in the EOR Region is in national parks (Voyageurs National Park in Minnesota, Theodore Roosevelt National Park in North Dakota, and Glacier National Park in Montana). Section 5.17 discusses the potential impacts of CBP activities on recreational lands. Appendix I provides the recreational profiles of major Federal U.S. and Canadian recreation areas in the study area.

Conservation areas in the EOR Region account for about 6.4 million acres or 9.4 percent of total land area (Table 5.8-3), slightly less than the share of conservation land in the country as a whole (14.6 percent), but similar to the amount of conservation land in the region's states (8.8 percent). The largest conservation areas that overlap the EOR Region are the Boundary Water Canoe Area in Minnesota (managed by the U.S. Forest Service [USFS]) and areas of state trust land in Montana held by the State Land Board.

Table 5.8-2. Recreational Land Use in the East of the Rockies Region

Border State and Study Area East of the Rockies Region		Recreational Land Use** (thousands of acres)	Share of Recreational Land Use (%)
Minnesota	Study area EOR Region	205	1.0
	Statewide	2,486	4.5
Montana (EOR Region)	Study area EOR Region	514	1.8
	Statewide	14,344	15.0
North Dakota	Study area EOR Region	129	0.6
	Statewide	187	0.4
EOR Region	Study area EOR Region	848	1.2
	Selected states	17,018	8.7
Total United States		**208,088**	**10.1**

* The EOR Region includes all areas 100 miles south of the U.S.-Canada border in Minnesota, North Dakota, and the portion of Montana east of the Rocky Mountains.

* Recreation lands are all lands clearly identified by USGS title of land type as intended for recreation (e.g., parks, scenic areas, or recreation areas).

Source: (USDOI, 2010).

Table 5.8-3. Conservation Land Use in the East of the Rockies Region

Border State and Study Area East of the Rockies Region		Conservation Land Use (thousands of acres)	Share of Conservation Land Use (%)
Minnesota	Study area EOR Region	2,148	10.9
	Statewide	2,927	5.3
Montana (EOR Region)	Study area EOR Region	3,749	13.4
	Statewide	11,800	12.4
North Dakota	Study area EOR Region	470	2.3
	Statewide	2,493	5.5
EOR Region	Study area EOR Region	6,367	9.4
	Selected states	17,220	8.8
Total United States		**300,149**	**14.6**

* The EOR Region includes all areas 100 miles south of the U.S.-Canada border in Minnesota, North Dakota, and the portion of Montana east of the Rocky Mountains.

* Conservation lands are all lands clearly identified by USGS title of land type as intended for conservation (e.g., reserves, preserves, conservation land, natural areas).

Source: (USDOI, 2010).

5.8.2.2 Land Cover and Related Land Uses in the Areas North of the EOR Region

This section considers resources north of the border from the EOR Region extending 2 miles into Canada and covering about 1.1 million acres (Table 5.8-4). Over 80 percent of this area is agricultural (38.1 percent cultivated crops and 43.7 percent pasture/hay). Agricultural land is substantially more prevalent in this area than in the related provinces (less than 30 percent agricultural). The next most common land cover type is forested (15.9 percent), which is substantially less widespread than in each of the selected provinces and less prevalent compared to the country as a whole. Developed areas make up an inconsequential portion of the study area. Whereas very little snow/ice/barren land cover occurs in Canada just north of the border from the EOR Region, 38.2 percent of land in all of Canada is classified as snow/ice/barren, due to the prevalence of tundra in the country's northern reaches. Water/wetlands are also less prevalent in the study area compared to the provinces and to the country as a whole.

Table 5.8-4. Land Cover in Canada North of the East of the Rockies Region

Border Province and Study Area East of the Rockies Region		Total Land Area (thousands of acres)	Developed (%)	Cultivated Crops (%)	Pasture/ Hay (%)	Forested (%)	Water/ Wetlands (%)	Snow/Ice/ Barren (%)
Alberta	Study area EOR Region	215	0.0	52.7	33.2	9.4	0.0	4.7
	Province	158,076	0.1	11.6	19.6	64.1	2.4	2.2
Manitoba	Study area EOR Region	369	0.0	1.5	55.9	38.6	4.0	0.0
	Province	141,884	0.1	1.2	10.3	54.2	11.6	22.7
Saskatchewan	Study area EOR Region	479	0.0	59.8	38.9	1.3	0.0	0.0
	Province	156,191	0.0	9.4	33.0	47.2	4.9	5.5
Selected provinces	Study area EOR Region	1,063	0.0	38.1	43.7	15.9	1.4	1.0
	Total for selected provinces	456,150	0.1	7.6	21.3	55.2	6.1	9.7
Total Canada		**2,071,476**	**0.1**	**1.7**	**6.0**	**46.7**	**7.3**	**38.2**

* The areas north of the EOR Region in Canada include the portions of Alberta, Manitoba, and Saskatchewan provinces extending 2 miles north of the U.S.-Canada border.

Source: (NRC, 2009).

As Table 5.8-5 indicates, recreational land use north of the border from the EOR Region accounts for about 52,000 acres, or 4.9 percent of the total land area, which is comparable to the proportion of recreational land use in Canada as a whole (6.1 percent).

In Alberta, the share of recreational land use in the areas north of the border from the EOR Region is greater than recreational land use in the province as a whole; the opposite is true in Manitoba. The majority of the recreational land area is in national parks (Grasslands National Park and Waterton Lakes National Park).

Conservation areas in the areas north of the EOR Region make up about 139,000 acres, or 13.1 percent of the total study area, which is greater than the proportion of conservation areas in Canada as a whole (4.7 percent). The proportion of conservation land in the areas north of the border from the EOR Region is more than four times that of the province (Table 5.8-6).

Table 5.8-5. Recreational Land Use in Canada North of the East of the Rockies Region

Border Province and Study Area East of the Rockies Region		Recreational Land Use (thousands of acres)	Share of Recreational Land Use (%)
Alberta	Study area EOR Region	24	10.9
	Province	10,782	6.8
Manitoba	Study area EOR Region	11	2.9
	Province	10,106	7.1
Saskatchewan	Study area EOR Region	18	3.7
	Province	4,187	2.7
Selected provinces	Study area EOR Region	52	4.9
	Total for selected provinces	25,075	5.5
Total Canada		**126,389**	**6.1**

* Areas north of the EOR Region in Canada include the portions of Alberta, Manitoba, and Saskatchewan provinces extending 2 miles north of the U.S.-Canada border.

Source: (NRC, 2007).

Note: Recreation Lands were identified as all lands clearly identified in the NRC dataset as intended for recreation, for example, described as parks or recreation areas.

Table 5.8-6. Conservation Land Use in Canada North of the East of the Rockies Region

Border Province and Study Area East of the Rockies Region		Conservation Land Use (thousands of acres)	Share of Conservation Land Use (%)
Alberta	Study area EOR Region	21	9.7
	Province	868	0.5
Manitoba	Study area EOR Region	1	0.3
	Province	3,449	2.4
Saskatchewan	Study area EOR Region	117	24.4
	Province	8,782	5.6
Selected provinces	Study area EOR Region	139	13.1
	Total for selected provinces	13,099	2.9
Total Canada		**98,234**	**4.7**

* Areas north of the EOR Region in Canada include the portions of Alberta, Manitoba, and Saskatchewan provinces extending 2 miles north of the U.S.-Canada border.

Source: (NRC, 2007).

Notes: Conservation lands are all lands clearly identified in the NRC dataset as intended for conservation; for example, described as reserves, preserves, protected areas, habitat areas.

Figure 5.8-1. Land Cover in the East of the Rockies Region

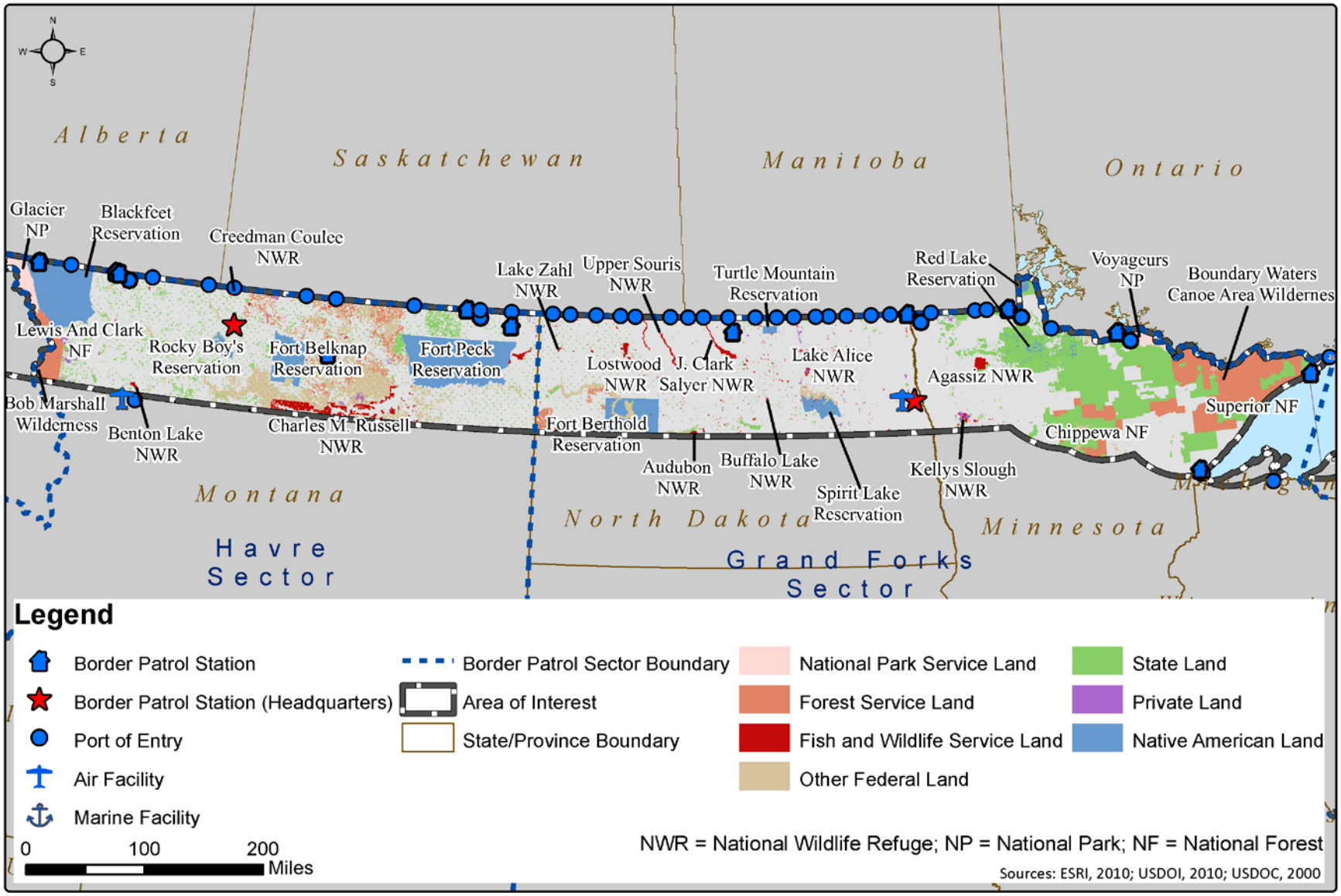
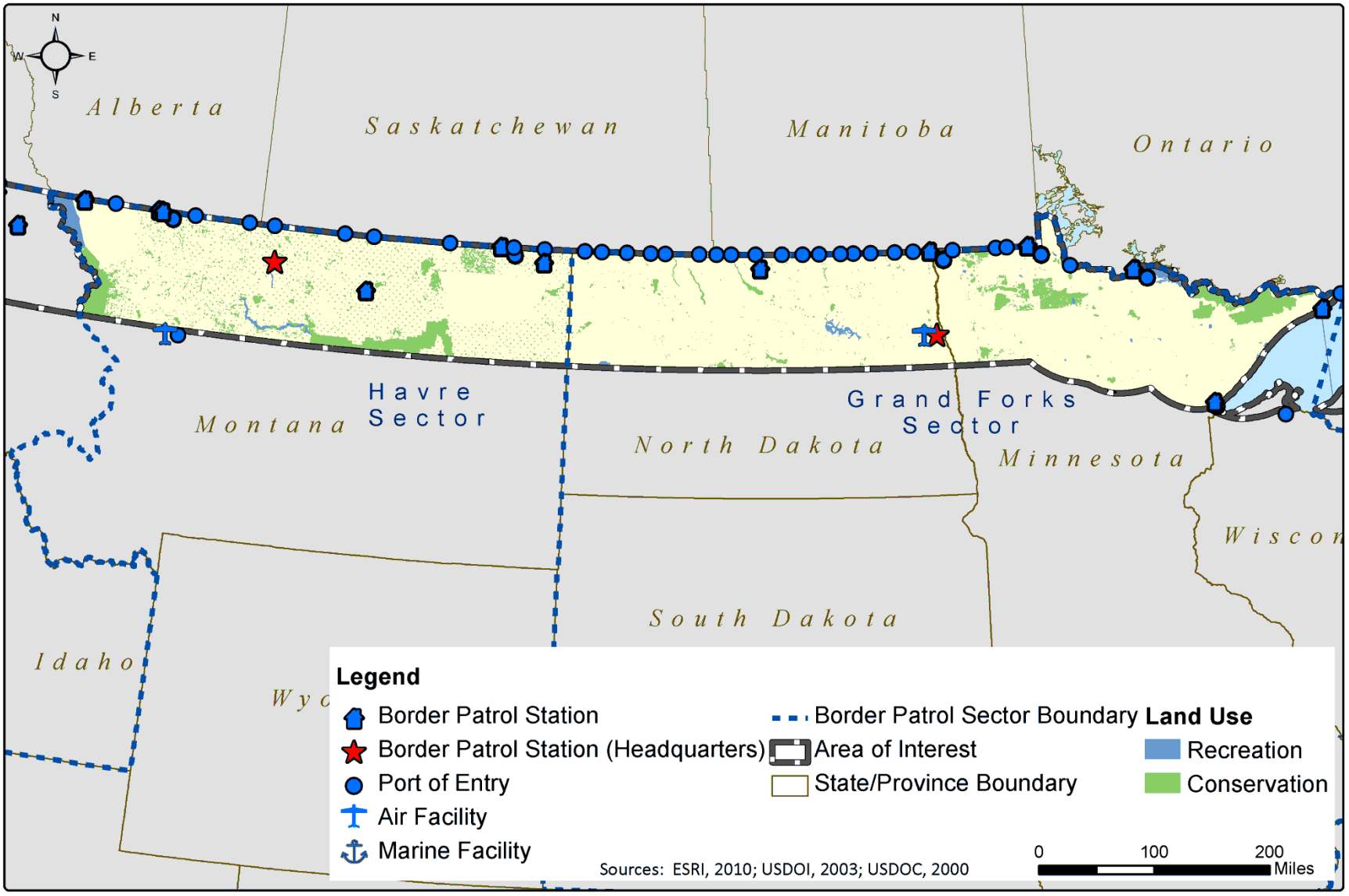


Figure 5.8-2. Land Use in the East of the Rockies Region



5.8.2.3 Land Ownership in the EOR Region in the United States

The major categories of land ownership in the EOR Region are Federal (13.3 percent), state (12.6 percent), and tribal (8.0 percent). No private lands were identified in the region (Table 5.8-7). Federal lands include national parks, national forests, conservation areas, and military lands managed by the Bureau of Land Management (BLM), Bureau of Reclamation (BOR), Department of Defense (DOD), Department of Energy (DOE), U.S. Fish & Wildlife Service (USFWS), USFS, NPS, or are classified as "other Federal land." State lands are properties owned by state departments of conservation, departments of land, departments of natural resources, departments of transportation, fish and wildlife, historical societies, state land boards, parks and recreation, or classified as "other state land." Tribal land accounts for regions owned by Native American tribes and are recognized by the Federal government. Federal laws and the Constitution grant Tribal Nations greater sovereignty than that granted to state or local governments. Private lands are those owned by the Audubon Society, the Rocky Mountain Elk Foundation, The Nature Conservancy (TNC), private universities, other conservation groups, or private non-profits, or classified as "private conservation easement/conservation deed restriction," "private conservation land," or "private institution–managed for biodiversity."

The EOR Region includes about 9.1 million acres of Federal land, accounting for 13.3 percent of land ownership. The USFS manages the majority of Federal land in this region as national parks and national grasslands. In the study area in Montana, the BLM manages about 50 percent of Federal lands, 1.4 million acres of which is within the BLM's Malta District.

Approximately 8.5 million acres of state land sit within the EOR Region, accounting for 12.6 percent of land ownership. The majority of these lands—6.4 million acres—are state parks and wildlife management areas in Minnesota. Another 1.8 million acres are state trust land in Montana. The share of state land ownership in the region is greater than that of the United States as a whole.

In the EOR Region, tribal lands account for about 5.5 million acres. Tribal land within the EOR Region in Montana includes the Blackfeet Reservation, Fort Belknap Reservation, Fort Peck Reservation, and Rocky Boy's Reservation (Figure 5.8-3). The Blackfeet Reservation (1.5 million acres) lies on the border and contains the Piegan port of entry (POE) and the De Bonita POE. Overall, the proportion of area that is tribal land is slightly greater in the study area (8.0 percent) than in the selected states (5.2 percent) and in the country as a whole (4.9 percent). For a complete discussion of Native American resources along the Northern Border in the EOR Region, refer to Section 5.11 of this report.

The EOR Region includes about 210,000 acres of land area classified as private. The majority of this private land occurs in Montana (almost 200,000 acres) and is under state-managed conservation easements. The Nature Conservancy also own portions of this land in the region. The share of private land ownership in the study area is less than that for the country as a whole. Figure 5.8-3 maps land ownership in the EOR Region.

Table 5.8-7. Land Ownership in the East of the Rockies Region

Border State and Study Area East of the Rockies Region		Federal Land		State Land		Tribal Land		Private Land	
		Thousands of Acres	Share (%)	Thousands of Acres	Share (%)	Thousands of Acres	Share (%)	Thousands of Acres	Share (%)
Minnesota	Study area EOR Region	3,262	16.6	6,219	31.7	156	0.8	52	0.3
	Statewide	4,042	7.3	9,115	16.4	156	0.3	253	0.5
Montana (EOR Region)	Study area EOR Region	4,730	16.9	1,905	6.8	4,342	15.6	123	0.4
	Statewide	26,975	28.3	5,646	5.9	8,248	8.6	2,998	3.1
North Dakota	Study area EOR Region	1,069	5.2	424	2.1	982	4.8	35	0.2
	Statewide	4,327	9.6	941	2.1	1,780	3.9	73	0.2
EOR Region	Study area EOR Region	9,061	13.3	8,548	12.6	5,480	8.0	210	0.3
	Selected states	35,344	18.0	15,702	8.0	10,184	5.2	3,324	1.7
Total United States		**657,885**	**32.0**	**189,314**	**9.2**	**100,574**	**4.9**	**15,918**	**0.8**

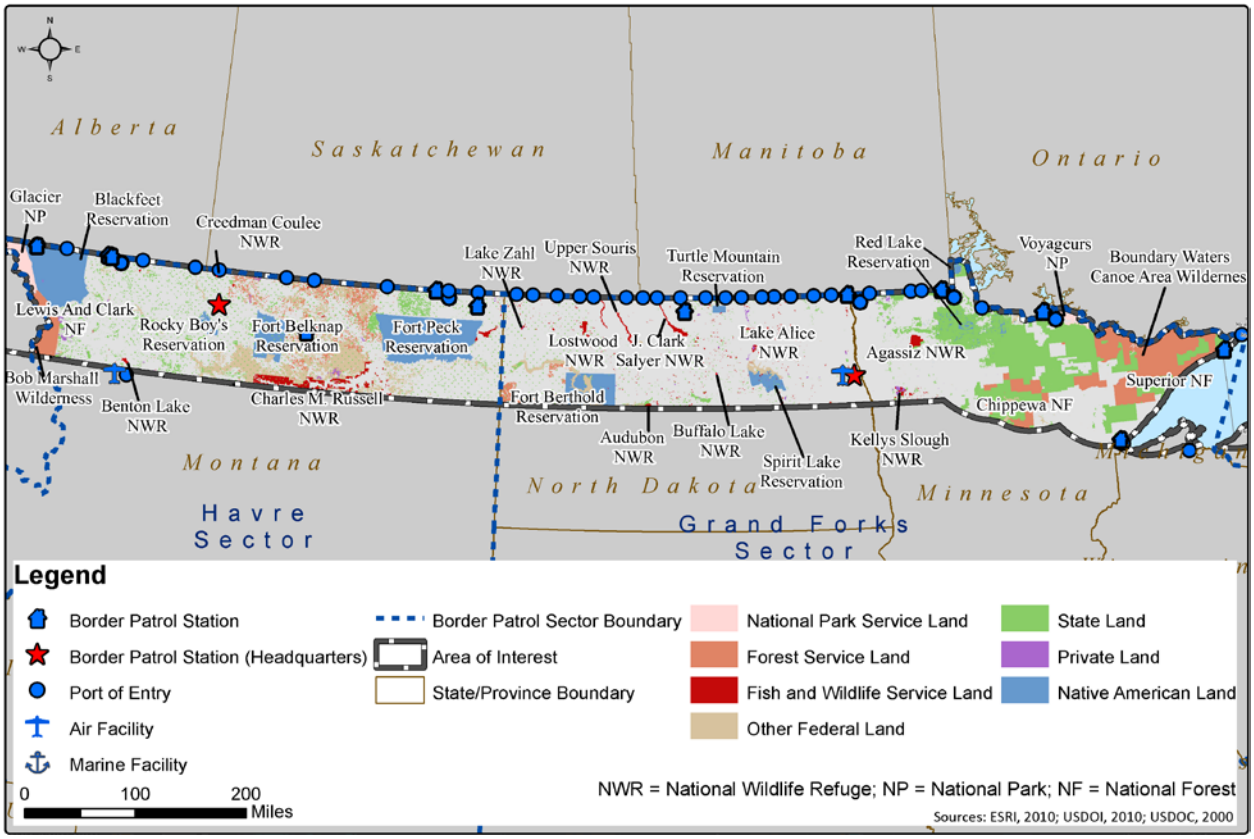
* The EOR Region includes all areas 100 miles south of the U.S.-Canada border in Minnesota, North Dakota, and the portion of Montana east of the Rocky Mountains.

* For a complete discussion of Native American resources along the Northern Border, refer to Section 5.11 of this report.

Note: Land ownership estimates do not sum to 100 percent for a given area due to gaps in information regarding land ownership within border states.

Source: (USDOI, 2010).

Figure 5.8-3. Land Ownership in the East of the Rockies Region



5.8.2.4 Land Ownership in Canada North of the EOR Region

Federal and provincial land ownership is characterized using the protected-areas data compiled by NRC. As a result, ownership (excluding aboriginal lands) is only determined for about 10.8 percent of the entire land area of the country. The following discussion, therefore, reflects only the relatively small portion in Canada for which landowners are identified.

The share of Federal land ownership in Canada north of the EOR Region is more than double that for the country as a whole (10.0 percent in the region versus 4.8 percent for the country) (Table 5.8-8). The region also contains a considerably higher proportion of Federal land compared to the selected provinces. The proportion of provincial ownership north of the EOR Region is greater that than for the country.

Aboriginal land is characterized using NRC data of Indian reserves, land claim settlement lands, and related aboriginal designations. The share of aboriginal land in areas north of the EOR Region (0.7 percent) is less than the share of aboriginal land countrywide (7.4 percent) (Table 5.8-9).

Table 5.8-8. Land Ownership in Canada North of the East of the Rockies Region

Border Province and Study Area East of the Rockies Region		Federal Land		Provincial Land	
		Total Land Area	Share (%)	Total Land Area	Share (%)
Alberta	Study area EOR Region	23.5	10.9	21.0	9.7
	Province	4,887.6	3.1	6,762.4	4.3
Manitoba	Study area EOR Region	0.0	0.0	11.9	3.2
	Province	3,598.9	2.5	9,956.6	7.0
Saskatchewan	Study area EOR Region	83.0	17.3	51.4	10.7
	Province	3,045.2	1.9	9,923.7	6.4
Selected provinces	Study area EOR Region	106.5	10.0	84.3	7.9
	Total for selected provinces	11,531.7	2.5	26,642.7	5.8
Total Canada		**98,843.7**	**4.8**	**125,778.8**	**6.1**

* Areas north of the EOR Region in Canada include the portions of Alberta, Manitoba, and Saskatchewan provinces extending 2 miles north of the U.S.-Canada border.

Source: (NRC, 2007).

Notes: Federal lands are all lands with the designation national park, migratory bird sanctuary, national wildlife area, Prairie Farm Rehabilitation Administration, and marine protected area. Provincial lands are all lands designated under provincial administration, which often includes funding and support from Federal agencies.

Table 5.8-9. Aboriginal Land in Canada North of the East of the Rockies Region

Border Province and Study Area East of the Rockies Region		Aboriginal Lands (thousands of acres)	Share (%)
Alberta	Study area EOR Region	1	0.2
	Province	1,920	1.2
Manitoba	Study area EOR Region	7	1.8
	Province	1,102	0.8
Saskatchewan	Study area EOR Region	0	0.0
	Province	2,385	1.5
Selected provinces	Study area EOR Region	7	0.7
	Total for selected provinces	5,407	1.2
Total Canada		**152,965**	**7.4**

* Areas north of the EOR Region in Canada include the portions of Alberta, Manitoba, and Saskatchewan provinces extending 2 miles north of the U.S.-Canada border.

Source: (NRC, 2010).

5.8.2.5 Land Use Management

In the EOR Region, access to Forest Service roads is an important factor in maintaining situational awareness throughout the border area. Access to these areas to secure lookouts or conduct surveillance is balanced with land management activities intended to ensure habitat protection for public trust species. The following areas pose specific access challenges to CBP: Glacier National Park; Superior National Forest; Voyageurs National Park; and Boundary Waters Canoe Area (a wilderness area).

5.8.2.6 Consistency with Enforceable Policies of the Coastal Zone Management Act

In the EOR Region, CBP activities in Minnesota have coastal zones relevant to the Northern Border and must comply with appropriate state "enforceable policies" outlined generally below. Most CBP activities in the state coastal zones are anticipated to be in the negligible to moderate range, and would be expected to comply with the Federal consistency requirements and procedures established by the individual states (identified below for Minnesota).

Minnesota

Minnesota's Northern Border coastal zone is divided into three areas: the portion of the St. Louis River in Carlton County, south of Duluth; the City of Duluth and surrounding areas of urban growth and expansion to the north and west; and the region between the Duluth City limits north to the Canadian border, also known as the "North Shore," which includes portions of St. Louis, Lake, and Cook Counties (USDOC, 2010). The Department of Natural Resources (DNR) is designated the lead agency for Minnesota's Lake Superior Coastal Program. A coalition of state resource agencies, including the Pollution Control Agency, Board of Water and Soil Resources, Department of Health, and Department of Agriculture work with DNR to coordinate the administrative and implementation functions of the program (MDNR, 1999).

Actions of Federal agencies, including direct activities, Federal licenses, permits, or other required Federal approvals to non-Federal applicants, and financial assistance programs to state agencies and local governments must also be consistent with the enforceable state policies of Minnesota's Lake Superior Coastal Program. Enforceable state policies of this program include:

- Coastal land management (shoreland development, floodplain management;
- Coastal shoreline erosion (county, municipal, and township planning and development);
- Coastal water management (Public Waters Work Permit Program and wetlands programs);
- Air and water quality (air quality, water quality, groundwater protection, water supply, and waste management);
- Fish and wildlife management;
- Forest management;
- Mineral resources;
- Energy facility siting; and
- Environmental review (Minnesota Environmental Rights Act, Minnesota Environmental Policy Act, and Environmental Review Program).

The procedures for demonstrating consistency with the enforceable policies of the Minnesota Lake Superior Coastal Program are found in its "Model Federal Consistency Determination for Federal Agencies" (MDNR, 1999).

5.9 AESTHETIC AND VISUAL RESOURCES

5.9.1 INTRODUCTION

Visual resources include those features that define the visual character of an area—natural features, vistas, or viewsheds, and even urban or community visual characteristics that include architecture, skylines, or other characteristics. Visual resources and aesthetics are important due to their unique qualities and the responses they inspire in humans. This section provides the analytical tools to conduct a precise visual impact assessment for future site-specific projects or activities; it also offers examples of the types of landscapes that exist along the border. It analyzes how, in which settings, to what extent, and with which viewer groups the various U.S. Customs and Border Protection (CBP) activities might create visual impacts. It does not characterize every potential vista or visual landscape along the entire Northern Border, but does provide guidelines for minimizing, mitigating, or avoiding such impacts.

The Visual Resource Management (VRM) system developed by U.S. Bureau of Land Management defines the visual sensitivity of an area and the potential effect of a project on a visual resource. It assigns ratings of Classes I to IV based on combinations of scenic quality, sensitivity levels, and distance zones (for the Framework for Characterizing Resource Impacts on the Northern Border, see chapter 3, section 3.9).

5.9.2 AFFECTED ENVIRONMENT

5.9.2.1 Affected Landscapes

Four broadly defined landscapes occur within the potential settings of the proposed project. These four landscapes are: natural, rural, urban, and industrial (USDOT, 1999), and are briefly described below.

Natural Landscapes

More sparsely vegetated mountainous areas in the western United States are dominated by their geologic landforms, such as rock outcroppings, ridges, escarpments, and plateaus. Even where significant topographic relief occurs, the heavily forested landforms are undistinguished and tend to confine a viewer's attention to the immediate foreground. Many of these landscapes would fall into the "A" category for scenic quality and thus be sensitive to visual modifications. Tower facilities would be least compatible within a natural landscape; however, in forested areas that offer a diverse skyline or visual screening, the visibility of towers would tend to be lower.

Glacier National Park, Montana

Source: (USDOI, 2010a).

Rural Landscapes

Rural landscapes include features such as croplands, orchards, fields, fences, and farm-related structures (USDOT, 1999). While border POEs and BP stations along the American–Canadian border tend to be in rural, less densely populated areas well outside of major cities, the majority of the population in the study area lives in larger population centers. Agricultural areas are predominantly flat or gently rolling hills; these landscapes tend to be restricted to valleys and lowlands in the East of the Rockies (EOR) Region and are not typically found at higher elevation or in areas with complex topography. A significant portion of the land in the EOR Region is used for agriculture, especially in Montana and North Dakota, which are 70 percent and 62 percent agriculture, respectively. Native vegetation grows in confined areas where land is steep or soils are unproductive. Views may extend for some distance, with vertical elements typically consisting of relatively low farm buildings, silos, water towers, utility poles, and trees. Distinct geometric patterns, such as rectangular or circular fields and property boundaries divided by section lines, may characterize the landscape. Towns are small and have relatively low skylines. In general, the few structures in such areas can be of aesthetic interest. Agriculture greatly influences the landscape. Land-use groups can sometimes categorize different agriculture practices. Other rural areas include forests or desert, which are influenced by roadways, the presence of small towns, and land-clearing activities, such as timber harvesting, strip mining, ski areas, and large reservoirs.

Urban Landscapes

These landscapes represent only a fraction of the Nation's entire land area, but are the dominant visual environment of roughly three-quarters of the American population (USDOT, 1999). Residential and suburban areas represent much of the urban landscape, with centralized primary commercial centers and business districts defining the most dominant visual characteristics. The scale of development in major urban areas is large and dominated by structures, highways, infrastructure, and trees. Urban landscapes can absorb a great degree of visual change because they already contain commanding visual features. Most urban landscapes are clustered around areas of usable natural resources, such as waterways and agricultural areas. In the EOR Region, most major cities, such as Duluth, MN and Havre, MT, are not adjacent to the border. Although these urban areas are not the most significant features in the EOR Region, they still represent the visual setting for the largest portion of the population. Here, as well as along other parts of the border, the POEs and BP stations are more often in rural areas. These landscapes already contain sizable amounts of infrastructure and would be able to absorb a greater amount of change and more additions to the visual environment than rural or natural landscapes. The largest concern in urban landscapes is the number and sensitivity of the visual user groups (see Section 5.9.2.3).

Industrial Landscapes

Heavy and light industrial landscapes tend to be scattered, situated in specific zones or districts, such as along roads and waterfronts or near airports. Unlike the Great Lakes Region, there are relatively few industrial landscapes along the Northern Border in the EOR Region. Such landscapes can absorb the greatest degree of visual change, due to existing dominant visual features and their generally low visual quality ("C" category). These landscapes are usually classified as Visual Resource Class IV in which major changes to the visual environment can occur without major impacts to the visual environment or viewer groups.

Industrial Plant on River

Source: (USDOI, 2008).

5.9.2.2 Areas with High Visual Sensitivity

The EOR Region has a larger amount of public lands sensitive to visual impacts compared with the other regions. Montana has about 1.2 million acres of recreational land in the study area, while 68.8 percent of the North Dakota study area is recreational land. Montana has about 5.1

million acres of conservation land in the study area (some of which is also considered recreational land), which may be negatively affected by changes in the visual environment.

Theodore Roosevelt National Park, North Dakota

Source: (USDOI, 2011a).

5.9.2.3 Affected User Groups

Specific viewer groups within the study area can gauge viewer sensitivity and assure the selection of appropriate representative viewpoints during the visual impact evaluation. While POEs and BP stations along the U.S.–Canadian border are generally in rural, less densely populated areas outside of major metropolitan areas, most of the population in the study area lives in larger population centers. The following four categories of viewer/user groups were identified within the study area.

Commuters and Through Travelers

These viewers pass through the study area on a regular basis in automobiles on their way to work or other destinations. On most roads within the study area, the views are from street level. Typically, drivers have limited views of CBP infrastructure and activity, except at locations where CBP actions cross the road. Commuters and through travelers are typically moving, have a relatively narrow visual field due to roadside vegetation or structures, and generally are preoccupied with traffic and navigating the roadways. For these reasons, commuters and through travelers' perception of (and sensitivity to) visual quality and changes in the visual environment are likely to remain relatively low. Passengers in moving vehicles, however, have greater opportunities for off-road views of a project than do drivers.

Local Residents

These individuals may view the proposed actions from stationary locations, such as yards and homes, and while driving along local roads. The sensitivity of residents to visual quality varies and may be tempered by a viewer's exposure to existing CBP actions and infrastructure and other visually varied features already in existence. Presumably most residents will be highly sensitive to changes in the landscape viewable from their homes and neighborhoods. CBP also considers visual impacts to Native American sacred sites or trust resources before carrying out a project.

Business Employees

These individuals work at local businesses, primarily in the commercial portions of the study area. Business employees will generally experience limited views of the alternative actions except at road crossings while driving to work or where CBP infrastructure and activity occurs near their place of employment. Most business employees work in one and two-story structures that may or may not have outside views. Those with views often look out on numerous, often varied, built features and the employees within are focused on their jobs. For these reasons, business employees are not likely to be sensitive to landscape changes

Recreational Users

The states within the study area with the greatest share of Federal land ownership are Idaho (54.9 percent), Washington (38.3 percent), and Montana (27.6 percent). Given the amount of public land (which includes recreational and conservation lands) in the EOR Region, recreational users could represent a much larger viewer group than in either the Great Lakes or New England regions. Certain recreational users within the study area, however, already have clear views of current CBP infrastructure and activities. Proximity to existing infrastructure and activity may decrease their expectations of visual quality and their sensitivity to visual change.

5.10 SOCIOECONOMIC RESOURCES

5.10.1 INTRODUCTION

This section provides a socioeconomic profile of the East of the Rockies (EOR) Region and discusses potential impacts of the U.S. Custom and Border Protection's (CBP) program alternatives on the region's resources. The study area includes areas in the United States and Canada within 100 miles of the border. Some categories of socioeconomic impacts, as discussed in the Environmental Consequences section, are as likely to be experienced on the Canadian side of the border as on the U.S. side. For example, time delays at border crossings may affect populations and businesses on both sides of the border. In addition, much of the economic activity in U.S. border regions involves cross-border movement of people and goods; therefore, the impacts of CBP activities on Canadian socioeconomic resources are considered along with American resources. The impacts of CBP actions on communities and regional economies in Canada are most likely to be felt closest to the border. But since it is not possible to delineate precisely how far from the border impacts may extend, information on the area 100 miles north of the border is provided to mirror the study area in the United States. This definition of the study area does not imply that impacts are necessarily equivalent in the two countries.

Much of the economic data presented here for Canada is not available below the provincial level, so the provinces provide the best available representation of the border region. This limitation does not necessarily suggest the scope of economic impacts; it merely reflects the level at which demographic and economic data are available. All monetary values are expressed in 2009 U.S. dollars, unless otherwise indicated.

The socioeconomic environment includes people and their communities, accounting for population movement, density, and age distribution, as well as economic considerations, including income levels, opportunities for employment, and overall economic trends. Section 5.10.2 provides an overview of the socioeconomic resources across the EOR Region and north of this region in Canada. It then provides a more detailed characterization of the regional demography, including population levels and distribution, regional growth trends, income, employment levels, poverty statistics, and property values. The section also profiles the regional economy, indexing important economic sectors in terms of income and employment. It further provides regionally focused information on important economic sectors for four port-of-entry (POE) and Border Patrol station (BPS) sites. These sites include those POEs that are most active in terms of the annual number of crossings and the value of cargo transported.

5.10.2 AFFECTED ENVIRONMENT

5.10.2.1 Regional Demographics

To provide context for the potential impacts of CBP actions, some basic, descriptive, socioeconomic information is provided for the EOR Region and the area north of this region in Canada and is compared to the broader states, provinces, and national economies, where possible. While the profiled region is defined as the area both 100 miles north and south of the U.S.-Canada border, the statistics in the various tables and text within this section include data for all American counties and Canadian census divisions overlapping these 100-mile regions. These areas represent the finest geographic resolution available for these data and are used, therefore, to approximate values for populations and other demographic variables.

5.10.2.2 Population and Growth Trends

In the United States, approximately 1.0 million people live in the EOR Region (Table 5.10-1). The segment of the population living in border communities accounts for 14.7 percent of the population in the EOR Region states of Minnesota, Montana (EOR), and North Dakota. Minnesota has the largest population in the region with nearly 470,000 people. The border communities in Montana (EOR) and North Dakota are less populated.

Between 2000 and 2009, while the population of the United States grew approximately 8.7 percent, border communities in Minnesota (-0.1 percent) and North Dakota (-5.1 percent) experienced population declines (Figure 5.10-1). The border communities in Montana (EOR), however, grew 3.5 percent.

Table 5.10-1. Population of the East of the Rockies Region*

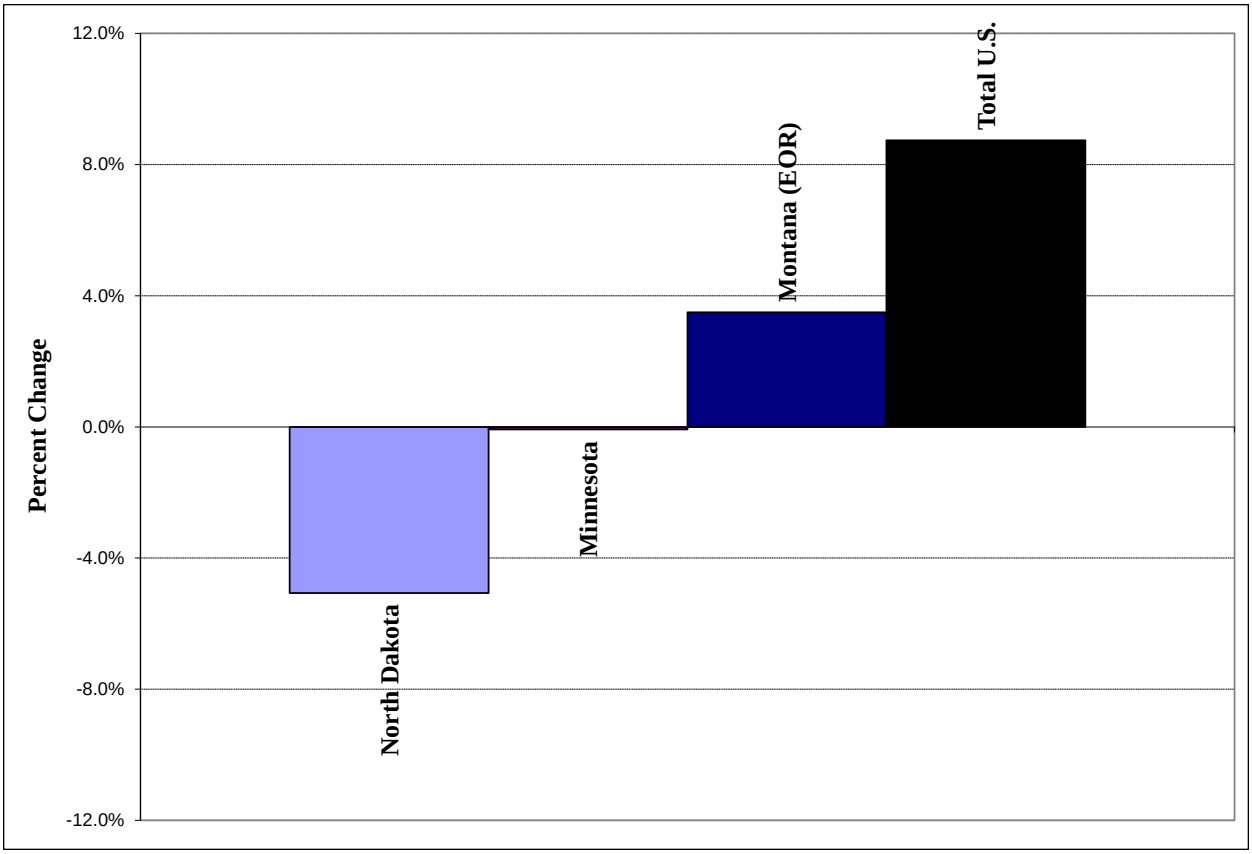
Border State	Population within the Border Area**	Population Overall	Percent of Population within the Border Area
Minnesota	469,275	5,266,214	8.9
Montana (EOR)	263,035	974,989	27.0
North Dakota	279,559	646,844	43.2
EOR Region total	1,011,869	6,888,047	14.7
Total United States	**28,412,077**	**310,973,729**	**9.1**

* The American Community Survey provides estimates of demographic, social, economic, and housing characteristics every year for all states, as well as for all cities, counties, metropolitan areas, and population groups of 65,000 people or over (USDOC, 2000a).

** Statistics in this column account only for those portions of the states within the EOR Region. Total United States accounts only for the border area of all four regions.

While border POEs and BPSs along the U.S.-Canada border tend to be in rural, less densely populated areas outside of major metropolitan areas, the majority of the region's population lives in larger population centers. Population centers in this report include all of the counties that overlap a metropolitan statistical area (MSA), defined by the Office of Management and Budget and used by the U.S. Census Bureau to report demographic statistics. Overall approximately 39.9 percent of the EOR Region's population lives in population centers (Table 5.10-2).

Figure 5.10-1. Percent Change in the East of the Rockies Region Population, 2000–2009



Source: (USDOC, 2009a).

Table 5.10-2. Population Centers in the East of the Rockies Region*

Border State	Population Center	State's EOR Living in Population Centers**	Total State Population in the EOR Region	Percent of State's EOR Population Living in Population Centers
Minnesota	Duluth****	197,767	469,275	42.1
	Grand Forks****	30,776	469,275	6.6
	Minnesota State Total	228,543	469,275	48.7
Montana (EOR)***	Missoula	108,623	263,035	41.3
North Dakota***	Grand Forks****	66,414	279,559	23.8
EOR Region total		403,580	1,011,869	39.9
Total United States***		**261,110,826**	**310,973,729**	**84.0**

* The American Community Survey provides estimates of demographic, social, economic, and housing characteristics every year for all states, as well as for all cities, counties, metropolitan areas, and population groups of 65,000 people or more.

** Statistics in this column account only for those portions of the EOR Region within each state.

*** The EOR Region in Montana and North Dakota has only one population center per state. Thus, no state total row is presented for these two states.

**** Population statistics for the Duluth population center are split between counties in Minnesota and Wisconsin (in the Great Lakes Region) and population statistics for the Grand Forks population center are split between counties in Minnesota and North Dakota.

***** Population statistics in this row represent the proportion of the total American population that resides in population centers across the whole country.

In Canada, approximately 2.9 million people reside in the study area north of the EOR Region (Table 5.10-3). Most major cities are in the southern part of the country; therefore, Canada's population is more heavily concentrated along the border than is the American population. For example, approximately 90.3 percent of the population lives in border communities in Manitoba. Alberta and Manitoba have some of the largest populations in border communities in Canada. As some census divisions overlapping the 100-mile buffer area are large and extend well beyond 100 miles from the border, this analysis may overstate the Canadian population in the study area north of the EOR Region.

Between 1996 and 2006, the population of Canada grew 9.5 percent. More recently, according to Statistics Canada, about two-thirds of Canada's growth between 2009 and 2010 was attributable to net international migration. The number of immigrants to Canada increased from 245,300 between 2008 and 2009 to 270,500 between 2009 and 2010. During the economic recession in 2009 and 2010, however, a decrease in the net flow of non-permanent residents took place, with more immigrants leaving the country, resulting in overall lower net international migration in 2010 than in the previous year. Overall, the area north of the EOR Region experienced population growth. Population growth in Alberta (27.0 percent) was the highest among the border provinces and outpaced growth for Canada as a whole (Figure 5.10-2).

Approximately 67.1 percent of the Canadian population in the study area north of the EOR resides within population centers (Table 5.10-4). While approximately 70 percent of the study area population within Alberta and Manitoba lives in population centers, less than half of the study area population within Saskatchewan does.

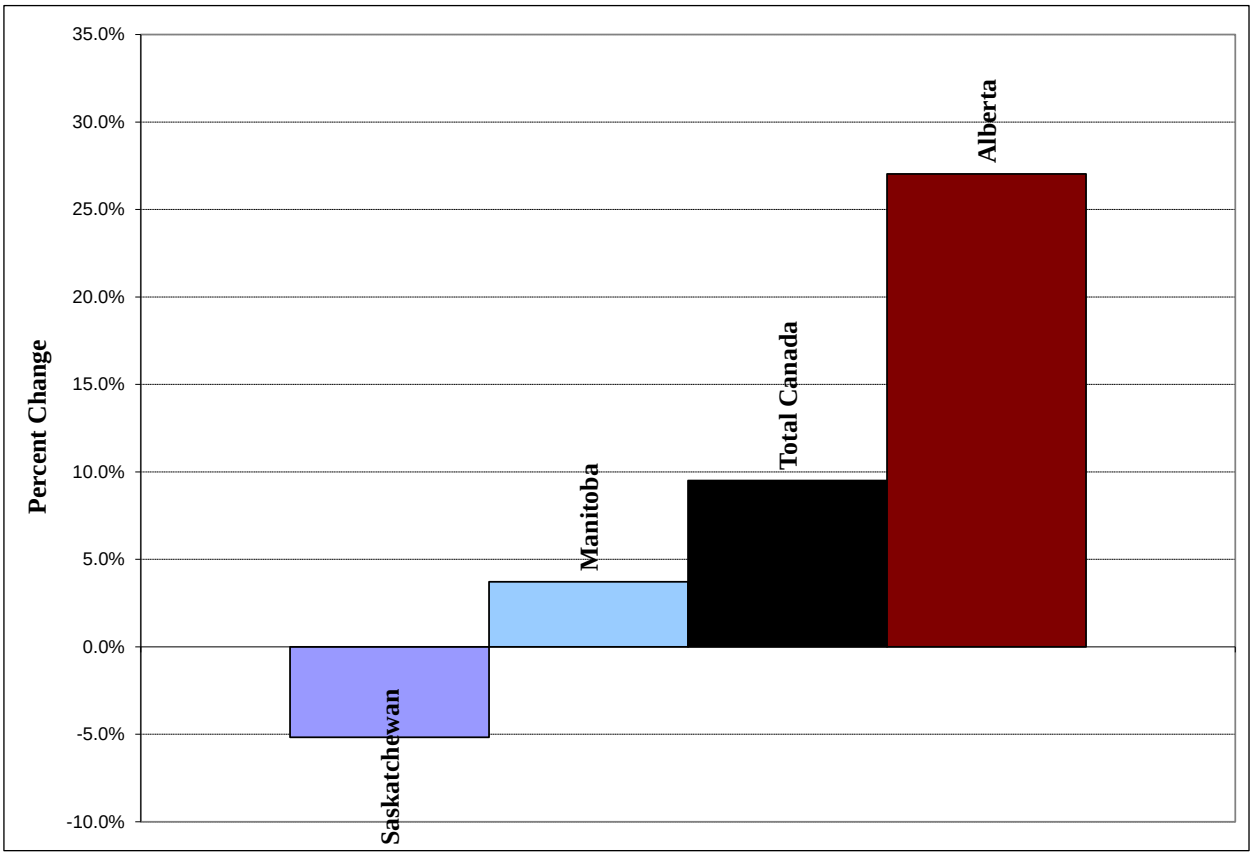
Table 5.10-3. Population North of the East of the Rockies Region in Canada

Border Province	Study Area Population North of the EOR Region*	Total Population in the Province	Percent of Total Province Population Residing in the Study Area North of the EOR Region
Alberta	1,486,400	3,256,360	45.6
Manitoba	1,023,460	1,133,515	90.3
Saskatchewan	393,290	953,850	41.2
EOR Region total	2,903,150	5,343,725	54.3
Total Canada	**25,562,910**	**31,241,030**	**81.8**

* Statistics in this column account only for those portions of the provinces within the study area. Total Canada accounts only for those portions of the provinces within the study area across all four regions.

Source: (StatCan, 2006a).

Figure 5.10-2. Percent Change in Canadian Population North of the East of the Rockies Region, 1996–2006



Sources: (StatCan, 1996; StatCan, 2006a).

Table 5.10-4. Population in Census Metropolitan Areas in Study Area North of the East of the Rockies Region in Canada

Border Province	Population Center	Study Area Population Living in Population Centers North of the EOR Region*	Total Study Area Population North of the EOR Region*	Percent of Total Study Area Population North of the EOR Region Living in Population Centers
Alberta**	Calgary	1,070,295	1,486,400	72.0
Manitoba**	Winnipeg	686,040	1,023,460	67.0
Saskatchewan**	Regina	192,440	393,290	48.9
EOR Region total		1,948,775	2,903,150	67.1
Total Canada***		**21,508,575**	**31,241,030**	**68.8**

* Population statistics in these columns account only for those portions of the CMAs and provinces within the study area.

****** The study area north of the EOR Region in Alberta, Manitoba, and Saskatchewan includes only one population center in each province. Thus, no province total rows are presented.

*** Population statistics in this row represent the proportion of the total Canadian population that resides in population centers across the whole country.

Source: (StatCan, 2006a).

5.10.2.3 Income, Poverty, and Unemployment

Border communities in Montana (EOR) and North Dakota have the lowest median income among all border communities across the U.S.-Canada border (Table 5.10-5). In addition, border communities in the EOR Region are less wealthy than the state average (Minneapolis and St. Paul are outside of the study area).

The poverty rate is defined as the number of individuals included in the poverty count as a percentage of the population for whom the poverty status is determined. Border communities in the EOR Region of Montana and North Dakota have the highest poverty rates among all border communities across the U.S.-Canada border (Table 5.10-5). In Minnesota, the poverty rate for border communities is notably higher than the state average.

The unemployment rate in each state was below the national average, especially in North Dakota where the unemployment rate was about half the national average (Table 5.10-6). Except for Montana, the unemployment rate was higher in the border region than in the state as a whole.

Table 5.10-5. Income and Poverty Statistics for States in the East of the Rockies Region

Border State and Study Area East of the Rockies Region*		Median Household Income** ($)	Population Below the Poverty Line***	Percent of Population Below the Poverty Line
Minnesota	Study area EOR Region	44,926	54,054	11.9
	Statewide	59,516	380,476	7.9
Montana (EOR)	Study area EOR Region	40,642	40,648	15.8
	Statewide	41,720	128,355	14.6
North Dakota	Study area EOR Region	41,654	37,654	13.2
	Statewide	43,716	73,457	11.9
EOR Region total	Study area EOR Region	42,891	132,356	13.3
	Selected states	55,462	582,288	9.3
Total United States		**53,051**	**33,899,812**	**12.4**

* Statistics in the non-shaded rows account only for portions of the states within the EOR Region.

** Median household income is reported in inflation-adjusted 2009 dollars.

***To determine the poverty rate in the United States, the Census Bureau references income thresholds that vary by family size and the ages of family members. If a family's total income, not including noncash benefits (such as food stamps and housing subsidies), is below the family's income threshold, every individual in the family is included in the poverty count.

Sources: (USDOC, 2000a; USDOC, 2000b).

Table 5.10-6. Unemployment Rates for the East of the Rockies Region

Border State and Study Area East of the Rockies Region*		Unemployment Rate (%)
Minnesota	Study area EOR Region	9.4
	Statewide	8.0
Montana (EOR)	Study area EOR Region	4.9
	Statewide	6.2
North Dakota	Study area EOR Region	4.5
	Statewide	4.3
EOR Region total	Study area EOR Region	6.9
	Selected states	7.4
Total United States		**9.3**

* Statistics in the non-shaded rows account only for portions of the states within the EOR Region.

Source: (USDOL, 2009a).

The median household income in Canada north of the EOR Region is approximately $53,000 (in 2009 U.S. dollars) compared with approximately $49,400 for Canada as a whole (Table 5.10-7). Alberta has the highest median household income among the border provinces.

The poverty rate in Canadian communities is defined as the percentage of low-income "economic families." (See note in Table 5.10-7 for an explanation of economic family.) This threshold-based designation is comparable to the poverty statistics in the U.S. Census. In the study area north of the EOR Region, the poverty rate is approximately 10.0 percent compared with 11.6 percent for Canada as a whole (Table 5.10-7). Border communities in Alberta and Saskatchewan have the lowest poverty rates among all border communities north of the U.S.-Canada border.

The unemployment rate in Canada north of the EOR Region was 4.4 percent in 2006 compared with 6.6 percent for Canada as a whole (Table 5.10-8). The unemployment rate in border communities was lower than the unemployment rate of the province as a whole. Border communities in Alberta and Saskatchewan have the lowest unemployment rates among all border communities north of the U.S.-Canada border.

Table 5.10-7. Income and Poverty Statistics North of the East of the Rockies Region in Canada

Border Province and Study Area North of the East of the Rockies Region*		Median Household Income** ($US)	Number of Low-Income Economic Families***	Percent of Low-Income Economic Families***
Alberta	Study area north of EOR Region	60,101	35,886	8.8
	Province	58,928	77,399	8.7
Manitoba	Study area north of EOR Region	45,375	34,015	12.3
	Province	44,089	36,692	12.3
Saskatchewan	Study area north of EOR Region	46,024	9,699	8.8
	Province	43,012	26,166	10.2
EOR Region total	Study area north of EOR Region	53,002	79,600	10.0
	Selected provinces	52,939	140,257	9.7
Total Canada		**49,393**	**1,006,911**	**11.6**

* Statistics in the non-shaded rows account only for portions of the provinces within the study area.

** Median household income is reported in inflation-adjusted 2009 U.S. dollars.

*** The Canadian Census reports statistics for "low-income" economic families. This threshold-based designation is comparable to the poverty statistics in the U.S. Census. The term "economic family" refers to a group of two or more persons who live in the same dwelling related to each other by blood, marriage, common-law, or adoption. A couple may be of opposite or same sex. Foster children are included.

Source: (StatCan, 2006d).

Table 5.10-8. Unemployment Rates North of the East of the Rockies Region in Canada

Border Province and Study Area North of the East of the Rockies Region*		Unemployment Rate (%)
Alberta	Study area north of EOR Region	4.0
	Province	4.3
Manitoba	Study area north of EOR Region	5.0
	Province	5.5
Saskatchewan	Study area north of EOR Region	4.5
	Province	5.6
EOR Region total	Study area north of EOR Region	4.4
	Selected provinces	4.7
Total Canada		**6.6**

* Statistics in the non-shaded rows account only for portions of the provinces within the study area.

Source: (StatCan, 2006c).

5.10.2.4 Property Values

In the EOR Region, the median property values within each state between 2006 and 2008 were lower than the median property value for the United States as a whole ($192,400) during the same time period (Table 5.10-9). Except for North Dakota, the median property value within the EOR border region is lower than the median property value for each state as a whole.

Table 5.10-9. Median Property Value for the East of the Rockies Region

Border State and Study Area East of the Rockies Region*		Median Home Value** ($)
Minnesota	Study area EOR Region	140,900
	Statewide	212,100
Montana (EOR)	Study area EOR Region	155,200
	Statewide	168,200
North Dakota	Study area EOR Region	125,400
	Statewide	106,200
EOR Region total	Study area EOR Region	140,900
	Selected states	195,500
Total United States		**192,400**

* Statistics in the non-shaded rows account only for those portions of the states within the EOR Region.

** The American Community Survey provides estimates of housing characteristics for all geographic areas with populations of 20,000 or more, including the Nation, all states and the District of Columbia, all congressional districts, and approximately 1,800 counties every 3 years. Due to the use of value categories rather than specific amounts collected for each individual housing unit in 2006 and 2007, property values cannot be inflation adjusted. Property values are reported in nominal dollar terms.

Sources: (USDOC, 2008a).

North of the EOR Region in Canada, the median property value in 2006 was approximately $218,700 (in 2009 U.S. dollars) compared with $232,200 for Canada as a whole (Table 5.10-10). Border communities in Alberta have the second highest median property values among all border communities north of the U.S.-Canada border. The median property value for border communities in Alberta is significantly higher than for the province as a whole. Conversely, border communities in Saskatchewan have the second lowest median property values among all border communities north of the U.S.-Canada border.

Table 5.10-10. Median Property Value North of the East of the Rockies Region in Canada

Border Province/Study Area North of the East of the Rockies Region*		Average Value of Dwelling** ($US)
Alberta	Study area north of EOR Region	302,700
	Province	259,100
Manitoba	Study area north of EOR Region	137,300
	Province	135,200
Saskatchewan	Study area north of EOR Region	112,700
	Province	116,500
EOR Region total	EOR Region	218,700
	Selected provinces	207,300
Total Canada		**232,200**

* Statistics in the non-shaded rows account only for those portions of the provinces within the study area.

** A dwelling is defined as a set of living quarters designed for or converted for human habitation in which a person or group of persons reside or could reside. In addition, a private dwelling must have a source of heat or power and must be an enclosed space that provides shelter from the elements, as evidenced by complete and enclosed walls and roof and by doors and windows that protect from wind, rain and snow. Property values are reported in 2006 U.S. dollars.

Source: (StatCan, 2006b).

5.10.2.5 Regional Economies

Tourism is a major component of economic activity along the Northern Border. Canada is the top country of origin for visitors to the United States. In 2008, the number of Canadian visitors staying one or more nights in the United States was nearly 19 million (USDOC, 2008e). In this context, "Canadian visitors" refers to Canadian residents visiting the United States.

Trade with Canada

The flow of goods, services, and people across the border contributes significantly to economic activity in border communities. Canada is the largest trading partner of the United States. In 2009, the total value of merchandise trade with Canada was approximately $429.6 billion—$204.7 billion in exports and $224.9 billion in imports. Shipments by surface modes of transportation, excluding pipelines, account for approximately 79 percent of total merchandise trade with Canada. The top exports to Canada by surface transportation are automobiles and automotive parts and accessories, and other machinery, appliances, and equipment. The top imports from Canada are automobiles and automotive parts and accessories, other machinery and appliances, and processed paper and pulp products. On average, approximately $930 million in merchandise crosses the Northern Border by surface transportation every day (USBTS, 2009a). Appendix Q of this analysis provides trade statistics for surface transportation between the United States and Canada.

Crossing the Northern Border using surface modes of transportation is the principal means of entry for Canadians visiting the United States, accounting for two-thirds (12.6 million) of all

Canadian visitor entries (USDOC, 2008c). While approximately 15 percent of Canadian visitors who entered the United States by surface transportation visited states in the EOR Region, the spending in this region accounted for a relatively low percentage (less than 7 percent) of the visitors' total spending in the United States. Canadian visitors entering by surface transportation contributed approximately $538 million to this region in 2008 (Table 5.10-11). The average visitor spent approximately $286 per visit. The most common stated purposes for visiting states in the EOR Region were vacation (83 percent), visiting friends or relatives (12 percent), and business or employment (5 percent). The region had the third highest percentage of travel due to business or employment. While business travelers tend to spend more per trip, they rely more heavily on air travel and travel further from the border.

Table 5.10-11. Canadian Visitors Entering the East of the Rockies Region by Surface Transportation*

Destination	Visitors		Spending			Purpose of Trip		
	Number of Visitors (000s)	Average Nights Per Visit	Visitor Spending ($US millions)	Spending per Visitor ($US)	Average Daily Spending per Visitor ($US)	Business, Convention, or Employment (%)	Visiting Friends or Relatives (%)	Holiday, Vacation, or Other (%)
Minnesota	530	2.6	162.5	307	119	8.9	16.7	74.3
Montana	634	3.1	189.4	299	96	5.1	11.7	83.2
North Dakota	718	2.1	186.4	259	123	2.5	8.7	88.8
EOR Region	**1,882**	**2.6**	**538**	**286**	**111**	**5.2**	**12.0**	**82.8**

* Surface modes of transportation include autos, buses, and other non-air modes of transportation. Average nights per visit and average daily spending per visitor are based on total visitors, including air travelers.

** The Office of Travel & Tourism Industries suppresses state data for which the sample size is fewer than 400,000.

Sources: (USDOC, 2008b, USDOC, 2008c; USDOC, 2008d).

5.10.2.6 Economic Profiles of POEs and BPSs in the EOR Region

This section provides regional economic profiles for border communities in the United States and Canada that surround selected POEs in the EOR Region. It characterizes the socioeconomic resources of specific border communities in the region to provide context for the discussion of potential consequences of CBP's alternative actions, and to highlight the diversity in regional economies surrounding POEs and BPSs along the Northern Border. Appendix Q of this report provides data on trade, employment, and payroll statistics by economic sector for U.S. counties and Canadian provinces that contain profiled POEs and BPSs in the four Northern Border regions.

This section profiles five sites in the EOR Region representing the most heavily used POEs along the U.S.-Canada border in the region in terms of total crossings and the total value of trade, along with some smaller, more rural POE sites. Additionally, sites were included based on their unique characteristics to reflect different socioeconomic conditions in border communities. For example, the sites profiled in the EOR Region include a POE on tribal lands. Table 5.10-12 lists the sites ranked by crossing volume and provides information on associated crossing activity.

1 **Table 5.10-12. Point of Entry and Border Patrol Station Sites Profiled in the East of the Rockies Region**

Port	Annual Individual Crossings (% of Total	Annual Vehicle Crossings (% of Total)	National Rank by Crossing Volume	Annual Trade Value (Surface Mode)	Rank by Trade Value	Two Largest Commodities (% of Port's Trade Value)	Important Features
MN: International Falls	956,517 (1.6%)	478,935 (1.5%)	15	$6,912,248,076 (2.0%)	10	• Plastics and articles thereof (16%) • Fertilizers (12.7%)	• Largest in MN* • Roughly colocated with International Falls BPS
ND: Pembina	759,402 (1.2%)	456,886 (1.4%)	17	$15,251,286,009 (4.5%)	5	• Nuclear reactors, boilers, machinery and mechanical appliances (20.4%) • Vehicles and parts (11.5%)	• Largest in ND*
MT: Sweetgrass	654,760 (1.1%)	381,912 (1.2%)	19	$9,123,255,830 (2.7%)	9	• Nuclear reactors, boilers, machinery and mechanical appliances (26.9%) • Electrical machinery and equipment (6.7%)	• Largest in MT* • Roughly 7 miles north of the Sweetgrass BPS
MT: Piegan	207,694 (0.3%)	103,869 (0.3%)	37	$11,590,854 (0.003%)	61	• Mineral fuels, mineral oils, bituminous substances (80.4%) • Printed books and other products of the printing industry (3.5%)	• In tribal land (Blackfeet Indian Reservation)

Port	Annual Individual Crossings (% of Total	Annual Vehicle Crossings (% of Total)	National Rank by Crossing Volume	Annual Trade Value (Surface Mode)	Rank by Trade Value	Two Largest Commodities (% of Port's Trade Value)	Important Features
ND: Dunseith	150,886 (0.2%)	80,746 (0.3%)	38	38	38	• Live animals (28.3%) • Nuclear reactors, boilers, machinery and mechanical appliances (17.8%)	• Adjacent to International Peace Garden tourist attraction

* Size based on number of individual border crossings.

** BTS does not provide data on commodities and crossings at BPSs.

Sources: (IEc analysis of Bureau of Transportation Statistics data: USDOT, 2009a; USDOT, 2009b; USDOT, 2009c).

Figure 5.10-3. Locations of Points of Entry and Border Patrol Stations in the East of the Rockies Region

The remainder of this section characterizes the regional economies of the American counties and Canadian provinces containing the EOR Region sites identified in Table 5.10-12 and Figure 5.10-3.

Glacier County, Montana

Glacier County contains one of the profiled POEs (Piegan POE). The tribal lands of the Blackfeet Indian Reservation are also located in this county. The Blackfeet are one of the few remaining tribes in the United States that still live on ancestral lands. The reservation is bordered by Alberta, Canada to the north and Glacier National Park and the Rockies to the west (BN, 2010). The population of Glacier County is slightly less than 14,000. According to the U.S. Census Bureau, median household income is well below the median for Montana and the poverty rate is approximately 25 percent, more than 10 percentage points higher than for the state as a whole. The major economic sectors in Glacier County by annual payroll are health care and social assistance ($21.0 million), retail trade ($10.4 million), accommodation and food services ($8.7 million), and mining, quarrying, and oil and gas extraction ($7.2 million). These four sectors account for nearly two-thirds of the county's employment.

A Note on Data Sources

All statistics on private, nonfarm employment, unless otherwise noted, are from U.S. Census County Business Patterns for 2008. All statistics on agricultural production employment, unless otherwise noted, are from the U.S. Department of Agriculture, Census of Agriculture for 2007. All Canadian statistics, unless otherwise noted, are from the Statistics Canada 2006 Census. All detail on border crossings and trade value, unless otherwise noted, are from the U.S. Department of Transportation Bureau of Transportation Statistics' Transborder Freight Data for 2009. Monetary values are expressed in 2009 U.S. dollars.

- Piegan POE: This POE lies in the Blackfeet Indian Reservation and connects U.S. Route 89 with Highway 2 en route to Calgary, Alberta. Piegan is a relatively small POE; in 2009, it accounted for approximately 208,000 individual border crossings (less than 0.5 percent of all U.S.-Canada crossings) and less than $12 million in commercial trade (less than 0.01 percent of all U.S.-Canada trade). The primary commodity group—mineral fuels and oils—accounts for more than 80 percent of the total value of commerce at Piegan. Piegan is a "permit port," which means that cargo must be approved in advance by the Great Falls Service Port.

Toole County, Montana

Toole County, Montana is 80 miles east of Glacier County and has a population of just over 5,000. Toole County contains one of the profiled POEs (Sweetgrass POE). The economy is heavily supported by agriculture and livestock as well as by oil and gas production (TCMT, 2010). The major economic sectors in Toole County by annual payroll are health care and social assistance ($8.4 million), mining, quarrying, and oil and gas extraction ($8.0 million), transportation and warehousing ($6.0 million), and retail trade ($3.4 million). The top private employer in Toole County is the Crossroads Correctional Facility. CBP is also a major employer in the area.

- Sweetgrass POE**:** The Sweetgrass (Coutts) POE, which connects Interstate 15 to Highway 4 in Alberta, has the highest volume of border traffic in Montana and is a 24-hour port. Sweetgrass is the ninth largest commercial land border crossing in terms of trade value, which totaled $9.1 billion in 2009—approximately 2.7 percent of all U.S.-Canada trade.

Sweetgrass also has an airport. The top commodities by trade value are machinery and mechanical appliances and parts (26.9 percent), electrical machinery and equipment (6.7 percent), and meat products (6.5 percent). Sweetgrass is one of the primary locations for the transportation of meat products, accounting for more than 21 percent of U.S.-Canada trade. Built in 2004, the 100,000 sf joint border facility contains six lanes of traffic flowing north into Canada and five lanes flowing south into the United States (TCMT, 2010).

Alberta, Canada

Alberta lies to the north of the Piegan and Sweetgrass POEs. Alberta, the fourth largest province in Canada, is landlocked and borders Montana. Alberta has one of the strongest economies in Canada, supported by oil and natural gas, technology, and forestry-based industries. Alberta holds 70 percent of Canada's coal reserves and ranks second, after Saudi Arabia, in terms of proven global crude oil reserves. Alberta contains four major petrochemical plants with a combined annual production capacity of 8.6 billion pounds. The plants at Joffre and Fort Saskatchewan are the world's largest (GOA, 2010). The province has the highest median household income in Canada. Calgary is Alberta's largest city (approximately 1 million people) and is a major distribution and transportation hub. Coutts, the Canadian site of the joint border facility with Sweetgrass, has a population of less than 400. The major economic sectors in Alberta by annual payroll are mining, quarrying, and oil and gas extraction ($9.3 billion), construction ($8.4 billion), professional, scientific, and technical services ($7.8 billion), and manufacturing ($6.5 billion). Retail trade, the sixth largest sector by contribution to regional income, is one of the largest sectors in terms of employment, providing over 206,000 jobs.

Rolette County, North Dakota

Rolette County, North Dakota has a population of about 14,000 and contains one of the profiled POEs (Dunseith POE). Approximately 71 percent of the county's population is Native American. Key economic sectors in terms of annual payroll are health care and social assistance ($19.0 million) and retail trade ($8.4 million). The county also supports electronics manufacturing and agricultural activities. Primary crops include wheat, durum, barley, and canola. Tourism and recreation are also important due to the swimming, fishing, hunting, and snowmobiling opportunities provided by the Turtle Mountains. In addition, the International Peace Garden, situated on the border between Manitoba and Rolette County, was established in 1932 as a symbol of friendship between the United States and Canada and attracts visitors from both countries. The botanical garden, along with a museum and monument attractions, spans 2,339 acres in both countries (RCND, 2011).

- Dunseith POE: The Dunseith POE occurs at the site of the International Peace Garden and connects Rolette County, North Dakota and Manitoba, Canada. The POE is open 24 hours and has approximately 151,000 individual border crossings per year (0.2 percent of all U.S.-Canada crossings in 2009). The Dunseith POE accounts for a relatively low fraction of total border trade value, supporting $505 million, or 0.1 percent of all U.S.-Canada trade in 2009. A key characteristic of the POE is its situation at the International Peace Garden. While the POE constitutes only 0.2 percent of individual crossings and 0.3 percent of total vehicle crossings along the border, visitation to the garden for events may subject the crossing to periodic congestion.

Pembina County, North Dakota

Pembina County, North Dakota is located in the northeastern corner of the state and contains one of the profiled POEs (Pembina POE). The major economic sectors in Pembina County by annual payroll are wholesale trade ($15.7 million), agriculture ($13.9 million), construction ($10.7 million), retail trade ($8.6 million), and transportation and warehousing ($7.3 million). Wholesale trade, retail trade, and transportation and warehousing account for more than one-third of private, nonfarm jobs in Pembina. Major employers in Pembina County include CBP and a satellite manufacturing plant of Motor Coach Industries, which assembles intercity buses for customers including Greyhound Lines (TMVI, 2010).

- Pembina POE: The Pembina POE connects Interstate 29 in Pembina County, North Dakota to Manitoba Highway 75 in Emerson, Manitoba. Pembina has the largest number of crossings in North Dakota, with more than 759,000 individual border crossings or 1.2 percent of all U.S.-Canada crossings in 2009. It is a significant crossing for road traffic headed to and from Winnipeg, Manitoba. Winnipeg is also the only major city between Vancouver, British Columbia and Thunder Bay, Ontario with direct American rail connections. The Pembina POE has the fifth highest value of border commerce, $15.3 billion or 4.5 percent of all U.S.-Canada trade in 2009. The major commodities crossing the border at Pembina are machinery and mechanical appliances (20.4 percent), vehicles and parts (11.5 percent), electrical machinery and equipment (5.9 percent), and plastics (5.0 percent).

Manitoba, Canada

Manitoba lies to the north of the Dunseith and Pembina POEs. Manitoba is one of the three central prairies provinces. It shares its southern border with Minnesota and North Dakota. The province has a low population density, representing only 3.6 percent of the Canadian population. Approximately 60 percent of the population lives in the metropolitan area of Winnipeg. Agriculture, a vital part of the economy, occurs mostly in the southern half of the province. Approximately 12 percent of Canadian farmland is in Manitoba. The most common agricultural products in the province are cattle (34.6 percent), assorted grains (19.0 percent) and oilseed (7.9 percent) (StatCan, 2006e).

Manitoba is a popular destination for visitors seeking outdoor recreation and wildlife as well as historical and cultural sites. The Riding Mountain National Park of Canada attracts numerous visitors each year. Historically, Manitoba's unemployment rate has been below the unemployment rate for Canada as a whole, supported by a diverse agricultural sector and a robust manufacturing sector that accounts for nearly 63,000 jobs, more than 10 percent of employment in the province. The major economic sectors in terms of annual payroll in Manitoba are manufacturing ($2.4 billion), health care and social assistance ($2.3 billion), public administration ($1.8 billion), education services ($1.7 billion), retail trade ($1.4 billion), and transportation and warehousing ($1.3 billion).

Koochiching County, Minnesota

Koochiching County, Minnesota, containing the International Falls POE and BPS, is geographically one of the largest counties in Minnesota with a population of slightly over 13,000. The region is a popular destination for outdoor activities including boating, fishing, hunting, and bird and wildlife watching. The Bois Forte Indian Reservation lies partially in the

county. The major economic sectors by annual payroll in Koochiching County are health care and social assistance ($19.7 million), retail trade ($14.9 million), and finance and insurance ($10.2 million). Accommodation and food services account for the third largest sector in terms of employment. In International Falls, often referred to as the "Icebox of the Nation," cold weather testing of major automobile products forms also an important component of the winter economy (CIFMN, 2010). International Falls also has one of three foreign trade zones in Minnesota, which provide companies with economic incentives for warehousing, importing, and exporting goods.

- International Falls POE and BPS: The border crossing at International Falls connects U.S. Route 53 with Highway 11 in Fort Frances, Ontario. Major American cities near International Falls include Duluth, Fargo, and Minneapolis, while major Canadian cities near International Falls include Thunder Bay, Ontario, and Winnipeg, Manitoba (CIFMN, 2010). Trucks and privately owned vehicles (POVs) are the primary vehicles using the POE; however, it does have a significant number of bus, train, and pedestrian crossings as well. International Falls is the largest POE in Minnesota, with more than 956,500 individual border crossings (1.6 percent of all U.S.-Canada crossings) and more than $6.9 billion in trade value (2.0 percent of all U.S.-Canada trade in 2009. The major trade commodities crossing the border at International Falls are plastics (16.0 percent), fertilizers (12.7 percent), wood and articles of wood (10.7 percent), mineral fuels and oils (9.8 percent), and wood pulp and other scraps (9.0 percent). Of particular note, International Falls accounts for approximately 30 percent of all U.S.-Canada trade crossings for fertilizers and wood pulp and other scraps.

Ontario, Canada

Ontario lies to the north of the International Falls POE and BPS. Ontario is Canada's largest province in terms of population. It is home to the Canada's most populous city, Toronto, and the national capital, Ottawa. Ontario borders Minnesota, Michigan, and New York; Ohio and Pennsylvania lie across Lake Erie. Ontario is also home to the popular destination of Niagara Falls, which draws millions of tourists and provides upscale hotels, casinos, and cultural attractions in addition to the scenic views. Ontario accounts for more than half of the total value of all U.S.-Canada trade through the following POEs: Alexandria Bay/Cape Vincent, Buffalo-Niagara Falls, Detroit, International Falls, Port Huron, Massena, and Sault Ste. Marie.

Ontario contains Canada's largest manufacturing sector and is the largest North American automobile manufacturer, ahead of Michigan and all of Mexico (GOO, 2010). There are major motor vehicle assembly plants in Ingersoll, Brampton, Windsor, Oakville, St. Thomas, Oshawa, Alliston, Cambridge, and Woodstock (ICAN, 2010). Ontario is also the center of high tech, financial services, and other knowledge-intensive industries, accounting for roughly half of all Canadian employment in those industries. In terms of annual payroll, the largest economic sectors in Ontario are manufacturing ($42.2 billion), professional, scientific and technical services ($24.1 billion), and health care and social assistance ($21.5 billion). Retail trade accounts for the largest number of jobs after manufacturing.

5.11 CULTURAL AND PALEONTOLOGICAL RESOURCES

5.11.1 INTRODUCTION

This section provides an overview of cultural and paleontological resources located in the East of the Rockies (EOR) Region of the Northern Border and discusses potential impacts of U.S. Customs and Border Protection's (CBP) program alternatives on those resources.

5.11.2 AFFECTED ENVIRONMENT

5.11.2.1 Archaeological Resources: Prehistoric/Precontact Context

Among the known cultural resources in the EOR Region are archeological sites from the prehistoric and pre-European contact periods. This section provides an overview of those periods. An expanded prehistoric and pre-European contact-period context and references can be found in Appendix H. In North America, the Prehistoric/Precontact era is generally divided into three broad periods: Paleo-Indian, Archaic, and Woodland/Ceramic/Late. During the Prehistoric era, North-American groups evolved from highly nomadic big-game hunters to politically sophisticated and sedentary tribes and nations employing large-scale agriculture. There are thousands of known archaeological sites within the EOR Region, which represent a fraction of the potential sites that may exist in the region. This record of known sites has been built up over the years as a result of reports by amateurs and vocational archaeologists as well as the result of formal archaeological surveys conducted by professionals and academics. In parallel with the evolution of prehistoric groups from nomadic hunting to sedentary agriculture and the resulting increases in population, sites from the earlier periods (ca. 12,000 to ca. 7,000 years before present [B.P.]) are rare. Sites from the later periods account for the bulk of the known sites in the region.

Paleo-Indian Period

The Paleo-Indian period (ca. 12,000 to ca. 10,000 B.P.) is similar in much of the study area and was characterized by people inhabiting the recently deglaciated environment. Subsistence was dominated by big-game hunting of mastodon, mammoth, caribou, horse, bison, musk-ox, giant ground sloth, white-tailed deer, elk, moose, and wapiti, along with species of smaller mammals, birds, fish, reptiles, and shellfish. These early hunting groups generally had highly mobile life-ways. There are several types of Paleo-Indian sites including small camps; workshops/quarries; kill sites; rockshelters/cave camps; major, recurrently occupied camps; and possible cremation sites.

Archaic Period

During the Archaic period (ca. 10,000 to ca. 3,000 B.P.), the environment changed from unstable post-glacial conditions to an essentially modern state. In the context of this changing landscape came numerous cultural and technological changes. People gradually adopted less-mobile lifestyles. At the same time, they broadened the variety of resources on which they depended for food and shelter. Some groups began regularly interacting and trading with other people across large distances—sometimes over a thousand miles away. There are relatively few sites from the first 3,000 years of the Archaic known in the northern portion of the United States, a fact probably related to the continually changing climate and environment. Sites from the last 4,000 years of the period are more common and show people had developed a great variety of tool

types and styles, mostly made from stone, bone, and wood. In general, Archaic sites are found along water and on lake plains.

Woodland/Ceramic/Late Period

The Woodland/Ceramic/Late period lasted from 3,000 B.P. to the time when European trade goods reached Indian groups (450 to 250 B.P.). During this time, people invented several new technologies, including clay pots and the bow and arrow. Long-distance trade intensified. Groups adopted agriculture, developed even less-mobile lifeways than before, and started living in larger settlements, some with over 1,000 inhabitants. Plains groups began living in tepees and participating in bison kills.

5.11.2.2 Prehistoric Archaeological Site Probability

Archaeologists use a variety of information and techniques to carry out *predictive modeling*, the process of assessing the probability of the existence of archaeological sites in a given location. This section provides an overview of the current understanding of archaeological site probability in the EOR Region.

Minnesota

The Minnesota State Historic Preservation Office (SHPO) requires that all Federal projects be preceded by a Class I and Class III cultural-resource inventory and assessment. Such inventory projects are carried out under the guidelines of the Minnesota SHPO (2006) and the U.S. Secretary of Interior's Standards for Archeology and Historic Preservation (USDOI, 1993). These programs and guidelines follow the regulations established under the National Historic Preservation Act of 1966, as amended. A site-sensitivity model exists for prehistoric sites in Minnesota and is discussed below.

The Minnesota Department of Transportation (MNDOT) has developed a statewide archaeological predictive model, titled Mn/Model (Hudak et al., 2000), as a tool to assess the probability of encountering a prehistoric archaeological site anywhere on the landscape.[1] Such models are sometimes referred to as archaeological sensitivity maps because they indicate some locations as more sensitive for cultural resources than others. These predictive maps usually contain three zones: a high-sensitivity zone, where archaeological sites are most likely present; a medium-sensitivity zone, where sites are less likely; and a low-sensitivity zone, where sites are unlikely. These sensitivity maps serve as beneficial planning tools but by no means replace the appropriate project-level surveys, research, and thorough cultural-resource investigations.

North Dakota

No standardized or widely accepted site-location predictive or sensitivity model for prehistoric sites exists for North Dakota.

[1] Information on the use of the model may be obtained online at the MNDOT Mn/Model website (http://www.mnmodel.dot.state.mn.us/index.html) or by contacting the Office of the Chief Archaeologist, MNDOT.

A small fraction of the Northern Border area of North Dakota has been previously inventoried and evaluated for prehistoric sites. Actual numbers of recorded sites and previous project survey boundaries exist in the North Dakota SHPO database, but exact numbers of cultural resources are not available for this preliminary overview. It is estimated that at least 1,000 precontact/prehistoric sites are recorded within 100 miles of the North Dakota-Canada border.

Montana

No standardized or widely accepted site-location predictive or sensitivity model for prehistoric sites exists for the Montana. Only a small fraction of the Northern Border area of Montana has been previously inventoried and evaluated for prehistoric sites. Actual numbers of recorded sites and previous project survey boundaries exist in the Montana SHPO database, but exact numbers of cultural resources are not available for this preliminary overview. It is estimated that at least 1,000 precontact/prehistoric sites are recorded within 100 miles of the Montana-Canada border. Most of the project area in Montana is sparsely populated, so the probability of finding intact precontact sites is very high. There is also a strong possibility that sites to be discovered will be highly significant and will meet the eligibility criteria for listing in the National Register.

5.11.2.3 Historic Context

This section provides a brief historic context that describes the development of the EOR Region after European contact. An expanded historic context and references can be found in Appendix H.

The areas east of the Continental Divide were acquired by the United States from France in 1803 as part of the Louisiana Purchase. Contact between Indigenous people and Europeans began in the mid-eighteenth century as French fur traders ventured through the Northern Plains to explore the Rocky Mountains. Visits to the region by Europeans or Americans were infrequent until after 1804, when Lewis and Clark passed through the area. The region attained sufficient population densities by the 1860s to require parceling into territories, later becoming states. Pioneers were largely engaged in oat and wheat farming. Closer to the Rocky Mountains, mining was essential to the local economies and attracted waves of settlers beginning in the 1860s. Gold was the earliest draw, but later silver, copper, lead, coal, and oil became sought-after commodities.

The U.S. Army established numerous forts in this region beginning in the 1860s, and Montana was the scene of numerous battles between the army and various tribes over control of the land, including the Battle of Little Big Horn with the Lakota and battles with the Nez Perce. By the end of the Indian wars in the 1890s, mining, open and fee-simple ranching, and Bonanza and dairy-farm operations had been established throughout the region. Improvements in transportation became the major determinant of growth, as settlements first developed along Indian and fort trails and waterways. In the 1880s, railroads began to be constructed in the region and remained important until after World War II.

Beginning in the late nineteenth century, the Federal government began purchasing large swaths of territory to serve as national parks, with Yellowstone being the first. Other parks include Glacier and Badlands National Parks and more than 20 national wildlife refuges. In the 1950s, North Dakota became the home of two large Air-Force bases: Minot and Grand Forks. Oil and natural gas exploration became important industries at the end of the twentieth century. Montana

contains seven Indian reservations: Fort Peck Indian Reservation, Fort Belknap Indian Reservation, Northern Cheyenne Indian Reservation, Crow Indian Reservation, Rocky Boy's Indian Reservation, Blackfeet Indian Reservation, and Flathead Indian Reservation.

5.11.2.4 Historic/Protohistoric Archaeological Site Probability

Among the known cultural resources in the EOR Region are archeological sites from the historic and post-European contact periods. This section provides an overview of the current understanding of historic archaeological site probability in the EOR Region. This section includes the Protohistoric period (defined as the time between the initial arrival of European goods and diseases and actual contact between Native Americans and non-Natives), which extended from about A.D. 1700 to A.D. 1850. Guns, horses, and other elements of material culture were quickly integrated into indigenous economic and subsistence systems and had profound impacts on Native American lifeways throughout the Great Plains, most notably the increased importance of the buffalo. The earliest direct contacts between Native Americans and Europeans in the EOR area were interactions between native groups and French explorers and fur traders in the mid eighteenth century. After about 1780, the changes to Native American lifeways brought about by the contact process in the Northern Plains are visible in the archaeological record and have been designated the Equestrian Nomadic Tradition. Archaeological sites from this time include battle sites, camps, and animal-kill sites.

Minnesota

No standardized or widely accepted site-location predictive or sensitivity model for historic archaeological sites exists for the Minnesota; however, one can look at research concerning historic land uses across the landscape—such as railroads, mining areas, and ranching—to make certain predictions regarding the potential for discovering historic archaeological deposits.

Only a small fraction of the Northern Border area of Minnesota has been previously inventoried and evaluated for historic-period cultural sites. Actual numbers of recorded sites and previous project survey boundaries exist in the Minnesota SHPO database and within the Mn/Model system. As is the case with prehistoric sites in the project area, there is a high probability of discovering previously unrecorded, significant, historic-period cultural properties that will meet the eligibility criteria for listing in the National Register.

North Dakota

No standardized or widely accepted site-location predictive or sensitivity model for historic archaeological sites exists for North Dakota.

A small fraction of the northern border of North Dakota has been previously inventoried and evaluated for historic-period cultural sites. Actual numbers of recorded sites and previous project survey boundaries exist in the North Dakota SHPO database, but exact numbers of cultural resources are not available for this preliminary overview. It is estimated that at least 200 historic-period archaeological sites are recorded within 100 miles of the North Dakota-Canada border. As is the case with prehistoric sites in the project area, there is a high probability of discovering previously unrecorded, significant, historic-period cultural properties that will meet the eligibility criteria for listing in the National Register.

Montana

No standardized or widely accepted site-location predictive or sensitivity model for historic archaeological sites exists for the Montana.

Only a small fraction of the northern border of Montana has been previously inventoried and evaluated for historic-period cultural sites. Actual numbers of recorded sites and previous project survey boundaries exist in the Montana SHPO database, but exact numbers of cultural resources are not available for this preliminary overview. It is estimated that at least 200 historic-period archaeological sites are recorded within 100 miles of the Montana-Canada border. As is the case with prehistoric sites in the project area, there is a high probability of discovering previously unrecorded, significant, historic-period cultural properties that will meet the eligibility criteria for listing in the National Register.

In general for the entire area, historic archaeological sites can occur in or near present-day municipalities and villages as well as along historic-period roads, particularly cross-roads. Sites may also be found along certain railway sections and waterways.

5.11.2.5 Above-Ground Historic Properties

There are numerous above-ground historic properties along the EOR border area that are National Register listed, eligible or potentially eligible for listing. The density of above-ground historic properties, however, decreases as one moves to the west toward the Rockies. The border area in Minnesota includes a wide range of architectural types: agricultural, commercial, industrial, residential, tourism/recreation, religious, transportation, and civic/governmental. Examples of all popular national architectural styles are represented in the state, ranging from frontier-type resource through the popular Craftsman and Prairie; particularly distinctive are the log, subsistence (non-log early settlement structures), and rustic. Minnesota also has distinctive grand lodges, hotels, resorts, health spas, camp facilities, dude ranches. These tourism/recreation resources include architect-designed buildings executed in rustic/park, frontier revival, and simple wood frame. Other property types include agriculture, agricultural process, and resources related to the state's lumber industry.

Across the large area encompassed by this study, architectural styles of historic structures and districts vary widely. Because Montana and North Dakota are rural, agriculturally dependent states, the majority of historic-resource types are associated with farms and ranches. In the 1920s, North Dakota, like other agricultural areas, experienced economic failure and a decade-long draught. During the Great Depression of the 1930s, numerous Federal relief construction work programs were initiated in the state. Two main stylistic tendencies, the Art Deco and Works Progress Administration-Rustic, characterize most Depression-era architecture. As one of the prominent historic industries in the state, the extraction industry (e.g., lignite) has left behind examples of its works as well.

A small fraction of the EOR area has been previously inventoried and evaluated for historic structures. Actual numbers of recorded above-ground historic properties and previous project survey boundaries exist in SHPO databases and files, but exact numbers of cultural resources are not readily available for this overview. As is the case with other site types in the project area, there is a high probability of discovering previously unrecorded and significant above-ground historic properties that will meet the criteria for listing in the National Register.

Tables 5.11-1, 5.11-2, and 5.11-3 identify historic properties that have been designated as historically important at the national, state, and local levels and briefly describe the historic environments in the vicinity of CBP facilities in the EOR states. Table 5.11-4 lists the historic buildings that reside on CBP property in Montana.

Table 5.11-1. Cultural Resources in the Vicinity of CBP Facilities in Minnesota

Component*	Type**	Name	Address	National, State, and Local Historical Designations and Environment
OFO	POE	Baudette	HWY 72 N Baudette, MN 56623	1 National Register property
OFO	POE	Duluth MN/ Superior WI	515 West First Street Duluth, MN 55802	Located at the National Register property 1929 U.S. Courthouse and Customs House in downtown Duluth; within the Duluth Civic Historic District, which consists of 4 additional properties: City Hall, County Jail, Soldiers and Sailors Monument, and County Courthouse; 159 National Register properties in Duluth; 18 National Register properties in Superior
OFO	POE	Grand Portage	9403 East Highway 61 Grand Portage, MN 55605	1 National Register property (on Grand Portage Indian Reservation)
OFO	POE	Grand Marais Station	315 South Broadway Grand Marais, MN 55604	4 locally listed properties (including a lighthouse keeper's house)
OFO	POE	International Falls	2 Second Avenue International Falls, MN 56649	1 State Register property; 1 local property
OFO	POE	Lancaster	4151 Highway 59 Lancaster, MN 56735	None
OFO	POE	Pine Creek	41937 State Highway 89 Roseau, MN 56751	None
OFO	POE	Roseau	41967 State Highway 310 Roseau, MN 56751	None
OFO	POE	Warroad	41059 State Highway 313 Warroad, MN 56763	None
USBP	BPS	Warroad	502 State Avenue South, Highway 11 Warroad, MN 56763	None

Component*	Type**	Name	Address	National, State, and Local Historical Designations and Environment
USBP	BPS	Duluth	4431 Endeavor Drive Duluth, MN 55811	Located eight miles northwest of Duluth
USBP	BPS	International Falls	1580 Highway 11 International Falls, MN 56649	None
USBP	BPS	Pembina	4151 US Highway 75 Noyes, MN 56740	None
USBP	BPS	Grand Marais	315 South Broadway Grand Marais, MN 55604	See previous description for Grand Marais Station POE.

*OFO = CBP Office of Field Operations, USBP = U.S. Border Patrol

**POE = Port of Entry, BPS = Border Patrol station

Table 5.11-2. Cultural Resources in the Vicinity of CBP Facilities in North Dakota

Component*	Type**	Name	Address	National, State, and Local Historical Designations and Environment
OFO	POE	Ambrose	10934 State Highway 42 Ambrose, ND 58833	None
OFO	POE	Antler	10945 Highway 256 Antler, ND 58711	1 National Register property in the vicinity
OFO	POE	Carbury	10919 Highway 14 Northeast Souris, ND 58783	1 National Register property in the vicinity
OFO	POE	Dunseith	10947 Highway 281 Dunseith, ND 58329	1 National Register property in the vicinity
OFO	POE	Fortuna	10935 Highway 85 Northwest Fortuna, ND 58844	None
OFO	POE	Grand Forks	2787 Airport Drive Grand Forks, ND 58203	None
OFO	POE	Hannah	10951 Highway 13 Hannah, ND 58239	None
OFO	POE	Hansboro	10944 Highway 4 Hansboro, ND 58339	None
OFO	POE	Fargo	1801 23rd Avenue, Room 105 Fargo, ND 58102	3 National Register properties on North Dakota State University campus
OFO	POE	Maida	10947 State Highway 1 Langdon, ND 58249	None
OFO	POE	Neche	10949 Highway 18 Neche, ND 58265	None
OFO	POE	Noonan	10945 North 40 Noonan, ND 58765	2 National Register properties in the vicinity (1 farm, 1 hotel)
OFO	POE	Northgate	10921 Highway 8 Flaxton, ND 58737	None
OFO	POE	Pembina	10980 Highway 29 Pembina, ND 58271	U.S. Border and Customs House is a National Register property; in village of Pembina

Component*	Type**	Name	Address	National, State, and Local Historical Designations and Environment
OFO	POE	Portal	301 West Railway Avenue Portal, ND 58772	2 National Register properties in the vicinity
OFO	POE	Sarles	10949 State Highway 20 Sarles, ND 58372	None
OFO	POE	Sherwood	10927 Highway 28 Sherwood, ND 58782	None
OFO	POE	Saint John	Route 1 Highway 30 North Saint John, ND 58369	1 state-listed property; 2 miles NW (Saint Claude Mission)
OFO	POE	Walhalla	10955 State Highway 32 Walhalla, ND 58282	2 National Register properties: Gingras Trading Post 3 miles NE (also state listed) and the Walla Theater in the village; 1 state-listed property: Walhalla State Historic Site, birthplace of Walhalla, 0.5 mile NW
OFO	POE	Westhope	10923 Highway 83 Westhope, ND 58793	None
USBP	BPS	Portal Station	Railway Avenue and Makee Street Portal, ND 58772	None
USBP	BPS	Bottineau	1235 11th Street East Bottineau, ND 58318	1 National Register property in Bottineau (Main building, School of Forestry)
USBP	Sector HQ	Grand Forks	1816 17th Street Northeast Grand Forks, ND 58203	None
OAM	Air Facility	Grand Forks	1816 17th Street Northeast Grand Forks, ND 58203	None

*OFO = CBP Office of Field Operations, USBP = U.S. Border Patrol, OAM = CBP Office of Air and Marine

**POE = Port of Entry, BPS = Border Patrol station

Table 5.11-3. Cultural Resources in the Vicinity of CBP Facilities in Montana

Component*	Type**	Name	Address	National, State, and Local Historical Designations and Environment
OFO	POE	Del Bonita	4071 Chalk Butte Road Cut Bank, MT 59427	City; county seat; end of the Cherokee Trail or Rocky Mountain Trail; location of Captain Meriwether Lewis skirmish with Blackfeet in the vicinity; no National Register properties in the vicinity
OFO	POE	Great Falls	2108 21st Avenue South Great Falls, MT 59405	City (second largest in state); county seat; National Landmark: Great Fall Portage (Lewis & Clark 1805–06) in the vicinity; 4 National Register districts; 19 National Register properties in the vicinity
OAM	Air Facility	Great Falls	2108 21st Avenue South Great Falls, MT 59405	See description for Great Falls above.
OFO	POE	Morgan	53869 US Highway 191 N Loring, MT 59537	Small rural community; no National Register properties in the vicinity
OFO	POE	Opheim	6071 State Highway 24 North Opheim, MT 59250	Small rural community; no National Register properties in the vicinity
OFO	POE	Piegan	4999 Highway 89 North Babb, MT 59411	Small community on the Blackfeet Reservation; Piegan Border Station and Quarters and the Chief Mountain Border Station and Quarters are both National Register properties; 1 National Register district in the vicinity
OFO	POE	Raymond Area	Highway 16 North of Raymond Raymond, MT 59256	Small community; 1 National Register property in the vicinity
OFO	POE	Roosville	7915 Highway 93 North Eureka, MT 59917	Small town; 2 National Register properties in the vicinity
OFO	POE	Scobey	1440 Highway 13 North Scobey, MT 59263	Small city; 3 National Register properties in the vicinity
OFO	POE	Sweetgrass Area	39825 Interstate 15 Sweetgrass, MT 59484	Small community; U.S. Customs Building is a National Register property; no other listings in the vicinity

Component*	Type**	Name	Address	National, State, and Local Historical Designations and Environment
OFO	POE	Turner	Highway 24 at the Border Turner, MT 59542	Small rural community; 12 miles south of port of entry
OFO	POE	Whitetail	1281 Highway 511 North Whitetail, MT 59276	Small village; no National Register properties in the vicinity
OFO	POE	Whitlash	Highway 409 at the Border Whitlash, MT 59545	Rural community; near East Butte of the Sweet Grass Hills hunting/battle/spiritual grounds; no National Register properties in the vicinity
OFO	POE	Wild Horse	29966 Wild Horse Road Havre, MT 59501	City; 1 National Register district; 7 National Register properties including the Wahpa Chu`gn Buffalo Jump and Archeological Site (24HL101) and nineteenth-century Fort Assiniboine in the vicinity
OFO	POE	Willow Creek	29942 Saint Joe Road Havre, MT 59501	See description for Wild Horse above.
USBP	BPS	Shelby	25 Airport Road Shelby, MT 59474	City; 3 National Register properties in the vicinity
USBP	BPS	Sainte Mary	4999 US Highway 89 Babb, MT 59411	See previous description for the Piegan POE.
USBP	BPS	Sweetgrass	37 Nine Mile Road Sunburst, MT 59482	Rural town; no National Register properties in the vicinity
USBP	BPS	Scobey	131 C Highway 5 East Scobey, MT 59263	Small city; 3 National Register properties in the vicinity
USBP	BPS	Plentywood	31 Highway 16 North Plentywood, MT 59254	Incorporated community; no National Register properties in the vicinity
USBP	BPS	Malta	47152 US Highway 2 Malta, MT 59538	City; 4 dinosaur fossils found in the vicinity; Phillips County Carnegie Library on S. 1st Street is a National Register property.
USBP	Sector HQ	Havre	345 16th Avenue West Havre, MT 59501	See previous description for the Wild Horse POE.

Component*	Type**	Name	Address	National, State, and Local Historical Designations and Environment
USBP	BPS	Billings	2900 4th Avenue North Billings, MT 59101	City (largest in Montana); 3 National Register districts; 19 National Register properties including Pictograph Cave and Boothill Cemetery in the vicinity
USBP	BPS	Eureka	7695 Airport Road Eureka, MT 59917	See previous description for the Roosville POE.
USBP	BPS	Whitefish	1295 Highway 93 West Whitefish, MT 59937	City; 3 National Register properties in the vicinity

*OFO = CBP Office of Field Operations, OAM = CBP Office of Air and Marine, USBP = U.S. Border Patrol

**POE = Port of Entry, BPS = Border Patrol station

Table 5.11-4. Historic Buildings on CBP Property in Montana

Building Name	Type	City	Number	Year Finished	Rating Class*
Chief Mountain Border Station	Border Station	Babb	MT0501AD	1939	5a
Chief Mountain Border Station Pump House	Other	Babb	MT0503AD	1939	Not rated
Chief Mountain Border Station Garage	Garage	Babb	MT0502AD	1939	Not rated
Piegan Border Station Apartment Complex	Border Station	Babb	MT0551AE	1933	5a
Roosville Border Station Residence Customs	Residence	Eureka	MT0703AG	1933	5a
Roosville Border Station Residence Immigration	Residence	Eureka	MT0702AG	1933	5a
Roosville Border Station	Border Station	Eureka	MT0701AG	1933	5a

Source: (USGSA, 1999; Appendix C, GSA Historic Buildings).

*GSA Historic Rating Class 5a: A building 50-years old or older that has not been evaluated for National Register eligibility but is likely eligible, such as a courthouse, custom house, or historic office building ("Held in Public Trust" Appendix C; see footnote above).

5.11.2.6 Native American Cultural Resources

This section provides information about the potential location of Native American cultural resources, sacred sites, and traditional cultural properties (TCPs) in the EOR Region, based on the geographic location of Native Americans both historically and in the present. There are 18 tribal groups within the EOR area (Table 5.11-5). Twelve of these tribes have reservations within the EOR study area (Figure 5.11-1).

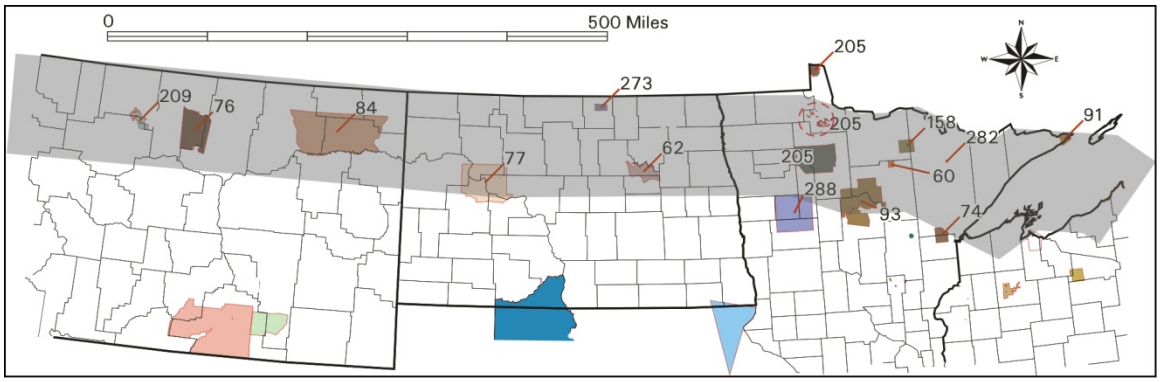
Table 5.11-5. Native American Tribes that Have a Reservation, Judicially Established Interest, or Established Traditional Ties to Land within the 100-mile PEIS Corridor

Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation	Minnesota Chippewa Tribe
Boise Forte Band of Chippewa Indians	Prairie Island Indian Community in the State of Minnesota
Chippewa-Cree Indians of the Rocky Boy's Reservation	Red Lake Band of Chippewa Indians
Fond du Lac Band	Shakopee Mdewakanton Sioux Community of Minnesota
Fort Belknap Indian Community of the Fort Belknap Reservation of Montana	Spirit Lake Tribe
Grand Portage Band of Lake Superior Chippewa	Standing Rock Sioux Tribe (North Dakota & South Dakota)
Leech Lake Band of Chippewa Indians	Three Affiliated Tribes of the Fort Berthold Reservation (Mandan, Arikara, and Hidatsa)
Lower Sioux Indian Community	Turtle Mountain Band of Chippewa Indians of North Dakota
Mille Lacs Band of Ojibwe	White Earth Band of Minnesota Chippewa

The following maps indicate federally recognized tribes that have a reservation within approximately 100 miles of the Canadian border, have a judicially established connection to land within the 100-mile corridor, or have established traditional ties that may involve traditional cultural properties or archaeological sites. The maps include:

1. A map of Indian reservations located within the 100-mile corridor (Figure 5.11-1);
2. A USGS map showing nineteenth-century cessions, reservations, and portages (Figure 5.11-2). This map was retrieved from ancestry.com; while the sourcing is unclear, the accuracy is corroborated by a 1992 map compiled by the Bureau of Indian Affairs and a 1998 GIS layer created by USGS (not included). The map shows tribes that had a presence along the Northern Border 100 years ago and indicates cases where Indian lands were ceded prior to that period;
3. A USGS map showing judicially established Indian land areas as of 1978 (Figure 5.11-3). The map portrays the results of cases before the U.S. Indian Claims Commission or U.S. Court of Claims in which an American-Indian tribe proved its original tribal occupancy of a tract within the continental United States; and,
4. A USGS map indicating early tribal, cultural, and linguistic areas (Figure 5.11-4). The information was derived from anthropological, archaeological, and linguistic studies. The map generally corroborates the other maps with regard to traditional tribal areas.

Figure 5.11-1. Native American Lands Within the 100-mile PEIS Corridor Crossing Minnesota, North Dakota, and the Eastern Two-Thirds of Montana*

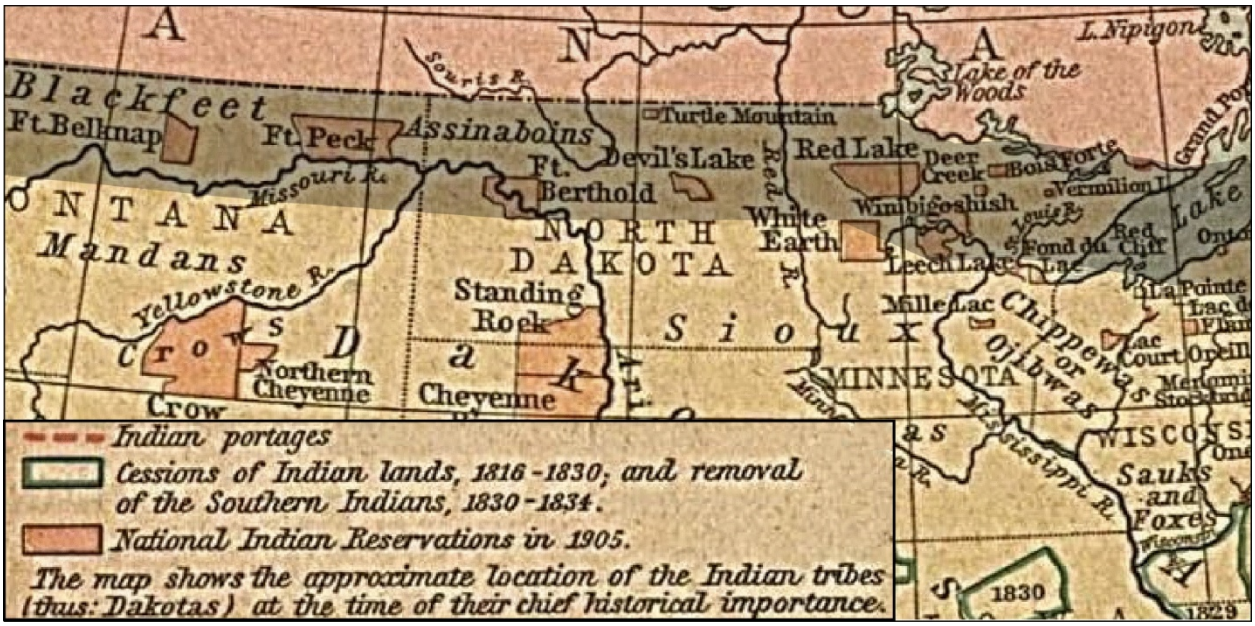


*Key to Figure 5.11-1		209	Chippewa-Cree Indians of the Rocky Boy's Reservation	205	Red Lake Band of Chippewa Indians
84	Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation	74	Fond du Lac Band	62	Spirit Lake Tribe (Sioux)
60	Boise Forte Band of Chippewa Indians (Deer Creek)	76	Fort Belknap Indian Community of the Fort Belknap Reservation of Montana	77	Three Affiliated Tribes of the Fort Berthold Reservation (Mandan, Arikara, and Hidatsa)
158	Boise Forte Band of Chippewa Indians (Nett Lake)	91	Grand Portage Band of Lake Superior Chippewa	273	Turtle Mountain Band of Chippewa Indians of North Dakota
282	Boise Forte Band of Chippewa Indians (Vermilion Lake)	93	Leech Lake Band of Chippewa Indians	288	White Earth Band of Minnesota Chippewa

Source: (USDOI, 2010).

Note: A shaded 100-mile corridor has been added.

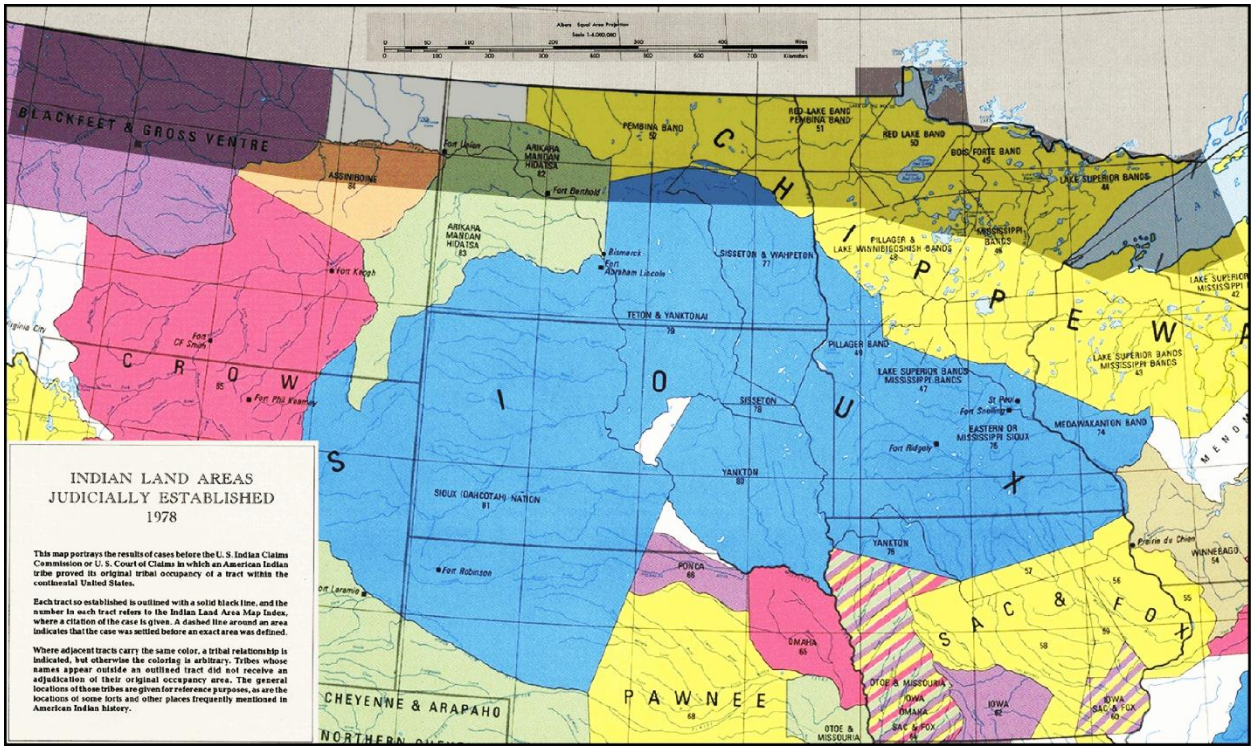
Figure 5.11-2. Nineteenth-Century Cessions, Reservations, and Portages (1907)



Source: (ancestry.com, No Date).

Note: A shaded 100-mile corridor has been added.

Figure 5.11-3. Judicially Established Indian Land Areas as of 1978

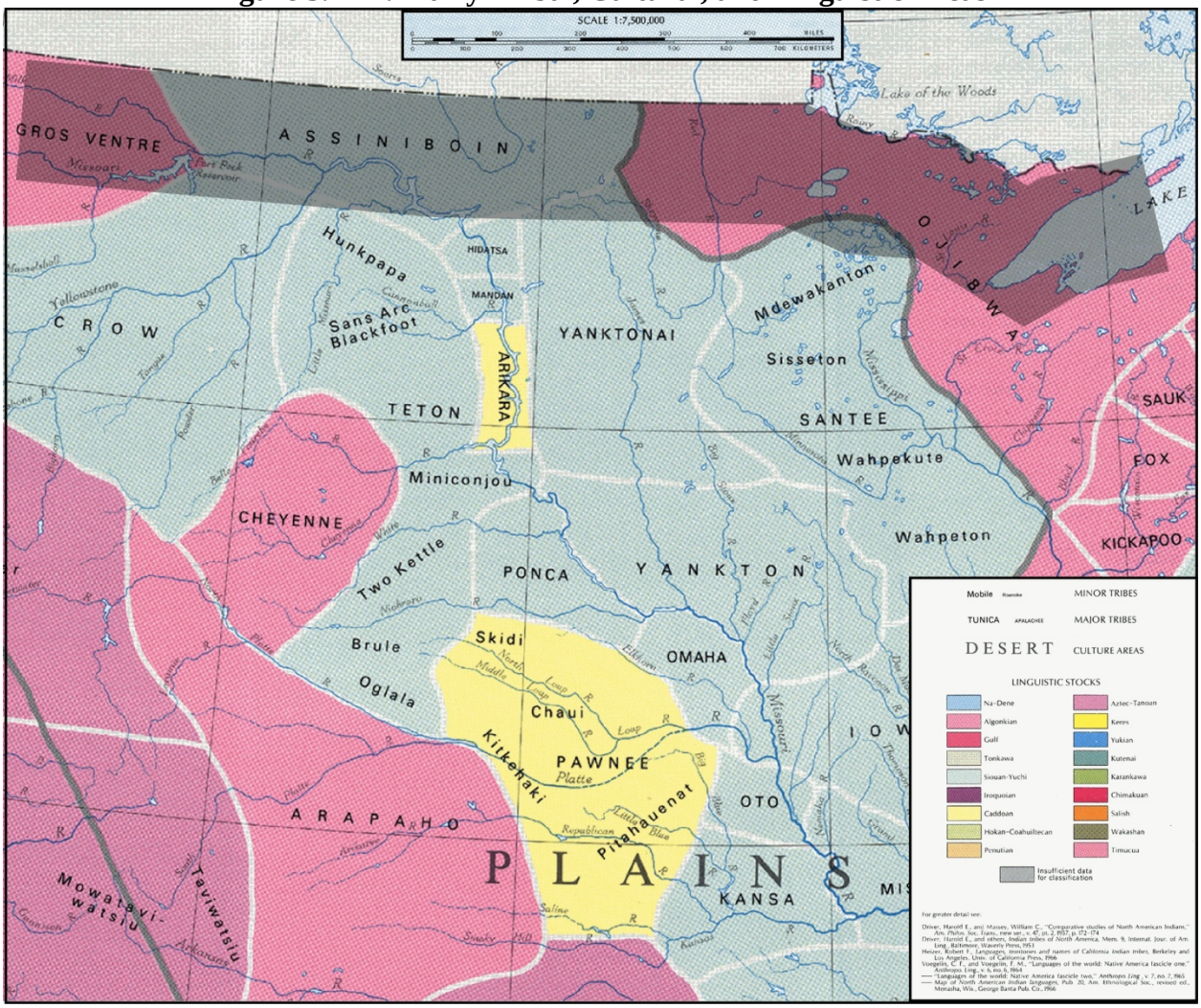


Source: (USDOI, 1978).

Note: A shaded 100-mile corridor has been added

.

Figure 5.11-4. Early Tribal, Cultural, and Linguistic Areas



Source: (USDOI, 1991).

Note: A shaded 100-mile corridor has been added.

5.11.2.7 Paleontological Resources

As with archaeology, paleontologists use a variety of information and techniques to carry out *predictive modeling*, the process of assessing the probability of existence of paleontological sites in a given location. This section provides an overview of the current understanding of paleontological site probability in the EOR Region. An expanded discussion of paleontological resources and references can be found in Appendix H.

Within the study area, four major geological groups were identified: sedimentary, volcanic, plutonic, and metamorphic. Of these rock groups, only sedimentary rocks have a high or moderate potential for containing paleontological materials. Both plutonic and volcanic rocks rarely contain fossils because igneous environments are not suitable for living things. Metamorphic rocks rarely contain fossils because the conditions of metamorphism tend to alter the texture of the rocks and destroy any fossils contained within.

Minnesota

Paleontologically sensitive geological units in Minnesota include predominantly Precambrian and Cenozoic deposits. Banded iron formations and stromatolites (formed in shallow water) mark Precambrian deposits. Paleozoic deposits consist of tropical sandy coastline and shallow marine deposits. Limestone and dolostone are common from this age. Cenozoic deposits in the study area include mostly glacial deposits containing mastodons, mammoths, musk ox, and other large mammals.

North Dakota

Paleontological-sensitive geological units in North Dakota consist predominantly of Mesozoic and Cenozoic deposits. Paleozoic deposits only exist in the study area in the most eastern part of the state. Paleozoic deposits represent fluctuating sea levels with large assemblages of different marine invertebrates. Mesozoic deposits are predominantly of shallow marine origin and include many fishes, reptiles, and birds. Cenozoic deposits range from subtropical, swampy lowlands to glacial deposits.

Montana

Paleontologically sensitive geological units in Montana consist predominantly of Precambrian, Cretaceous, and Tertiary sedimentary units. Precambrian sedimentary units include shallow sea stromatolites and trace fossils. Paleozoic deposits are from warm and shallow marine waters that created a thin blanket over almost all of Montana. Mesozoic deposits are of terrestrial and tropical marine origin. The Cenozoic marks the retreat of the ocean and the onset of a colder period. Deposits from the Cenozoic thus range from tropical shallow seas to glacial deposits.

5.12 ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

5.12.1 INTRODUCTION

Executive Order 12898 of February 11, 1994 (EO 12898, 1994), titled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires that each Federal agency identify and address any disproportionately high and adverse effect of its programs, policies, and activities on minority and low-income populations. The U.S. Environmental Protection Agency (EPA) defines *environmental justice* as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies" (USEPA, 2010).

Executive Order 13045 of April 21, 1997 (EO 13045), titled "Protection of Children from Environmental Health Risks and Safety Risks," places a high priority on the identification and assessment of environmental health and safety risks that may disproportionately affect children. The order requires that each agency "ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health or safety risks." EO 13045 considers that physiological and social development of children makes them more sensitive than adults to adverse health and safety risks and recognizes that children in minority, low-income, and indigenous populations are more likely to be exposed to, and have increased health risks from, environmental contamination than the general population (USEPA, 2010).

5.12.1 AFFECTED ENVIRONMENT

This section describes the affected environment for the assessment of potential environmental-justice effects that could result from implementation of any of the U.S. Customs and Border Protection (CBP) program alternatives in the East of the Rockies (EOR) Region. The affected-environment section identifies and describes minority and low-income populations, as well as populations of children that may be present in the defined study area and that may be differentially affected by actions proposed under each of the alternatives considered in this Programmatic Environmental Impact Statement (PEIS).

The study area for the evaluation of environmental-justice effects is defined—in accordance with section 5.10, Socioeconomic Resources—as the border communities in both the United States and Canada within 100 miles of the U.S.-Canada border. The U.S. portion of this study area (EOR Region) includes the border communities in the States of Minnesota, North Dakota, and Montana east of the Continental Divide. The study area north of the EOR Region in Canada includes the border communities in the Provinces of Alberta, Saskatchewan, and Manitoba. For comparison purposes, the analysis also includes the populations of the respective border states and Canadian provinces as a whole. Border communities are defined geographically by the administrative boundaries of American counties and Canadian census divisions contained within or overlapping the study area. A detailed demographic analysis of the study area is in Section 5.10.

5.12.1.1 Minority Populations

The most recent U.S. Census (USCB) data for minority populations available for all counties and states in the United States are part of the Decennial Census for the year 2000 (UDOC, 2000a).

Statistical data from this census have been used to characterize the minority populations within the EOR Region. Summary statistics for minority populations in the EOR Region, their respective states, and the Nation are presented in Table 5.12-1.

The minority component of the border-communities population is lower than that for the state population as a whole in the State of Minnesota but slightly higher for the States of Montana and North Dakota. The individual study areas of both Montana and North Dakota also have a higher proportion of minorities in their populations than is present in the EOR Region as a whole. American-Indian and Native-Alaskan populations represent the largest single minority identification within the border communities, with 6.7 percent of the total study-area population. These populations also represent the largest category in each of the individual state study areas.

Table 5.12-1. Minority Statistics for the East of the Rockies Region (Percent of Population)

Border State/Region*		White	Black or African American	American Indian and Alaska Native	Asian, Native Hawaiian, Pacific Islander, Other	More Than One Group	Hispanic Origin**
Minnesota	EOR Region	93.1	0.5	4.0	1.1	1.3	1.1
	Statewide	89.5	3.4	1.1	4.2	1.8	2.9
Montana	EOR Region	85.9	0.5	10.4	0.9	2.3	1.6
	Statewide	90.6	0.3	6.1	1.1	1.9	2.0
North Dakota	EOR Region	89.2	0.7	7.6	1.0	1.5	1.5
	Statewide	92.5	0.6	4.9	0.9	1.2	1.2
EOR Region Total	EOR Region	90.1	0.6	6.7	1.0	1.6	1.3
	Selected States	89.9	2.7	2.2	3.4	1.8	2.6
Total United States		**75.1**	**12.2**	**0.9**	**9.2**	**2.6**	**12.5**

Source: (USDOC, 2000a).

*Statistics presented in the unshaded rows include only those portions of the states that lie within the study area; this includes all counties overlapping the area within 100 miles south of the border.

**Hispanic origin is an ethnicity that may include individuals who are also represented in other categories (such as White or Black). Therefore, Hispanic origin is a separate measure and is calculated separately from the other categories.

Data on minority populations north of the EOR Region in Canada were taken from the 2006 Census of Canada (Table 5.12-2). The minority component of the border communities north of the EOR Region represents a slightly larger percentage of the population, 13 percent, than is present for the three provinces that contain the study area, 11.2 percent. However, both the study area and the three provinces that contain the study area have a smaller percentage of minorities in the population than the national population of Canada as a whole, 16.2 percent. Minority populations are present in greater proportions in the study area in Alberta Province, 17.2 percent,

than for the total population of the study area north of the EOR Region in Canada. The study-area segments of both the Provinces of Manitoba and Saskatchewan have smaller minority components in their populations.

The "Other Visible Minority" population (including multiple ethnicities) constitutes the largest single minority category in both the study area north of the EOR Region and in the three respective provinces. This category consists primarily of the following groups: Chinese, South Asian, Arab, West Asian, Filipino, Southeast Asian, Latin American, Japanese, and Korean. However, Aboriginal Peoples constitute the largest single identifiable minority within the study area.

Table 5.12-2. Visible Minority Statistics North of the East of the Rockies Region in Canada*
(Percent of Population)

Border Province/Region**		Not a Visible Minority	Black	Other Visible Minority ***	Two or More Visible Minorities	Aboriginal Peoples****
Alberta	North of the EOR Region	82.8	1.6	15.1	0.5	3.4
	Province	86.1	1.4	12.1	0.4	5.8
Manitoba	North of the EOR Region	89.5	1.5	8.7	0.3	11.8
	Province	90.4	1.4	8.0	0.3	15.5
Saskatchewan	North of the EOR Region	96.0	0.6	3.2	0.1	7.9
	Province	96.4	0.5	2.9	0.1	14.9
North of the EOR Region Total	North of the EOR Region	87.0	1.4	11.2	0.4	7.0
	Selected Provinces	88.8	1.3	9.6	0.3	9.5
Total Canada		**83.8**	**2.5**	**13.3**	**0.4**	**3.8**

Source: (StatCan, 2006a).

*Canada's Employment Equity Act (2005) defines *visible minorities* as "persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in color."

**Statistics presented in the unshaded rows account only for those portions of the provinces that lie within the study area; this includes all census divisions overlapping the area within 100 miles north of the border.

***The "Other Visible Minority" population consists mainly of the following groups: Chinese, South Asian, Black, Arab, West Asian, Filipino, Southeast Asian, Latin American, Japanese, and Korean.

****Self-identification by Aboriginal Peoples does not preclude self-identification inclusion in one of the other categories. The "Aboriginal Peoples" column of this table is, therefore, not additive with the other columns.

5.12.1.2 Low-Income Populations

Data from the most recently completed U.S. Census (USDOC, 2000b; USDOC, 2000c) were used to characterize low-income minority populations for the EOR Region. Median household income and poverty rates are in Table 5.12-3.

For the EOR Region, the median household income is $11,114 lower than the median for the total American border region and $10,160 lower than the median for the Nation as a whole. The median household income for border communities within each individual state is lower than the national median.

The percentage of populations below the poverty line is higher than the national median for border communities in the States of Montana and North Dakota but slightly lower for those in the State of Minnesota. In all three states, poverty rates for the study-area portion of the state exceed the rates for the state population as a whole.

Table 5.12-3. Income and Poverty Statistics for the East of the Rockies Region

Border State/Region*		Median Household Income** ($US)	Percent of Population Below the Poverty Line
Minnesota	EOR Region	44,926	11.9
	Statewide	59,516	7.9
Montana	EOR Region	40,642	15.8
	Statewide	41,720	14.6
North Dakota	EOR Region	41,654	13.2
	Statewide	43,716	11.9
EOR Region Total	EOR Region	42,891	13.3
	Selected States	55,462	9.3
Total United States		**53,051**	**12.4**

Source: (USDOC, 2000b; USDOC, 2000c).

*Statistics presented in the unshaded rows include only those portions of the states that lie within the study area; this includes all counties overlapping the area within 100 miles south of the border.

**Median household income is reported from the 2000 U.S. Census in inflation-adjusted 2009 U.S. dollars.

Data on median household income and populations living below the poverty level north of the EOR Region in Canada were gathered from the 2006 Census of Canada. Statistics for this study area are in Table 5.12-4.

The median income for the border communities north of the EOR Region in 2006 was $53,002, or $3,609 higher than the median for the Canadian population as a whole. Median income in the border communities of the Province of Alberta exceeded the national median. In all three provinces, the median household income in the study-area portion of the province was higher than the median for the respective province as a whole.

Based on the percentage of low-income economic families, the poverty rate for border communities north of the EOR Region is 1.6 percent lower than for the nation as a whole. The study-area portions of both the Provinces of Saskatchewan and Alberta had poverty rates substantially below the national rate.

Table 5.12-4. Income and Poverty Statistics North of the East of the Rockies Region in Canada

Border Province/Region*		Median Household Income** ($US)	Percent of Low-Income Economic Families***
Alberta	North of the EOR Region	60,101	8.8
	Province	58,928	8.7
Manitoba	North of the EOR Region	45,375	12.3
	Province	44,089	12.3
Saskatchewan	North of the EOR Region	46,024	8.8
	Province	43,012	10.2
North of the EOR Region Total	North of the EOR Region	53,002	10.0
	Selected Provinces	52,939	9.7
Total Canada		**49,393**	**11.6**

Source: (StatCan, 2006b).

*Statistics presented in the unshaded rows include only those portions of the provinces that lie within the study area; this includes all census divisions overlapping the area within 100 miles north of the border.

**Median household income is reported from the 2006 Canadian Census in inflation-adjusted 2009 U.S. dollars.

***The Canadian Census reports statistics for "low-income" economic families. This threshold-based designation is comparable to the poverty statistics reported in the U.S. Census. An *economic family* is a group of two or more persons who live in the same dwelling and are related to each other by blood, marriage, common-law, or adoption. A couple may be of opposite or same sex. Foster children are included.

5.12.1.3 Population of Children under 18 Years of Age

The distribution of population by age for the EOR Region is in Table 5.12-5. For the border communities within individual states, both Montana and North Dakota have larger percentages of children under 18 years of age than does the national population.

Table 5.12- 5. Age Distribution in the East of the Rockies Region (Percent of Population)

Border State/Region*		Under 18	18-24	25-34	35-44	45-54	55-64	65+
Minnesota	EOR Region	24.1	9.6	10.2	15.1	14.5	10.1	16.5
	Statewide	26.2	9.5	13.6	16.9	13.5	8.2	12.1
Montana	EOR Region	27.0	8.2	10.7	16.1	14.4	9.3	14.3
	Statewide	25.5	9.5	11.4	15.9	14.9	9.4	13.4
North Dakota	EOR Region	25.8	10.7	11.2	15.1	13.1	8.5	15.6
	Statewide	25.1	11.3	11.9	15.4	13.3	8.3	14.7
EOR Region Total	EOR Region	25.3	9.6	10.6	15.4	14.1	9.4	15.7
	Selected States	26.0	9.7	13.2	16.6	13.7	8.4	12.5
Total United States		**25.6**	**9.6**	**14.1**	**16.3**	**13.4**	**8.6**	**12.4**

Source: (USDOC, 2000c).

*Statistics presented in the unshaded rows account only for those portions of the states that lie within the study area; this includes all counties overlapping the area within 100 miles south of the border.

The distribution of population by age north of the EOR Region in Canada is in Table 5.12-6. For the border communities in all three provinces, children under 20 years of age represent 26.2 percent of the total population. This is slightly smaller than the percentage of children in the combined population of the three provinces that contain the study area, but 1.5 percent greater than the national percentage of 24.7. The percentage of children under 20 is greater than the percentage in the national population for border communities in each of the three individual provinces and for the population of the individual provinces as a whole.

Table 5.12-6. Age Distribution North of the East of the Rockies Region in Canada (Percent of Population)

Border Province/Region*		Under 20	20-24	25-34	35-44	45-54	55-64	65+
Alberta	North of the EOR Region	26.1	7.5	15.0	15.9	15.8	9.7	9.9
	Province	26.7	7.7	14.5	15.4	15.6	9.8	10.2
Manitoba	North of the EOR Region	26.4	6.9	12.4	14.3	15.3	11.2	13.7
	Province	27.2	6.8	12.3	14.2	15.1	11.0	13.4
Saskatchewan	North of the EOR Region	25.8	6.7	11.7	13.5	15.8	11.0	15.4
	Province	27.5	7.0	11.8	13.3	15.2	10.6	14.6
North of the EOR Region Total	North of the EOR Region	26.2	7.2	13.6	15.0	15.6	10.4	12.0
	Selected Provinces	26.9	7.4	13.6	14.8	15.4	10.2	11.7
Total Canada		**24.7**	**6.6**	**12.8**	**15.3**	**15.8**	**11.7**	**13.0**

Source: (StatCan, 2006c).

*Statistics presented in the unshaded rows account only for those portions of the provinces that lie within the study area; this includes all census divisions overlapping the area within 100 miles north of the border.

5.13 HUMAN HEALTH AND SAFETY

5.13.1 INTRODUCTION

Many of the routine activities conducted by Customs and Border Protection (CBP) in the East of the Rockies (EOR) Region have the potential to affect human health and safety (HH&S). HH&S relates to the health and safety of the general public (including vehicle occupants), CBP and station employees, and maintenance personnel. Safety can also refer to safe operations of aircraft or other equipment.

This section considers the potential adverse and beneficial impacts of CBP's alternative actions on HH&S.

5.13.2 AFFECTED ENVIRONMENT

Construction

HH&S concerns during construction and modernizing of facilities involve exposing workers to conditions that pose a health or safety risk. Construction site safety is largely a matter of adherence to regulatory requirements. These regulatory requirements are imposed for the benefit of employees and they implement operational practices that reduce risks of illness, injury, death, and property damage. The U.S. Occupational Safety and Health Administration (OSHA) issues standards that specify the amount and type of safety training and education required for industrial workers, the use of protective equipment and clothing, engineering controls, and maximum exposure limits with respect to workplace stressors (29 CFR 1910). CBP applies and adheres to these standards in policy and practice.

Routine Operations

Trade and Travel Processing at POEs

The affected environment of agricultural inspections is the inspection location. Agricultural inspections are typically conducted on-site at ports of entry (POEs), but officers sometimes escort the shipment to the receiver site for inspection (USDHS, 2011). Inspections can also take place on the vessel or train transporting cargo into the United States. After inspection, many types of shipments are released to the appropriate agency.

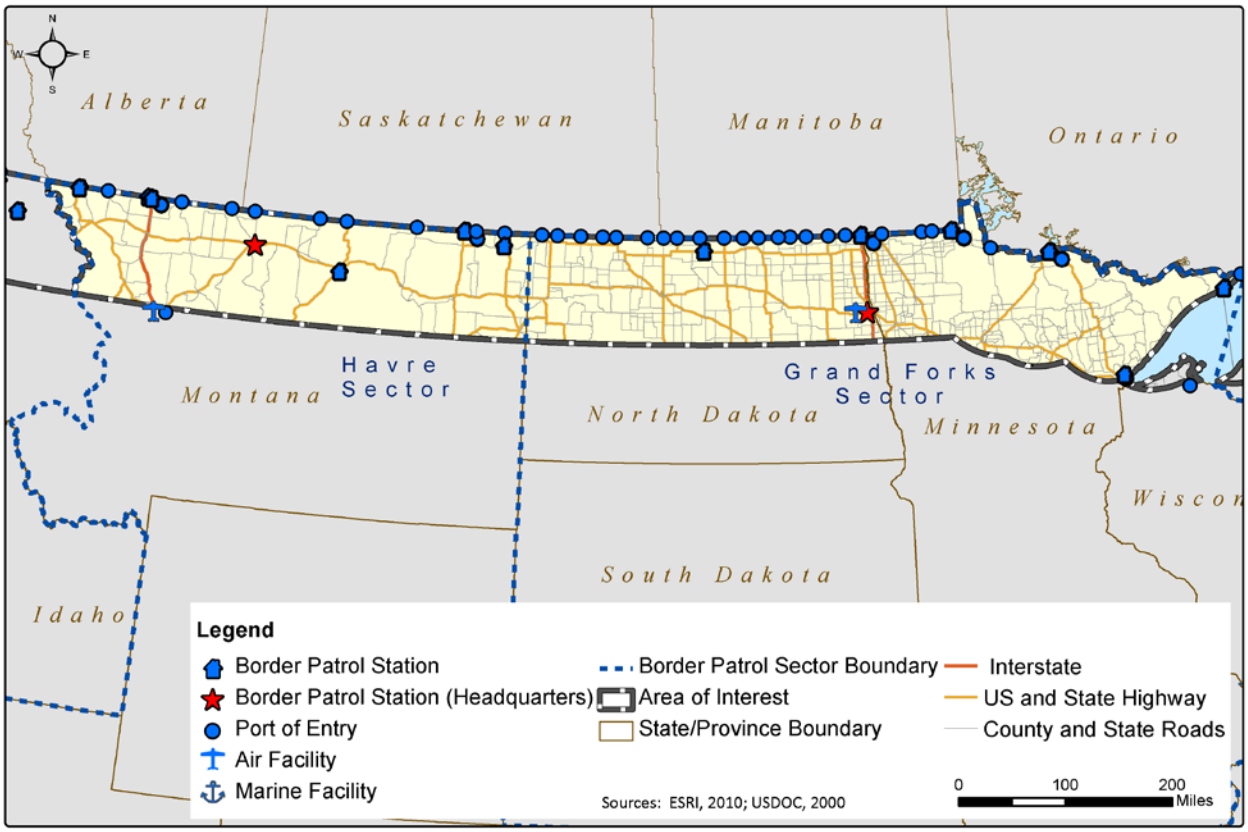
During these interceptions, HH&S effects are possible. Release of nonindigenous diseases into the United States would be harmful to HH&S. To prevent nonindigenous diseases from entering the United States, CBP places bans on certain animals, animal products, and other possible carriers of disease. In 2003, in Canada a positive case of bovine spongiform encephalopathy ("mad cow" disease) touched off an immediate ban on ruminant meat from Canada into the United States. That same year, there was an outbreak of monkeypox in the United States. This outbreak was linked to exotic animals being imported into the United States as pets. A ban was immediately imposed on certain live rodents from Africa, and agricultural specialists still enforce this ban (USDHS, 2004a). Preventing nonindigenous diseases from entering the United States has a beneficial effect on HH&S because it limits the outbreak of disease.

Ground Surveillance and Situational Response Activities

Motorized and Nonmotorized Patrols

Motorized patrols take place on U.S. national, state, county, and local municipalities' paved roads. Figure 5.13-1 shows U.S. national, state, and county roads that USBP agents can use for motorized patrolling in the East of the Rockies Region. In rural areas along the border, USBP agents also use dirt roads for motorized and nonmotorized patrols. Dirt roads along the border region were built to be 24-feet wide, but due to vegetation growth the roads are now typically less than 10 feet wide (USDHS, 2011). USBP agents also use other Federal agencies' roads, including roads in national forests and national parks. When possible, the USBP agents remain on existing roads to apprehend cross-border violators but when required they go off-road. Off-road vehicles and nonmotorized patrols take place off-road and in remote areas along the border.

Figure 5.13-1. U.S., Interstate, State, and County Roads in the East of the Rockies Region



Aircraft Operations

Manned aerial surveillance patrols are generally between 300 feet above ground level (AGL) and flight level (FL) 250. Aircraft patrols are operated at different heights based on different operational and environmental conditions including weather conditions and high-traffic environments. Manned aerial surveillance patrols are conducted along the East of the Rockies border, and can be operated out of the Grand Forks Air and Marine Branch. This Office of Marine and Air (OAM) branch possesses equipment and resources for aerial patrols. In order to fly for CBP, OAM agents must have a Federal Aviation Administration (FAA)-issued license (USDHS, 2010a). Accidents during manned aerial surveillance patrols could potentially injure OAM officers or members of the general public.

Unmanned Aircraft Systems (UAS) are remotely piloted aircraft. UAS patrols are conducted out of the Grand Forks Sector in the East of the Rockies Region. UASs are operated at 18,000 feet above ground level or higher. The FAA sets the constraints for where a UAS may operate and how these operations may be conducted safely in the National Airspace System (NAS). Their main focus when evaluating UAS operations in the NAS is to make sure a UAS will not endanger other users of the NAS or compromise the safety of persons or property on the ground.

The FAA recognizes the great potential of UASs in homeland security and strives to accommodate the DHS's needs for UAS operations, without jeopardizing safety. Because

airspace is a finite resource, the FAA sets aside Restricted or Prohibited Areas to help mitigate risks. These Restricted or Prohibited Areas are for an operator's exclusive use when needed.

For CBP UASs to gain access to the civil airspace, CBP must go through the FAA's Certificate of Waiver or Authorization (COA) process. This is the avenue by which public users (government agencies and Federal, state, and local law enforcement) that wish to fly a UAS can gain access to the NAS, provided that the risks of flying the UAS in the civil airspace can be appropriately mitigated.

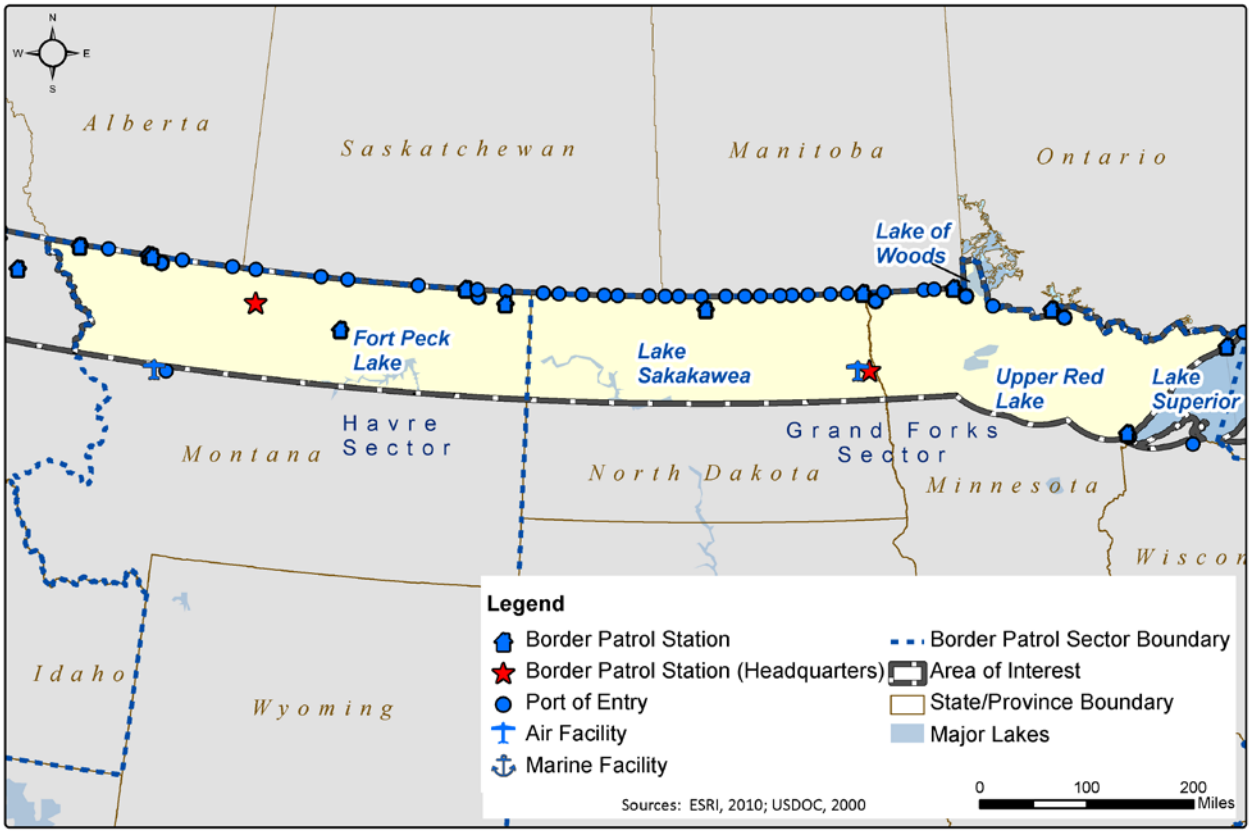
To minimize the risk of operating a UAS, the FAA frequently requires risk mitigations before granting a COA. These mitigations include special provisions unique to the requested type of operation. For example, the applicant may be restricted to operating only in a defined airspace or operating only during certain times of the day. The UAS may be required to have a transponder if it is to be flown in a certain type of airspace. Other safety enhancements may be required, depending on the nature of the proposed operation. To ensure safety, the COA application is reviewed for feasibility; airspace experts review and ensure that the operation will not severely impact the efficiency of the NAS. As of April, 2011, CBP has been issued 12 COAs.

Given that there are emergency and disaster situations where the use of UASs has saved lives and otherwise mitigated emergency situations, the FAA has issued three special disaster COAs, one of which was to CBP (Kalinowski & Allen, 2010).

Vessel Operations

Waterways patrolled along the EOR Region mainly occur along the Northern Border in Minnesota. Figure 5.13-2 shows the approximately 1,735 square miles of navigable water in this region (ESRI, 2010). To assist in river or lake patrols, OAM provides the USBP agents in this region with a range of watercraft (USDHS, 2011). Accidents during patrols could take place between CBP, cross-border violators, and the general public.

Figure 5.13-2. Navigable Water in the East of the Rockies Region



Radiation

CBP uses X-rays and gamma rays to inspect merchandise and conveyances, eliminating the need for an intrusive manual search. These detection systems provide images of material enclosed in cars, trucks, railcars, sea containers, personal luggage, packages, parcels, and mail (USDHS, 2009a). Increasing the efficiency and the number of searches can have a beneficial effect on HH&S. Beneficial effects could result if the number of interdictions increases and the occurrence of intentional destructive acts (IDAs) decreases as a result of using X-ray and gamma rays. The affected environment includes the location of equipment that produces X-rays and gamma rays, as well as the area immediately surrounding the equipment.

X-rays and gamma rays have the potential to expose people to ionizing radiation. The Nuclear Regulatory Commission (NRC) sets regulations and establishes standards for protection against radiation arising from

Occupational dose is the dose received by an individual in a restricted area or in the course of employment in which the individual's assigned duties involve exposure to radiation and to radioactive material from licensed and unlicensed sources of radiation, whether in the possession of the licensee or other person. The individuals subject to the occupational dose classification must closely monitor their degree of radiation exposure using dosimeters (USDHS, 2004b).

Exposure dose is the dose received by a member of the public from exposure to radiation and to radioactive material released by a licensee, or to another source of radiation either within a licensee's controlled area or in unrestricted areas (USDHS, 2004b).

activities conducted under licenses it issues. CBP has adopted the NRC standard because OSHA addresses only occupational dose exposure limits. These requirements are set forth in 10 CFR Part 20 (USDHS, 2004b).

In 10 CFR Part 20, the NRC identifies two classifications of radiation dose: occupational dose and exposure dose (USDHS, 2004b). Neither of these doses includes background radiation, radiation patients receive from medical practices, radiation received from participation in medical research programs, or radiation received as a member of the general public.

As set by the NRC in 10 CFR Part 20, the maximum permissible level of radiation dose to individual members of the general public in unrestricted areas (i.e., exposure dose) is 0.1 rem per year above the typical 0.360 rem per year dose provided by natural and man-made background radiation.

As part of its "as low as is reasonably achievable" (ALARA) program, CBP has determined that the radiation dose received by its personnel shall not exceed the public dose (USDHS, 2004b).

In 10 CFR 20.1003, NRC defines the philosophy of ALARA in relation to exposure:

> ALARA (acronym for "as low as is reasonably achievable") means making every reasonable effort to maintain exposures to radiation as far below the dose limits in this part as is practical consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest.

Exposure to radiation can be harmful to HH&S. Because of the difficulties in determining if the health effects that are demonstrated at high radiation doses are also present at low doses, current radiation protection standards and practices are based on the premise that any radiation dose may result in detrimental health effects, such as cancer and hereditary genetic damage.

When discussing potential impacts caused by radiation exposure it is important to relate how much exposure is anticipated. In an August 2004 revised position statement on radiation risk, the Health Physics Society recommended against the quantitative estimation of health risks below an individual dose of 0.5 rem in one year or a lifetime dose of 10 rem above that received from natural sources. Doses from natural background radiation in the United States average about 0.360 rem per year (HPS, 2004).

Radio Frequency

The radio frequency (RF) environment refers to the presence of electromagnetic (EM) radiation emitted by radio waves and microwaves on the human and biological environment. RF waves have a frequency or rate of oscillation within the range of approximately 3 Hertz (Hz) to 300 gigahertz (GHz). This energy can interact with matter (USDHS, 2008a).

Uncontrolled exposure occurs when the general public is exposed or when persons employed are not made fully aware of the potential for exposure or cannot exercise control over their exposure (USDHS, 2008a).

Controlled exposure occurs when a person is exposed to RF fields as part of their employment and the person has been made fully aware of the potential exposure and can exercise control over their exposure. (USDHS, 2008a).

OSHA regulates RF environment and EM radiation for employees under 29 CFR 1910. The Federal Communications Commission (FCC) is responsible for licensing frequencies and ensuring that the approved use does not interfere with television or radio broadcasts, or substantially affect the natural or human environment (USDHS, 2008a). The FCC has adopted a modified version of the American National Standards Institute (ANSI) guidelines and Institute of Electrical and Electronics Engineers (IEEE) standards to evaluate exposure due to RF transmitters licensed and authorized by the FCC. The FCC's guidelines also reflect the National Council of Radiation Protection and Measurements exposure guidelines.

The National Council of Radiation Protection and Measurements and ANSI/IEEE exposure criteria identify the same threshold level at which harmful biological effects may occur. The whole-human-body absorption of RF energy varies with the frequency of the RF signal. The most restrictive limits on exposure are in the frequency range from 30 to 300 megahertz where the human body absorbs RF energy most efficiently (USDHS, 2008a).

There are two tiers or exposure limits: occupational or "controlled," and general or "uncontrolled." In order for a transmitting facility or operation to be out of compliance with the FCC's RF guidelines in an area where levels exceed maximum permissible exposure (MPE) limits, it must first be accessible to the public. The MPE limits indicate levels above which people may not be safely exposed regardless of the location where those levels occur (USDHS, 2008a).

Adverse biological effects associated with RF energy are typically related to the heating of tissue by RF energy. This is typically referred to as a thermal effect, where the EM radiation emitted by an RF antenna passes through and rapidly heats biological tissue; similar to the way a microwave oven cooks food. According to the Health Physics Society, numerous studies have shown that environmental levels of RF energy routinely encountered by the general public are typically far below levels necessary to produce significant heating and increased body temperature; RF energy that would produce harmful heating is generally associated only with workplace environments near high-powered RF sources, such as those used for molding plastics or processing food products. In such cases, exposure of human beings to RF energy could exceed MPE and restrictive measures or actions would thus be required to ensure the public's safety (USDHS, 2008a).

There is also some concern that signals from some RF devices could interfere with pacemakers or other implanted medical devices; however, electromagnetic shielding has been incorporated into the design of modern pacemakers to prevent RF signals from interfering with the electronic circuitry in the pacemaker (USDHS, 2008a).

Because RF devices emit RF energy and EM radiation, adverse impacts could occur. The severity of these impacts depends on the equipment used and the elevation of the tower (USDHS, 2008a).

Beneficial impacts from RF devices could also occur. The use of RF could increase the frequency of interdictions along the Northern Border, improving the HH&S of the U.S. American population.

Firing Ranges

HH&S can be affected by noise levels and exposure to lead from firing ranges on both indoor and outdoor ranges in this region. Humans become exposed to lead associated with shooting ranges through lead-contaminated soil. Another potential pathway is through inhalation of lead dust by shooters during firing when airflow on the firing line is blocked. Range workers may also be exposed to lead dust while performing routine maintenance operations, such as raking or cleaning out bullet traps. Each of these pathways is site specific and may or may not occur at individual ranges (USDA, 2010).

Figure 5.13-3 CBP Officers Train at Firing Range

Source: (USDHS, No Date).

OSHA sets regulations for protecting workers who handle or are exposed to lead, including airborne lead at indoor firing ranges (NSSF, 2001; 29 CFR 1910.1025). The OSHA standard for airborne lead exposure is 30 micrograms per cubic meter of air with an 8-hour time-weighted average (29 CFR 1910.1025).

Spent ammunition on ranges is not regulated as solid/hazardous waste unless it is discarded and left to accumulate for a long period of time. It is not regulated if it is recovered or reclaimed on a regular basis. If the range poses an imminent or substantial danger to human health or the environment it can be addressed through the Resource Conservation and Recovery Act (RCRA).

U.S. Environmental Protection Agency (EPA) regions also set guidelines and establish best management practices (BMPs) for building new ranges and for remediating outdoor ranges. These guidelines are in place to help minimize lead contamination in soil and water. HH&S would be adversely affected if USBP agents were exposed to lead on firing ranges or if the public's water supply was contaminated with lead (USEPA, 2003). The frequency and severity of response to lead exposure in humans depend on the amount of exposure. Symptoms include neurological, gastrointestinal, reproductive, and renal effects (NYDH, 2009).

In addition to lead exposure, the noise generated on firing ranges may have an adverse effect on the health of CBP agents. Exposure to harmful levels of noise over a long time period can damage sensitive structures in the ear, resulting in noise-induced hearing loss (NIDCD, 2008). To protect employees from noises at harmful levels, OSHA sets noise standards and guidelines for the work environment. The OSHA noise exposure limit is set at a maximum permissible

exposure limit of 90 decibels, A-weighted (dBA), averaged over an 8-hour time period (29 CFR 1910.95).

5.14 HAZARDOUS MATERIALS

5.14.1 INTRODUCTION

Hazardous materials are materials that are capable of posing an unreasonable risk to health, safety, and prosperity. Hazardous materials can be classified into roughly three categories:

- Hazardous or regulated substances;
- Hazardous or regulated waste; and
- Special hazards.

5.14.1.1 Hazardous Substances

Any substances that are considered severely harmful to human health or the environment may be classified as "hazardous." Hazardous substances take many forms. Many are commonly used substances that are harmless in their normal uses but are quite dangerous when released. They are defined in terms of those substances either specifically designated as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as the Superfund Law, or those substances identified under other laws (USEPA, 2011a). A great deal is known about hazardous substances and their effects. This information helps responders act quickly and safely to reduce the risks from emergency situations (USEPA, 2011b).

5.14.1.2 Hazardous Waste

A hazardous waste is defined by the Resource Conservation and Recovery Act (RCRA) as a solid waste, or combination of solid wastes, that, because of its quantity; concentration; or physical, chemical, or infectious characteristics may:

- Cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or
- Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

Hazardous wastes fall into two categories: characteristic wastes and listed wastes. *Characteristic hazardous wastes* are materials that are known or tested to exhibit a hazardous trait such as ignitability (i.e., flammability), reactivity, corrosiveness, and toxicity. *Listed hazardous wastes* are materials specifically listed by the Environmental Protection Agency (EPA) or a state regulation as a hazardous waste. Hazardous wastes listed by the EPA fall into two categories:

- Process wastes from general activities (F-listed) and from specific industrial processes (K-listed); and,
- Unused or off-specification chemicals, container residues, and spill cleanup residues of acute hazardous-waste chemicals (P-listed) and other chemicals (U-listed).

These wastes may be found in different physical states as gases, liquids, or solids. Furthermore, a waste is deemed hazardous if it cannot be disposed of by common means like other byproducts of our everyday lives. Depending on the physical state of the waste, treatment and solidification

processes might be available. In other cases, however, there is not much that can be done to prevent harm (Leonard, 2009).

Certain types of hazardous wastes are subject to special management provisions intended to ease the management burden and facilitate the recycling of such materials. These are called universal wastes; their associated regulatory requirements are specified in 40 CFR 273. Four types of waste are currently covered under the universal waste regulations: hazardous-waste batteries; hazardous-waste pesticides that are either recalled or collected in waste pesticide collection programs; hazardous-waste thermostats; and hazardous-waste lamps.

The RCRA regulates the management and disposal of hazardous waste. One common method of treatment method is hazardous combustion, or incineration, which is used to destroy hazardous organic components and reduce the volume of waste (USEPA, 2009a).

5.14.1.3 Special Hazards and Otherwise Regulated Materials

Special hazards are those substances that might pose a risk to human health; they are addressed separately from other hazardous materials. Special hazards include asbestos-containing material, polychlorinated biphenyls (PCBs), and lead-based paint (LBP). The EPA has the authority to regulate these special-hazard substances under the Toxic Substances Control Act 15 U.S.C. 53. The EPA has established regulations regarding asbestos abatement and worker safety under 40 CFR 763, with additional regulation concerning emissions (40 CFR 61). Depending on the quantity or concentration, the disposal of LBP waste is potentially regulated by the RCRA at 40 CFR 260. The disposal of PCBs is addressed in 40 CFR Parts 750 and 761.

5.14.2 AFFECTED ENVIRONMENT

5.14.2.1 Hazardous Substances, Hazardous Wastes, Special Hazards, and Otherwise Regulated Materials

Due to the duplicative discussion of hazardous substances, hazardous wastes, special hazards and otherwise regulated materials, complete descriptions of the range of hazards are found in section 3.14

5.15 UTILITIES AND INFRASTRUCTURE

5.15.1 INTRODUCTION

Infrastructure consists of the systems and physical structures that enable a population in a specified area to function. Infrastructure is wholly man-made; generally, the more urban and developed an area, the more infrastructure it has (USDHS, 2008a). This section describes ranges of use for each utility resource based on recent CBP site-specific analyses of protection, relocation, construction, and operation of U.S. Border Patrol stations, and construction, modernization, and operation of ports of entry (POEs). This section then describes the utility resources of most CBP facilities: Border Patrol (BP) stations, POEs, forward operating bases (FOBs), traffic checkpoints, and communication towers.

5.15.2 AFFECTED ENVIRONMENT

5.15.2.1 Water Supply

Municipal water systems or rural lines, which supply facilities such as the Beddown OAM and Havre BP station, pump up to 1.87 million gallons of water per day from nearby reservoirs, lakes, or a system of groundwater wells (USDHS, 2008d). A substantial reserve capacity remains in these lakes or reservoirs. Such systems provide water to nearly 10,000 customers (COH, 2000).

For those sites with wells present, such as the Morgan, Wild Horse, and Del Bonita POEs in Montana, a number of scenarios for water provisioning may be employed. Some sites utilize on-site wells by tapping a nearby water main. In more remote locations (where tapping a water main is not feasible), potable water is provided by an on-site well, which can range from 90 to 610 feet from the main building (USDHS, 2009b; USDHS, 2010a). Generally, wells are within 90 feet of the main building; water is pumped through an in-line water filter system and stored in multiple storage tanks, with roughly 100 to 220 gallons of storage capacity (USHDS, 2009c; USDHS, 2009d). When necessary (and possible), water is filtered, softened, distilled, or treated as required for potable uses. If no usable on-site well exists for potable water, the water may come from a leased off-site well located several hundred yards away. In a few locations, well water is run through a chlorination or reverse osmosis system for non-drinking usage.

When on-site wells are rendered obsolete or no well exists, as is often the case in this region due to high lead content, CBP supplies drinking water in commercial water bottles. At larger facilities the delivered potable water is stored in 5-gallon jugs and is sometimes used for cooking. For those few facilities where bottled water is delivered, on average between 50 and 60 gallons are used per month.

5.15.2.2 Electrical and Communications Utilities

Electrical power is provided to most CBP facilities by a commercial grid system. These local or regional utility cooperatives and distribution companies serve from 1,000 to 355,000 customers over a 30,000 to 168,000 square-mile area throughout the East of the Rockies Region (BFECI, 2010; MDUC, 2010). Service providers have a capacity of 42,125 kW with peak demand at 23,314 kW (USDHS, 2008c). The electrical power is fed from the main service to an automatic transfer switch and electrical panels, then through the buildings. Primary electrical service is

provided by overhead transmission lines to the facilities and secondary electrical service is provided from a pole-mounted transformer. Many of these facilities have an on-site emergency electric generator with a 500-gallon diesel fuel tank (USDHS, 2010b).

At seasonal facilities in more rural areas, electricity is provided by one or two smaller generators connected to the automatic transfer switches and building power system.

Monopole communication towers do not utilize more than 3,650 kW-hours per month from commercial grid power (USDHS, 2008b). Primary power is provided to monopole towers by the commercial power grid; in addition, communication relay towers (CRTs) typically utilize a 17-kW generator. Remote video surveillance system (RVSS) CRTs have a 30-kW generator (USDHS, 2008b). If a commercial power grid is not immediately available upon tower deployment, primary power is supplied by a 30-kW generator and 2,000-gallon propane-fueled generator until the commercial power infrastructure is in place. Back-up power for each tower site would be provided by a battery back-up system. All power lines are installed overhead from the main trunk power line to the tower-site shelter and then on elevated cable trays to the tower, with the primary power source being the commercial grid. At facilities lacking communication towers, antennas are mounted on posts attached to the main building.

Most POEs are provided telephone service by a nearby telephone substation. Existing telephone lines run underground or overhead (or some combination of the two) and when possible, follow a highway right-of-way. Most telephone lines consist of one or two T-1 lines and one to six dial tone lines. Where T-1 or fiber-optic service is not available, Internet service is accessed through telephone modems.

5.15.2.3 Fuel Supply

Propane, or natural gas, supplies fuel for heating, ventilation, and air conditioning (HVAC). The propane, which can also power emergency generators, is stored in 250-, 500-, 1,000-, or 1,200-gallon on-site tanks (USDHS, 2009e; USDHS, 2009b). Some facilities are serviced by underground natural gas pipelines.

Each tower utilizes a 500-gallon propane tank to fuel a back-up generator in case of power outages (USDHS, 2008b). Each 500-gallon tank would need to be refueled every two months (USDHS, 2008b), assuming approximately two hours of run time monthly for a generator maintenance check and other operations as needed. When commercial grid power is not immediately available upon tower deployment, primary power would be supplied temporarily by a 30-kW generator using a larger, 2,000-gallon propane tank. These larger propane tanks would be refueled approximately every seven days (USDHS, 2008b).

5.15.2.4 Wastewater Management

Urban CBP facilities such as the Havre Border Patrol Station in Montana are connected via municipal piping systems to wastewater treatment plants, which operate at up to a six million gallon capacity per day (mgd), or 3,000 gallons per minute (USDHS, 2008c; COH, 2000).

In rural locations like the Morgan and Wild Horse POEs in Montana, sanitary waste is disposed to one 1,500-gallon or two 66-gallon on-site septic tanks (USDHS, 2009f; USDHS, 2009d). Types of septic tanks vary; some have a grinder pump, a lift station, or two venting pipes, but all

are connected to the appropriate drainage mound and field or leach field. An average ground drainage field is 2-feet high, 60-feet long, and 50-feet wide (USDHS, 2009d). Solid waste is removed from sites by a cleaning contractor or a private disposal company. Average septic tanks are pumped once every two years and are treated twice a year. However, those approaching capacity can be pumped as often as once every three months.

The state Department of Transportation (DOT) or appropriate county department generally provides snow removal on state highways, and on-site snow removal service is contracted out to a janitor or maintenance company (USDHS, 2009g). At some POEs, facility staff utilize snow blowers or tractors for snow removal (USDHS, 2009e).

5.16 ROADWAYS AND TRAFFIC

5.16.1 INTRODUCTION

The United States relies heavily on a vast transportation network to expedite the flow of goods and people to and from Canada. CBP's mandate to enable efficient border crossing while providing the highest level of security and safety for all motorists is of utmost importance. Over the past decade, many POEs have been upgraded for highway safety, as well as technologically for ease of access. States and municipalities maintain the roadways leading to the borders to allow for tourism and trade in their areas. The following text provides an overview of traffic and transportation regulations and describes the general traffic conditions for urban, suburban, rural, and remote areas.

5.16.2 AFFECTED ENVIRONMENT

5.16.2.1 Existing Roadway Network and Roadway Effectiveness

The majority of the roadways within 100 miles of the Northern Border within this region are primarily secondary and tertiary paved roads, although there are state highways throughout. Many of the areas in the East of the Rockies region are remote, and some include travel destinations such as national parks, national forests, and wilderness areas.

The number of motor vehicles in the United States has been steadily increasing, with more than 200 million vehicles registered in 1996. The increase during the 10-year period from 1986 to 1996 was greater than 17 percent. The number of passenger cars nationwide decreased during that period by 0.3 million, and the number of trucks grew by almost 30 million, most in the light-truck category. The number of motorcycles decreased from 5.2 million to 3.9 million.

Annual travel on U.S. roadways reached an estimated 2.5 trillion vehicle-miles, or about three times the level reported in 1960. Travel grew about 47 percent during the 1960s, another 38 percent in the 1970s, and another 41 percent in the 1980s. Travel in urban areas accounted for 1.5 trillion vehicle-miles in 1996, or 61 percent of the total, compared to 44 percent in 1960. On the rural interstate system, automobiles, light trucks, and buses account for 77 percent of average daily traffic volumes, with heavy trucks representing the remainder. Percent distribution of traffic for commercial and noncommercial vehicles in both rural and urban areas is shown in Table 5.17-1.

Table 5.16-1. Percent Distribution of Traffic by Vehicle Class, Total U.S.

Type of Roadway	Vehicles (%)	
	Noncommercial	Commercial
Rural		
Interstate	81.6	18.4
Other principal arterials	87.2	12.8
Minor arterial, collector and local	88.5	11.5

Type of Roadway	Vehicles (%)	
	Noncommercial	Commercial
Rural average	86.6	13.4
Urban		
Interstate	88.2	11.8
Other freeways and expressways	90.5	9.5
Other principal arterials	89.5	10.5
Minor arterials	90.4	9.6
Collectors	90.3	9.7
Local	91.0	9.0
Urban average	89.8	10.2

Source: USDOT, 1996.

5.16.2.2 Level of Service

Level of service (LOS) is a qualitative measure of the operating conditions of an intersection or other transportation facility. There are six levels of service (A through F): LOS A represents the best operating conditions with no congestion, and LOS F represents the worst operating conditions with heavy congestion. Roadways and intersections with LOS E or F are those with traffic conditions at or above capacity. Traffic patterns are congested, unstable, and normally unacceptable to individuals attempting to access and use roadways and intersections with LOS E or F (TRB, 2000). LOS has been used to facilitate a general discussion of traffic conditions in urban, suburban, rural, and remote areas. This discussion of typical patterns for different types of roadway networks is not meant to substitute for local studies and analyses that may be required.

5.16.2.3 Variability

Traffic varies by month of the year, day of the week, and hour of the day. Often the capacity of the roadway system can be exceeded by the volume of traffic using it. This can cause breakdown flow (i.e., LOS E or F) and initiate effects that extend far beyond the time during which the demand exceeded capacity. This type of traffic may take several hours to dissipate. Seasonal peaks in traffic demand are also of importance, particularly for recreational facilities.

Seasonal fluctuations in traffic demand reflect the social and economic activity of the area being served by the highway. These seasonal fluctuations typically exhibit several relevant characteristics:

- Monthly variations are more severe on rural routes than on urban routes;
- Monthly variations are more severe on rural routes serving primarily recreational traffic than on rural routes serving primarily business traffic; and
- Daily traffic patterns vary by month of year most severely for recreational routes.

Traffic variations by day of the week are related to roadway type. Normally, weekend volumes are lower than weekday volumes for highways serving predominantly business travel, such as urban freeways. In comparison, peak traffic occurs on weekends on main rural and recreational highways. Furthermore, the magnitude of daily variation is highest for recreational access routes and lowest for urban commuter routes.

Typical hourly variation in traffic is related to highway type and day of the week. The typical morning and evening peak hours are evident for urban commuter routes on weekdays. The evening peak is generally somewhat more intense than the morning peak. On weekends, urban routes show a peak travel period that is less intense, more spread out, and occur in early to mid afternoon. Recreational routes also have single daily peaks. Saturday peaks on such routes tend to occur in the late morning or early afternoon (as travelers go to their recreational destination) and in late afternoon or early evening on Sundays (as they return home).

Traffic analysis focuses on the peak hour of traffic volume because it represents the most critical period for operations and has the highest capacity requirements. If the highest hourly volumes for a given location were listed in descending order, a large variation in the data would be observed, depending on the type of roadway.

5.16.2.4 Urban and Suburban Transportation Networks

Delays and heavy traffic can be prevalent in all major cities. These delays are most frequent during rush hour times, 7:00–9:00 A.M. and 4:00–6:00 P.M., Monday through Friday. Other reasons for congestion in urban areas are emergency vehicles, accidents, and vehicle breakdowns. There are no urban areas in this region.

The ability of urban streets to function well is generally limited by the capacity of signalized intersections, with traffic normally uninterrupted on roadway segments between intersections. Signal timing plays a major role in the capacity of urban streets, limiting the portion of time available for movement between intersections. Traffic conditions may vary greatly, and such factors as curb parking, transit buses, lane widths, upstream intersections, and other factors may substantially affect roadway conditions. In urban areas, LOS at critical intersections would typically be E or F during peak periods, and would be characterized by very unstable or forced traffic flow.

Urban streets show less variation than other areas. Most users of these streets are daily commuters or frequent users, and special event traffic is less common. Furthermore, many urban routes are filled to capacity during each peak hour, and variation is therefore severely constrained.

Traffic in suburban areas is similar to that in urban areas; however, traffic delays are less of an issue unless traffic is being routed through residential areas. As with urban areas, there may be heavy traffic during rush hour; typically 7:00 to 9:00 A.M. and 4:00 to 6:00 P.M. Traffic congestion in suburban areas is normally confined to primary and secondary arterials and does not enter residential areas. Public transportation is often provided, and traffic reports are available for updated roadway conditions.

5.16.2.5 Rural and Remote Transportation Networks

In rural and remote areas, traffic is mainly affected by roadway conditions. Heavy traffic volumes are rare and normally only occur due to road closure and construction activities. Rural highways in the United States and Canada rarely operate at volumes approaching capacity. In addition, rural and recreational routes often show a wide variation in peak-hour volumes. Extremely high volumes occur on a few weekends or on other peak periods, and traffic during the rest of the year is substantially less, even during the peak hour. For example, highways serving resorts and recreational areas may be virtually unused during much of the year, only to be subject to oversaturated conditions during peak summer periods.

Seasonal weather conditions are the primary cause of inefficient access on rural and remote roadways. Snow, flooding, and mudflows can make roads impassable; these events usually occur between October (when snow accumulations begin) and April (when melting snow and rains can cause flooding and mudslides). Local municipalities are prepared for maintenance of rural roadways, and residents often have alternate means of transportation, such as snowmobiles, ATVs, and horses. Remote areas, by definition, are sparsely populated, but the few residences within these areas normally have alternate transportation sources in case of emergencies. Television, radio, and National Park Service (NPS) traffic reports are the primary sources of updates for rural and remote roadway conditions (USDOI, 2010).

5.16.2.6 Federal and State Transportation Regulations

POEs across the regions are accessed by a number of highways that are maintained by each state's Department of Transportation (DOT) or municipal highway authority. In remote areas where trails and gravel roadways are used, it is the maintaining agency's responsibility to inform the public of road and trail closures. In the United States, each state has its own regulations and governing agency, although most regulations are similar for the purpose of uniformity. In most states, the roadway design manual is based upon recommendations in the American Association of State Highway and Transportation Officials (AASHTO) Policy on Geometric Design of Highways and Streets, commonly referred to as the "Green Book." The Green Book is not a design manual but rather a series of recommended roadway design parameters (USDOT, 2010). In addition, many Federal departments have also adopted their own traffic code for enforcement on their respective reservations (e.g., national parks and military bases). A list of the state DOTs and regulatory agencies that plan and administer the roadway design regulations is provided in Appendix K-1.

5.16.2.7 CBP's Activities Affecting Roadways and Traffic

CBP activities include enforcement of customs, immigration, and agriculture regulations at U.S. borders, and CBP has primary responsibility for preventing unlawful entry into the United States while ensuring the safe and efficient flow of goods and people. For the Northern Border within this region, these activities are focused around the POEs, but construction activities, the operation of other facilities, and patrol activities have some effects to transportation resources. A general description of these activities is provided in Chapter 2. This section outlines these activities from a transportation and traffic standpoint.

Ports of Entry (POEs)

Many different roadways including interstates, U.S. highways, state highways, and rural roadways approach the POEs along the Northern Border within this region. These cross-border access points are often co-located with towns and cities adjacent to the border, and roadways facilitate traffic approaching and departing from the POEs.

Vehicles entering POEs from Canada proceed across the border and then separate into inspection lanes. Often inspections of commercial vehicles and passenger vehicles are conducted in separate areas. These are normally parking areas for vehicles that are selected for secondary inspection, with dedicated truck lanes to help facilitate flow of larger vehicles. At some of the larger facilities, there are committed areas for secondary truck inspections that may involve offloading and detailed examination.

As with any other roadway, cross-border traffic varies by month, day of the week, and hour of the day. Seasonal fluctuations in traffic demand reflect the social and economic activity of the area being served by the facility. Canadian traffic reaches a peak in either July or August and ebbs to a low-point in February. Summer peaks are consistently 65 to 75 percent higher than winter lows (BPRI, 2010). Normally, weekend volumes are lower than weekday volumes for POEs serving predominantly business travel. Monthly variations are more severe on rural POEs than on urban entry points. Vehicle queues are common, particularly at urban POEs, and can last for several minutes to several hours in rare cases. In general, queue length and wait times determine the overall LOS of a POE from a transportation and traffic standpoint. The busiest POEs in the East of the Rockies region are in Table 5.15-2. A complete list of POEs and their level of use by transportation mode is provided in Appendix K-2.

Table 5.16-2. Busiest POEs for Passenger Vehicles in the East of the Rockies Region

Rank	Port Name	Annual Personal Vehicles	Annual Personal Vehicle Passengers
20	ND: Penbina	265,210	530,420
23	MN: Grand Portage	222,708	445,206
26	MN: Baudette	165,224	330,570
31	MN: Warroad	110,797	218,600
36	ND: Portal	80,758	149,892
40	ND: Dunseith	56,850	123,028
47	ND: Neche	44,223	85,380

Source: USDOT, 2009.

At POEs in urban areas, special lanes are used for frequent travelers and commercial vehicles with Nexpress radio frequency units for fewer delays. Buses are provided for public transportation and pedestrian walkways are provided for tourists. CBP and other non-government organizations provide real-time traffic information via the internet, twitter and mobile applications (USDHS, 2010). Other technologies used to improve the functionality of POE are described in Chapter 2.

Vacation travel and occasional same-day shopping trips are important travel purposes along most of the border. Several Canadian and American near-border cities and towns are common consumer destinations. Vacation and same-day recreational travel are less frequent and more seasonal than consumer trips in the paired-cities model. In addition, these types of travel are highly discretionary and are easily influenced by exchange rates and economic conditions (BPRI, 2010).

All POEs facilitate pedestrians and cyclists. However, pedestrian and bicycle circulation is infrequent at most rural POEs because of their remote locations and distance from residential areas. Some POEs have provisions for bike storage. Many POEs have boat and seaplane landing areas.

Transportation Checkpoints

Traffic checkpoints are conducted on roads leading from the border and consist of inspections of interior-bound conveyances, including passenger vehicles (cars, trucks, vans, and buses) and container vehicles and cargo trucks. These checkpoints provide an opportunity to detect and interdict cross-border violators that have thus far avoided apprehension. Vehicle checkpoints are generally traffic lanes temporarily controlled by CBP. Checkpoints may include support buildings to provide temporary office and holding space, as well as lights, signage, and other support equipment.

Checkpoints are established at airports for commercial aircraft and at locations along railroad lines for passenger and freight trains.

Non-road/Off-road Activities

Off-road traffic surveillance operations can include agents stationed at specific observation points or driving predetermined routes (line watch); detection of any disturbances in natural terrain that could indicate the passage of people, animals, or vehicles (sign cutting); and road patrols. All sectors use a variety of vehicles, including four-wheel drive vehicles, sedans, scope trucks, ATVs, motorcycles, snowmobiles, and bike patrols in urban areas or over rough terrain.

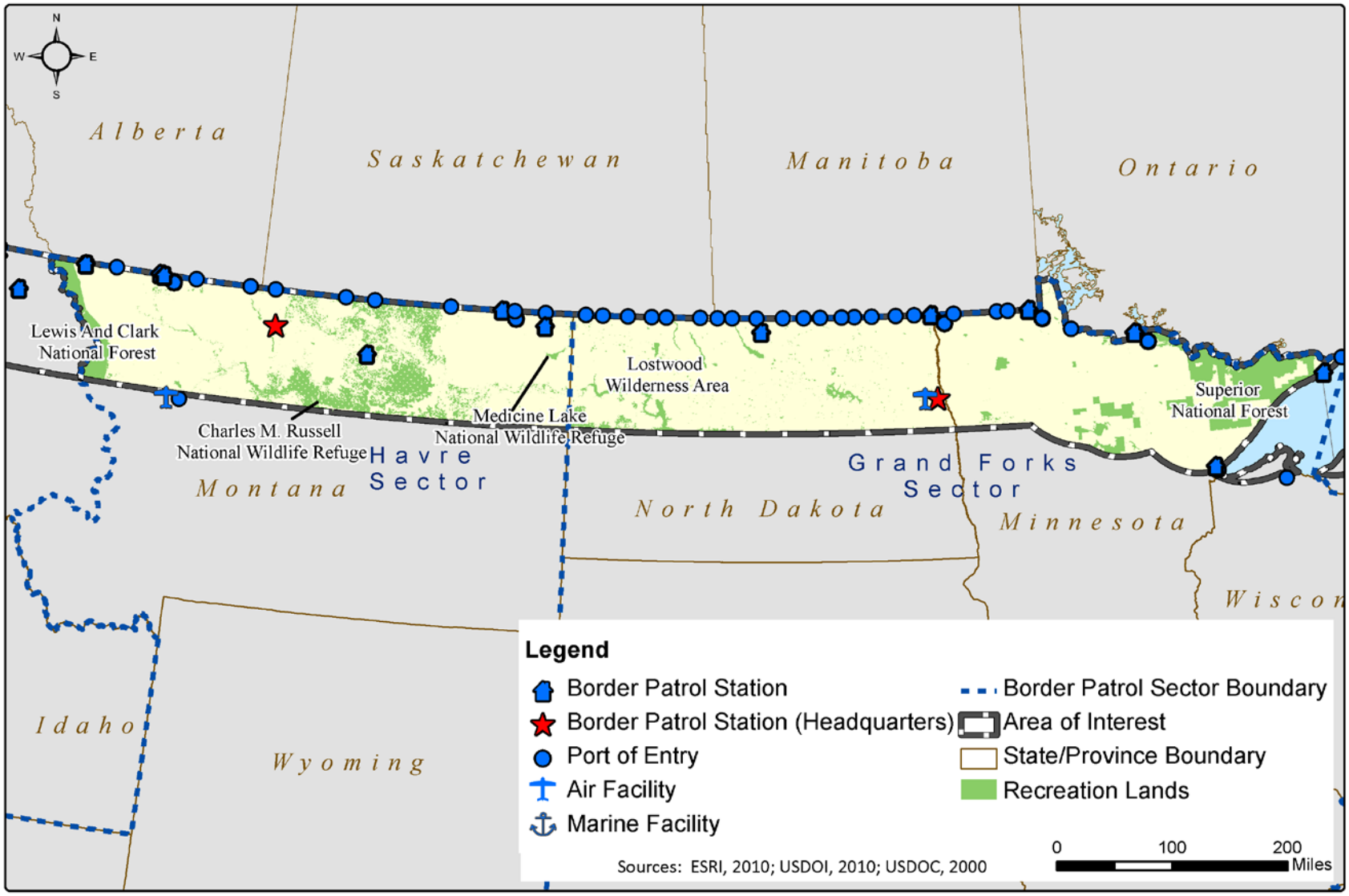
Border Patrol stations (BPSs) vary in size and typically include any or all of the following components: administrative and support buildings, vehicle maintenance garages, equine and canine facilities, vehicle wash facilities, fuel tanks, small arms practice ranges, illegal immigrant processing and temporary holding facilities, confiscated vehicle storage facilities, and agent and visitor parking. CBP agents use a variety of off-road transportation modes to patrol border areas. These consist of four-wheel drive vehicles, ATVs, snowmobiles, horses, and, in some sensitive habitats, agents operating on foot. As outlined in Chapter 2, CBP activities that may affect transportation resources include unmanned aerial surveillance (UAS) activities, manned aerial surveillance patrols, and other patrols.

5.17 RECREATION

5.17.1 INTRODUCTION

A wide variety of recreation areas exist along the Northern Border on both the U.S. and Canadian sides. On the U.S. side, recreational areas include national parks (NPs), national recreation areas (NRA), national forests (NF), lakesides, national wildlife refuges (NWR), and designated wilderness areas. On the Canadian side, recreational areas include National Park Reserves, Provincial Parks, Protected Areas, and Natural Areas. American recreation categories are described briefly below, since the designation bears on the nature of activities permitted. Figure 5.17-1 shows a map of federally protected recreation areas in the East of the Rockies (EOR) Region.

Figure 5.17-1. Federally protected recreation areas, including Protected Recreation Areas, Including National Forests, Parks, Recreation Areas, and Wildlife Refuges in the East of the Rockies Region



5.17.2 AFFECTED ENVIRONMENT

National Parks, national forests, national wilderness areas, national wildlife refuges, and national recreation areas within the EOR study area are profiled below by the impact category they most closely match. In addition to national protected areas, which are the primary focus of this analysis, many state and regional parks and protected areas along the Northern Border include recreation areas that could be affected by activities along the border.

The EOR Region contains a significantly lower proportion of federally owned recreation lands compared to the other regions; national forests and national wildlife refuges constitute the only Federal lands. Despite the small number of distinct federally protected areas, a large portion of this region is wilderness or otherwise undeveloped lands. These recreation areas are primarily low-impact use areas, with one medium-impact use area and one high-impact use area. Common recreation includes wildlife observation, hunting, fishing, hiking, and some camping and water sports. Appendix I contains profiles of Canadian protected areas.

American bittern with Plains garter snake in Medicine Lake National Wildlife Refuge

Source: USDOI, 2009i.

5.17.2.1 Montana

Medicine Lake National Wildlife Refuge

Medicine Lake NWR Complex includes Medicine Lake NWR, Northeast Montana Wetland Management District (WMD), and Lamesteer NWR. The complex totals 31,702 acres and consists of two separate tracts. Common recreational activities include photography, observation, hunting, fishing, and environmental education. Camping is not allowed. Most of this area can be categorized as a low-impact use area (USDOI, 2009i).

UL Bend National Wildlife Refuge (inside Charles M. Russell National Wildlife Refuge)

UL Bend NWR is a "refuge within a refuge," inside the Charles M. Russell NWR. This refuge contains 20,000 acres of designated wilderness. Recreational opportunities include fishing, hunting, and a self-guided auto tour. Most of this area can be categorized as a low-impact use area (USDOI, 2009j).

Lewis and Clark National Forest

The Lewis and Clark NF is a small park in the center of Montana over 100 miles south of the Northern Border. A small portion of the Bob Marshall Wilderness Complex lies within the Lewis and Clark National Forest. This forest also includes 29 developed campsites and five

rental cabins. In addition to hiking, other activities include winter sports, such as skiing, scenic driving, and hunting. The annual visitation estimate for forest visits is 406,800. Much of this area could be categorized as a medium-impact use area (USDA, 2009h; USDA, 2010e).

5.17.2.2 North Dakota

Lostwood National Wildlife Refuge

Lostwood NWR sits approximately 20 miles south of the Northern Border in North Dakota. Lostwood is fairly small but the American Bird Conservancy named it one of America's top 500 globally important bird areas. The refuge habitat produces more ducks than any other region in the lower 48 states. Vehicle and hiking trails exist for public use as does a sharp-tailed grouse blind. In addition, the wilderness areas offer hiking during certain months, along with snowshoeing and cross-country skiing. Most of this area can be categorized as a low-impact use area (USDOI, 2009k).

A duck at Lostwood National Wildlife Refuge

Source: USDOI, 2009k.

5.17.2.3 Minnesota

Superior National Forest

Superior NF is in the upper northeast corner of Minnesota, adjacent to the Northern Border and Lake Superior. The Boundary Waters Canoe Area Wilderness (1 million acres) lies within the forest. There are 2,000 miles of trails for different uses, including hiking, hunting, fishing, biking, horseback riding, cross-country skiing, snowmobile and ATV riding, and observing nature. There are 23 developed "fee" campgrounds, 18 rustic campgrounds, and more than 277 backcountry campsites, most of which are on a body of water. Water recreation includes boating, fishing, swimming, or picnicking at one of 77 lake accesses, 13 fishing piers, 10 swimming beaches, or 22 picnic areas. Three scenic byways are also in the park. The annual visitation estimate is 1,375,900 visits. Much of this park can be categorized as a high-impact use area (USDA, 2010f; USDA, 2009i).