

INTRODUCTION

This section, which describes the setting, features, purpose, and history of Theodore Roosevelt National Park, contains information that provides an overall understanding and familiarity with the park, including legislative background. Management objectives for the park are included in appendix B. The overall objectives are to protect and preserve the natural and cultural environments, to permit natural processes to continue with a minimum of human disturbance, and to provide opportunities for enjoyable visitor experiences, including an understanding of the park's resources.

DESCRIPTION AND PURPOSE OF THE PARK

The park, which has been set aside as three separate units (north, Elkhorn, and south) in western North Dakota, is dedicated to the preservation and public enjoyment of important historic, scenic, and natural resources (see Region map). A central, unifying feature of the 110 square mile park (approximately 70,634 acres) is the free-flowing Little Missouri River, which winds through the south and north units and forms the east boundary of the small Elkhorn unit where Roosevelt once had a ranch headquarters. The south and Elkhorn units of the park are in Billings County, and the north unit is in McKenzie County.

The park memorializes Theodore Roosevelt for his outstanding contributions to conservation and interprets late 19th century "open range" cattle ranching history closely associated with him. The park also preserves natural resources that had an important influence on the man and the actions he took as president. Without Roosevelt's experiences and perceptions gained here in his formative years between 1883 and 1898, the development of America's forest and park conservation programs might have been much different. The historical associations with Roosevelt primarily involve the Elkhorn and south units of the park. Historic resources of the north unit include structures of Civilian Conservation Corps (CCC) vintage, built when this unit was part of the Roosevelt Recreation Demonstration Area, and traces of the Long X cattle trail.

The colorful North Dakota badlands comprise the primary scenic attraction of the park. They straddle the Little Missouri River from south of Medora to the river's mouth to the east of the park's north unit at Lake Sakakawea. The badlands within the park are only part of a larger region of dissected and banded hills and bluffs interspersed with grassy uplands. The meandering valley of the Little Missouri, with its cottonwood-dominated woodlands, presents an attractive centerpiece for the colorful badlands scenery.

Another significant feature of the park is its flora and fauna. Nearly 800 species of vascular plants and 252 species of vertebrate wildlife are found in the park. Reintroduced bison, bighorn sheep, and elk, as well as the long-term native mule deer, white-tailed deer, pronghorn, badger,

beaver, coyote, porcupine, eagle, hawk, and the ubiquitous prairie dog are the most frequently observed wildlife. An interpretive display herd of longhorn steers in the north unit is also popular with visitors, in addition to a herd of wild horses that roam the south unit.

Approximately 42 percent of the park has been designated as wilderness. The undeveloped backcountry provides excellent opportunities for hiking, horseback riding, and exploring, and for experiencing the environment much the way Theodore Roosevelt did.

The scenic beauty and recreational opportunities of the 24,070-acre north unit are particularly popular with nearby North Dakota residents and with those vacationers traveling the north-south US 85 route between Canada, the Black Hills, and points south. However, the 46,128-acre south unit has been and will continue to be the focus of most visitor use and awareness. This portion of the park is immediately adjacent to Interstate 94--a primary east-west travel route--and historic Medora, just south of the interstate. The park headquarters, including the principal visitor center and adjacent Maltese Cross cabin (Roosevelt's first ranch dwelling), is found within this small but summer-bustling town. From Medora a scenic loop road takes visitors north and east past a popular prairie dog town, the historic Peaceful Valley ranch and Little Missouri River bottoms, and several scenic overlooks. Many stop to view the south unit of the park from the Painted Canyon overlook and visitor center, incorporated into a rest area along I-94. The former east entrance to the park, which has historic stone structures built during the thirties, has been abandoned, along with old Highway 10 (which has since been obliterated). The old entrance lies within ½ mile of the loop road and is easily accessible to hikers.

Peaceful Valley ranch, which contains several historic buildings, is used for the park's only concession operation. The concession provides rental horses and trail rides of varying lengths. The concession operator utilizes but does not own any of the ranch facilities.

The 218-acre undeveloped Elkhorn unit, containing minimal remnants of Roosevelt's second ranch headquarters, receives light visitation. The area is well removed from highways, and auto access is difficult. Access to the vicinity of the unit is scheduled for improvement by the local counties; this should result in a significant percentage increase in visitation, although the total number of visitors will not be very high.

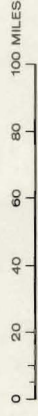
The character of the areas surrounding the park has changed greatly in the last two decades. The discovery of widespread and often rich reserves of oil and gas has been the primary factor. Structures, smoke, and dust from related oil and gas developments can be seen from highways, roads, and stopping points just outside the park, and particularly from scenic vistas within the park.

REGION

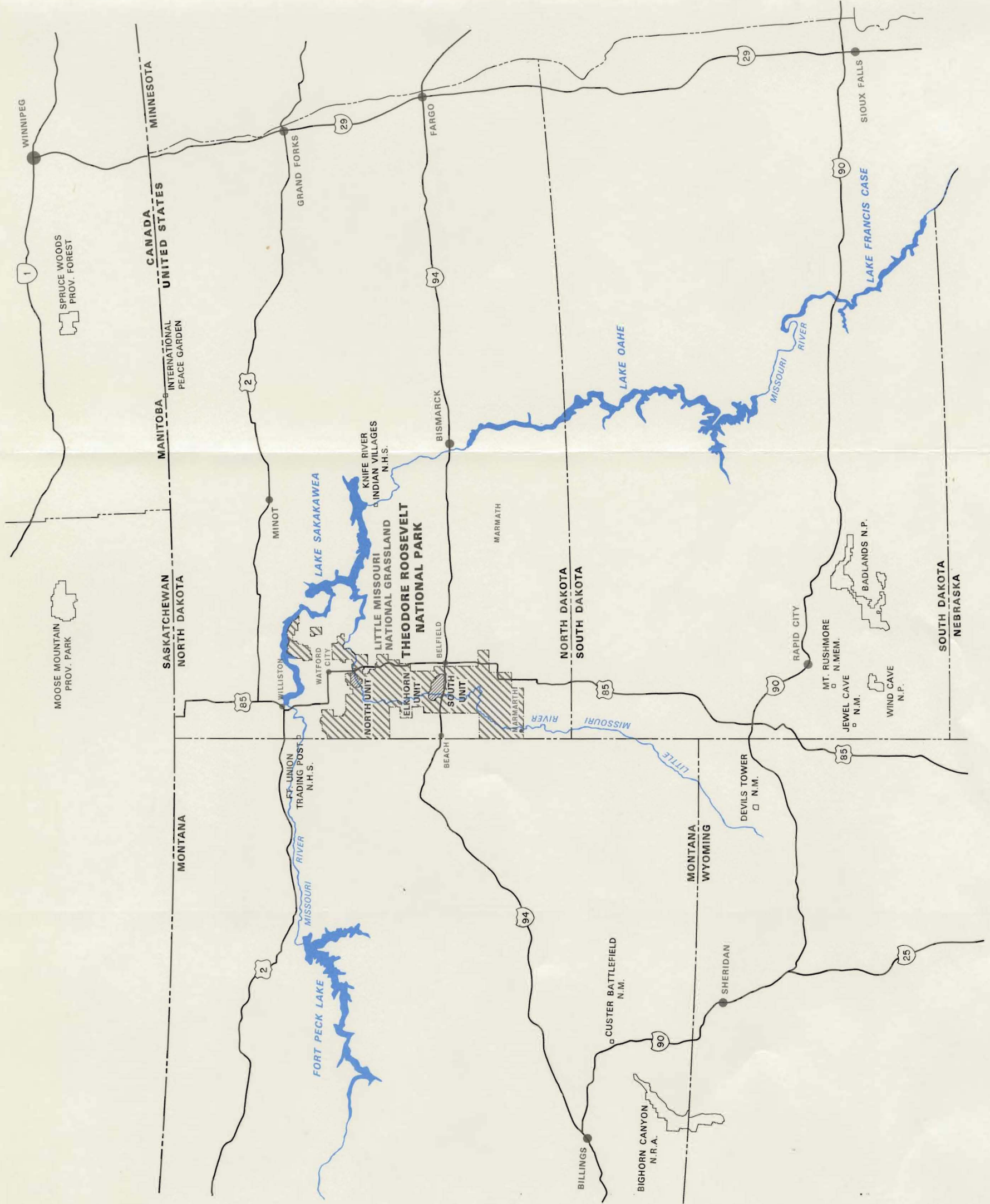
THEODORE ROOSEVELT NATIONAL PARK
NORTH DAKOTA

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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- THEODORE ROOSEVELT NATIONAL PARK
- LITTLE MISSOURI NATIONAL GRASSLAND



PARK GROWTH AND MANAGEMENT DIRECTION

Theodore Roosevelt National Park had its beginnings in August 1934, when CCC camps, under the sponsorship of the North Dakota State Historical Society and the direction of the National Park Service, began work in what was then known as the Roosevelt Regional State Park.

Initially, two parcels of state land inside what are now the north and south units were acquired by the historical society for the CCC project. Additional lands for park development became available through the federal government's submarginal land purchase program, under which homestead lands were purchased from those unable to derive a living from them. Through an arrangement between federal agencies and the state of North Dakota, submarginal lands within certain specified boundaries were made available for park development as they were acquired. These lands, together with intermingled remnants of the original public domain and state school lands, qualified as a recreation demonstration area (RDA) when, beginning about 1936, a total of 46 such areas were established throughout the United States. These RDAs were to enable the federal government, through the National Park Service, to aid the states by developing recreation areas on lands of low agricultural value and demonstrating their worth for public park purposes.

Until the last CCC camp was closed in the south unit in 1941, a significant amount of park development was accomplished through the combined work of the CCC and several Emergency Relief Administration (ERA) and Work Project Administration (WPA) projects.

The Roosevelt RDA remained under the custody of the National Park Service during World War II. In April 1946, the U.S. Fish and Wildlife Service took over its administration. On April 25, 1947, a locally supported congressional bill, which became Public Law 38 (61 Stat. 52), established the area as Theodore Roosevelt National Memorial Park.

The new memorial park contained only a portion of the south unit of the former RDA and was provided authority to acquire certain lands thought to contain the Elkhorn ranch site. The reduced boundaries were a concession to local livestock interests concerned about the amount of good grazing lands included in the RDA. The legislation also provided for the exchange of the remaining RDA lands to eliminate private holdings within the park boundaries.

PL 620 (62 Stat. 352), which was approved on June 10, 1948, amended the establishing act, adding some land from the former RDA and also adding land west of the Little Missouri River that included the petrified forest. The act also corrected the description of the Elkhorn ranch unit lands. PL 631 (62 Stat. 384), enacted June 12, 1948, added the north unit to the park including all but the six northernmost sections of the former north unit of the RDA.

On March 24, 1956, PL 438 (70 Stat. 55) added lands on the north side of the village of Medora for park headquarters development. This act also



The overlook shelter, above, and the picnic shelter in Squaw Creek campground, below, were built in the north unit by the Civilian Conservation Corps in the late 1930s while the area was still part of the Roosevelt Recreation Demonstration Area.



authorized the secretary of the interior to make future boundary adjustments along US 10 and US 85, due to realignment, with certain acreage limitations. The secretary adjusted the boundaries in 1963 to conform to the realignment of US 10, now reconstructed and designated I-94. This excluded 398.39 acres and added 459.04 acres.

Snowmobiling has occurred along the Little Missouri River within (and outside) the park for a number of years. In 1974, an environmental assessment was prepared, and subsequently the river within the north and south units was designated under special regulations as an authorized snowmobile trail. Use is confined to the riverbed, and under current regulations, entry and exit must be made from outside the park. While snowmobiling is light and has not caused significant problems, it would be difficult to control if it were prohibited.

In the late 1960s, the U.S. Geological Survey determined that certain lands along the south boundary of the east end of the park's south unit were being subjected to drainage of valuable minerals by oil and gas producing wells on adjoining land to the south, outside the park. This meant that the drained oil and gas could be recovered without payment to the federal government. As a result, in 1975 nine tracts of park land, which are within the Fryburg-Scoria known geologic structure and contain the drainable area, were leased by the Bureau of Land Management to the Amerada-Hess Corporation. Directional drilling into this area has been successful, and all leases are held by oil and gas production. (Note: A known geologic structure (or KGS) is a subterranean trap in which an accumulation of oil or gas has been discovered by drilling and determined to be productive.)

The memorial park was designated Theodore Roosevelt National Park by PL 95-625 (92 Stat. 3467), enacted November 10, 1978. This same act (92 Stat. 3490) designated 29,920 acres within the park as wilderness, while another section of the act (92 Stat. 3475) authorized a boundary adjustment at the north unit to add approximately 146 acres to and delete approximately 160 acres from the park.

For many years Theodore Roosevelt National Memorial Park was managed as a historic area of the national park system. Over the past 10 to 12 years, however, there has been a growing recognition of the significance of the park's natural resources and of the park as a natural area. In addition, there has been an increasing realization that these resources greatly influenced Roosevelt's thinking as a conservationist. The effect has been a shift in management emphasis which is resulting in a more balanced interpretation of the area's natural and historical significance.

PURPOSE AND NEED FOR THE PLAN

The following material describes management constraints and, most importantly, presents a complete summary of the issues and concerns that are addressed in both the "General Management Plan" and "Land Protection Plan" elements of this document. This planning effort was needed since the 1973 Master Plan was obsolete and did not address current issues affecting park resources, developments, and visitors, although a recently completed "Statement for Management" provides an inventory of park conditions and an analysis of principal issues and problems. Issues and concerns have also been treated extensively in the July 1984 Natural Resources Management Plan and Environmental Assessment; information on natural resources has been summarized from that plan and is included in both the "General Management Plan" and "Environmental Assessment."

LEGAL, ADMINISTRATIVE, AND ENVIRONMENTAL CONSTRAINTS

There are few legal or congressional constraints that impinge on management of the park exclusively. PL 631, dated June 12, 1948, reserved to stockmen of the area surrounding the north and south units a perpetual right-of-way through the park along the Little Missouri River for the trailing of livestock to and from the railroad. In this same vein, the park is required to maintain and keep open the East River road in the south unit to the north boundary of the unit for use by ranchers living adjacent to the park. Local rancher and Billings County access is also permitted on a farm road that passes through the Elkhorn unit. In addition, the park's enabling legislation (PL 38, April 25, 1947) limited expenditures for reconstruction of the Elkhorn ranch site (land and buildings) to \$40,000.

The park is closed to mineral entry under the 1872 Mining Law and to mineral leasing of federally owned subsurface resources, including oil and gas. The legislation that provides the first basis for this determination is the Mineral Leasing Act of 1920. However, both the 1970 National Park Service Administration Act (PL 91-383, 84 Stat. 825) and the 1978 Redwood amendments to the NPS Administration Act (PL 95-250, 92 Stat. 163) reaffirmed the park's closure to all forms of mineral entry and leasing.

Another constraint, which is both administrative and legal, involves the fact that all three units of the park have been designated a class I area for the purpose of preventing significant deterioration of air quality, in accordance with the 1977 Clean Air Act amendments. This can affect existing and proposed point sources of air pollution outside the park and is also a constraint on any NPS development or management activity that could affect air quality.

An additional constraint involves the 740.51 acres of private and state owned land within the park boundary. The Park Service has an

obligation to ensure that the natural and cultural values of these lands are not degraded by inappropriate developments, but the landowners otherwise control these properties. The Park Service has the same obligation for the 1,300 acres of nonfederal or part-nonfederal subsurface (mineral) rights within the park.

Because of the requirements of Executive Order 11988 ("Floodplain Management") and Executive Order 11990 ("Protection of Wetlands") as well as NPS final procedures for implementing these orders (45 FR 35916 as revised by 47 FR 36718), certain restrictions must be placed on development and use within floodplains and wetlands. Surveying of the 100- and 500-year floodplains was completed by the U.S. Geological Survey in 1984 (with subsequent mapping performed by the National Park Service) for all areas of the park involving the Little Missouri River lowlands and potential flash-flood areas near the mouths of three side drainages along the Little Missouri. Based on the results of these surveys, a statement of findings will be prepared for any developments remaining or proposed in the 100- and 500-year floodplains, as required by NPS final procedures.

The park's separation into three distinct units makes it quite impossible to manage the area as an ecological system. Maintaining natural area and wilderness characteristics is made very difficult because of developments on and uses of adjacent private, state, and federal lands. The developments and uses include extensive oil and gas recovery operations and crop and livestock production. They have caused or increased problems with air and auditory pollution, exotic plant infestation, maintenance and protection of rare, threatened, or endangered plants and wildlife, and boundary control of larger wildlife species. (The 7-foot fencing of the perimeter of the park is now keeping livestock out of the park.)

The climate of the Northern Plains region affects development planning, structure maintenance, and visitor use. Summer temperatures can be uncomfortable in unshaded areas not exposed to breezes, while winter temperatures and winds can produce chill factors approaching -100°F. Snowfall is generally light, but accumulations cover the ground during most of the winter months. Most park roads are generally closed from December through April because of snowdrifts and ice.

ISSUES AND CONCERNS

Issues and concerns, both parkwide and those specific to the north, Elkhorn, and south units, are described below. The resource management concerns are grouped by type of issue, rather than area of the park. The proposals contained in the "General Management Plan" and the "Land Protection Plan" are responses to these issues and concerns.

Resource Management

As a result of ongoing research, study, and observation over the past several years, several significant natural and cultural resource management issues have been identified. The number one natural resource management problem--air and noise pollution and visual intrusions, along with increasing incidences of H₂S and SO₂ gas acceptable level violations--is included with the discussion of the land protection issues and concerns.

Other major natural resource management concerns involve the need for a parkwide bison management plan, including stocking rate guidelines, and relocation of the bison corral in the north unit and development of an additional bison corral in the south unit to facilitate easier and safer herding, capture, and handling of the animals by park staff. Also needed is a wild horse management plan (for the south unit), including a determination of the role and appropriateness of these animals in the park ecosystem. A management plan, together with an evaluation of their environmental impacts, is needed for the exotic longhorn cattle herd that is kept within the north unit. This is an artificially maintained herd of steers only, but the cattle have been retained because of their popularity with visitors as a historical display.

A park herd of California bighorn sheep, introduced to replace the extinct Audubon bighorn sheep, was observed to previously total 32 animals in 1979 but has declined to 4 animals because of lung disease complications and other factors not completely understood. Elk, which were formerly common in the badlands, were experimentally reintroduced in the south unit in 1985. Long-range restoration and management plans are needed for these two species.

Porcupine and beaver have taken an inordinately heavy toll on cottonwood trees, particularly along the river and major drainages; natural population regulation may not be operating within the park. A program to research this problem along with ongoing management through monitoring and periodic relocation/reduction is needed.

Other wildlife concerns include prairie dogs in the south unit and threatened and endangered species. Prairie dogs have expanded their towns into visitor and administrative use sites in the Peaceful Valley area. An environmental assessment and control measures may be needed to deal with the present problem and prevent further encroachment. The park contains possible habitat for several endangered and threatened species, including the bald eagle, whooping crane, black-footed ferret, and peregrine falcon. Additional efforts are needed to survey for the presence of these species, as well as to protect habitats, supplement populations, and/or reintroduce species into suitable habitats, as appropriate.

Since the park's establishment, all wildland fires have been suppressed. This has resulted in increases of woody species and dense, rank herbaceous cover. A parkwide fire management plan is needed that will

take into account the need for prescribed burning and natural fires that will provide for nutrient cycling and other natural ecological processes.

Several exotic plants, especially leafy spurge, have invaded the park area (primarily the south unit), with numbers and groups of plants increasing at an alarming rate. Exotic plants tend to form homogeneous stands, excluding other (native) plants and decreasing vegetative diversity. Recent chemical control efforts have prevented increases in most exotic plant species but have not decreased leafy spurge. A more effective control program is needed, while range management needs to be oriented to maintaining natural vegetative and wildlife habitats and species. Another concern is the negative effect of airborne acid material deposition, from precipitation (acid rain) and dry material, on vegetation and amphibian habitat.

The free-flowing Little Missouri River meanders for 24 miles through the south and north units and along the east boundary of the Elkhorn unit of the park. The river drains a considerable area upstream from the park, and river flows can fluctuate from less than 10 to 110,000 cubic feet per second, and temporary ice jams can form during late winter and early spring thaws. In addition, the channel can experience movement and changes in profile, subjecting the river to high-flow flooding and especially ice-jam flooding, as well as bank erosion. The most frustrating problem has been at the park headquarters area at Medora where significant ice-jam or high-flow flooding occurred in 1907, 1929, 1947, 1952, and 1972. The March 1947 flood, almost a 100-year discharge, was the most serious on record. It caused considerable property damage, and most of the town residents were forced to evacuate.

Cottonwood campground, Peaceful Valley ranch and picnic area, and portions of the river road in the south unit, as well as Squaw Creek campground/picnic area and small portions of the main road and headquarters area in the north unit are also in the Little Missouri River floodplain or in flash-flood hazard areas. All of these areas are potentially subject to backwater flooding and limited high-flow flooding, when rising water is accompanied by ice breakup. Squaw Creek campground has also been affected by bank erosion. Potential flash-flood hazard areas have been identified at and above the mouths of Knutson, Paddock, and Squaw creeks. Squaw Creek campground/picnic area and the Peaceful Valley ranch and picnic area could be affected by flash-flooding.

A major issue or concern for the park has been the need to determine the extent and depth of the 100- and 500-year floodplains along the Little Missouri River, the location of flash-flood hazard areas, and the actions (or alternative actions) that must be taken as established by federal requirements once the floodplain and flash-flood hazard areas are known. Since the first two items have been determined as a part of this planning effort, the issue focuses on the last item--the actions required. Primarily these actions would affect developed recreation sites near the river in the north and south units of the park and most of the park headquarters area at Medora, where diking would probably be required. These actions are addressed in the "Proposed Action and Alternatives" section, as well

as in subsequent sections of the "General Management Plan" and "Environmental Assessment."

Other natural resource management concerns include the need for baseline inventories of the natural resources and a wilderness/backcountry management plan, including more information on day use and possible impacts (mainly on wildlife) by backcountry users.

Information on the cultural resources (archeological and historic) of the park is incomplete. A parkwide archeological survey must be conducted to comply with section 110(a)(2) of the National Historic Preservation Act as amended, to meet the requirements of EO 11593 (36 FR 8921), and to determine all sites eligible for the National Register of Historic Places. In addition, more complete information, including surveys, needs to be developed on park historic sites, including remains and events of the early ranching era.

Another cultural resource management issue is to determine what, if anything, should be done to either retain, protect, reconstruct, move, change the use of, or interpret historic structures, remnants, or artifacts within the park units. The north unit includes the CCC camp-tender residence, three CCC shelters, the old stone quarry, and the Long X cattle trail; the Elkhorn unit includes the Theodore Roosevelt ranch site; and the south unit includes the stone structures at the old east entrance, Painted Canyon overlook stone pylon, Maltese Cross cabin, the visitor center museum and library collections, beef corral site, and Peaceful Valley ranch. Also, there is a need to determine which of the above should be the subject of historic park themes.

Visitor Use and Development

Parkwide visitor use and development issues and concerns primarily involve the need to make improvements at existing recreation sites. A limited number of completely new recreational developments, such as trails and group camping facilities, are proposed to correct obvious deficiencies. Other concerns involve inadequate visitor contact and interpretive facilities. In some cases, the solutions to these needs will be interrelated with improvements that must be made to meet health and safety requirements, particularly floodplain requirements.

A primary concern in the north unit is the small, inadequately furnished, and poorly insulated trailer as well as the adjacent small and marginally heated ranger station near the entrance; both are used for visitor contact, storage purposes, fee collections, and management and office work. Also, there is no public restroom. Properly designed space for these activities is considered essential because these facilities serve as both the principal visitor contact point and the administrative headquarters for the unit.

At the Squaw Creek campground, the inadequate parking for the picnic area results in improper parking, while the sewage lagoon needs to be

resized because it is too large to adequately digest wastewater. Most horse use of the unit now originates from national forest land and a private dude ranch just east of the park boundary, resulting in a need to cross US 85 and excessive distance to the more remote and interesting areas of the unit. A group horse camp is needed at a suitable location west of US 85. At present the only real access point to accommodate increasing canoe and snowmobile use of the Little Missouri River is within the undeveloped and narrow right-of-way of US 85 at the river bridge. Improved river access points are needed.

Within the unit, there are currently no interpretive/recreation facilities, including trails, specifically designed for the handicapped. Additional concerns include visual obtrusiveness of local and Western Area Power Administration overhead powerlines at the east end of the unit and a need to have NPS input for a new state wayside exhibit (sign) that might be provided on US 85.

The new road planned by Billings and Golden Valley counties will greatly improve access to the Elkhorn unit. This should result in a sharp increase in visitation and a need for visitor facilities, which are now nonexistent. Highway and entrance signing, wayside-type exhibits, parking, picnic facilities, trail access, sanitary facilities, drinking water, and interpreter/ranger services would be needed on a seasonal basis to meet day use visitor needs and to protect the site.

In the south unit, the increased use of recreational vehicles (including trailers) dictates a need for more pull-through parking spaces at Cottonwood campground. Additional parking and improved vehicle circulation are needed at the Peaceful Valley picnic area. Also, there are no public canoe-launching sites and associated parking in the unit, which makes it inconvenient for long canoe trips starting at Medora.

There are no designated, improved trails that begin in the vicinity of the Painted Canyon overlook/visitor center, the Medora visitor center/headquarters area, or the scenic viewpoint and parking area at Buck Hill. Also, no trails are specifically oriented to the users of Cottonwood campground, nor is there a trail connector (crossing the Little Missouri River) at this location. All four of these areas are very popular with visitors, but the Painted Canyon and headquarters area are the most heavily visited. Trail improvements are needed to meet demands and provide safe hiking opportunities. Also, a handicapped access trail in the south unit is needed, as well as a parking area and more hiking opportunity from the former Rough Rider horse camp located north of the Little Missouri River bridge and west of the river.

Opportunities for identifying and interpreting interesting resources have not been taken advantage of along the south unit loop road. In addition, there is no interpretation at Buck Hill--the most spectacular viewpoint on or near the loop--and no sanitary facilities along the entire route. The Buck Hill spur road is difficult to maintain, as unstable earth under the road causes continuing damage to the paved surface.

At the Painted Canyon visitor center, lobby space is poorly used, and opportunities to introduce visitors to activities and resources in the park have not been used to full advantage. The solar heating system for the building is costly to maintain, unreliable, and does not produce sufficient heat to keep the facility open during any of the colder fall, winter, and spring months. The existing sewage lagoon is far too large to digest the sewage, while the largest cell is so little used that sunlight is destroying the lining. Significant modifications in both of these units are required to prevent further deterioration and operational breakdown.

Park Operations

The lack of staffing is both a parkwide and a specific concern. More employees (both permanent and seasonal) are needed to monitor air and water quality, to handle maintenance functions, to provide basic visitor services, and to provide natural resource management and protection. Specific shortfalls in resource and visitor protection staffing exist with backcountry patrol, especially in the north unit; with routine protection patrols and fence maintenance in the Elkhorn unit; and with visitor services at the Painted Canyon visitor center in the south unit.

In the north unit, inadequate housing for both permanent and seasonal employees is a concern. The two mobile homes have deteriorated because of the harsh climate and general wear, and they need to be replaced by the most cost-effective, yet durable type of structure. If the CCC camp-tender residence is to remain as seasonal employee quarters, the interior would need to be completely renovated. Enclosed vehicle storage space is insufficient, and outdoor parking in the winter makes it difficult to get this equipment into operation for both routine and emergency needs. The maintenance building is too small and limited for orderly storage and conduct of sheltered work activities. The headquarters area sewage lagoon is unlined and filled to capacity during summer months. The addition of a much needed public restroom here will make the lagoon totally inadequate in size, even without lining. The radio communications tower, which is not riveted correctly, needs to be renovated for proper operation and then fenced.

In the Elkhorn unit, tools for trail and grounds maintenance, fire suppression, and first-aid activities need to be stored securely on-site. Rustic, inexpensive, low-maintenance quarters for seasonal staff are needed out of view of public use areas.

In the south unit, actions required to provide protection from potential flooding at Medora and at the Cottonwood campground/Peaceful Valley areas and the need for modification of the Painted Canyon sewage and solar heating systems and the Buck Hill spur road were covered in the issues and concerns for natural resource management and visitor use and development.

Land Protection

In-Park Concerns. One of the more significant challenges is the need for protection of resources on private properties within the park boundaries. In addition to several privately owned tracts of land within its congressionally established boundaries, the park contains a number of nonfederally owned mineral (subsurface) rights. The latter also involve specific tracts, but the rights (including oil and gas leases in a number of cases) may be held in varying percentages by multiple owners who own or hold leases for all or only certain of the minerals that could be present.

About three-fourths of the private land in the north unit, not needed for visitor use and development, may never be acquired in fee. However, scenic easements, controlling the type, level, and placement of development or type of land use allowed, will be sought. In any event, some private lands and mineral rights are likely to remain in private ownership within the park for a number of years. During the period prior to acquisition, the Park Service is responsible for ensuring that these lands and rights are not used or developed in ways that will degrade park values and visitor experiences, while at the same time preserving owner rights to reasonable uses of their properties.

The primary tool the Park Service will need to use to ensure acceptable use and development of the private holdings during this interim period is a set of guidelines as to what does and does not constitute permissible private uses or activities. These guidelines are referred to as compatible/incompatible use criteria and are spelled out in a subsequent section. Where scenic easements are acquired, the use criteria would no longer apply. For private mineral rights, there are now no regulations that expressly forbid surface occupancy of federal park lands to extract these minerals. Use of the compatible/incompatible use criteria will help to provide protection from minerals development within the park.

Allowing directional drilling from outside the park to reach nonfederal subsurface tracts inside the park is another means of maintaining protection of park areas while permitting the exercise of private rights; however, all directional drilling into the park will be either eliminated or discouraged, if possible.

A second major in-park issue is the extent of private lands or interests in land that must be acquired. Other means of protection of private holdings within the park, short of full or partial acquisition, have been examined and determined to be unreliable for protection of park-related values. All private holdings within the park are proposed for either fee acquisition or acquisition of scenic easements. The importance and potential impact of development of these private tracts varies; thus, priorities for acquisition of both private surface tracts and mineral rights have been (separately) determined. These priorities can be changed and need not necessarily be rigidly followed if the opportunities for acquisition should arise. The priority determination will guide how acquisition funds are spent and the strength of acquisition attempts, other factors being equal.



This oil and gas well, just south of I-94, has been directionally drilled into subsurface park lands north of the interstate.



This rugged badlands terrain, in the southeastern part of the south unit, is part of the area that has been leased by the federal government for directional recovery of park oil and gas resources by the private sector.

Lands and mineral rights do not necessarily have to be purchased. They can be donated, bargain-sold (part donation), or exchanged for other federal lands. Acquisition-related items are discussed in greater detail in ensuing land protection material.

The park is situated within the oil and gas rich Williston Basin. A major issue for the park, as described earlier, is the potential for drainage of federal oil and gas to areas outside the park. A number of years ago, an area along the south edge of the east end of the south unit was discovered to be drained of valuable mineral resources by wells to the south of the park. Here the oil and gas from the park could be extracted without payment to the federal government. As a result and in line with then current federal policies, nine tracts along the south boundary within the park were competitively leased in 1975, with stipulations of no surface occupancy; these stipulations were included as a protective measure taken under federal authority (Section 441, Revised Statutes of 5 USC, 1958 ed., sec 485). Currently, four directionally drilled wells immediately south of I-94 are draining hydrocarbon resources from the park within the leased subsurface tracts. The wells, which might be expanded in number in the future, create a negative visual impact from the interstate and may contribute some visual and olfactory air pollution to this area.

Although there can be no future leasing of federally owned subsurface minerals within the park, this issue appears significant because drainage may be occurring in other areas along the park boundary. A recommendation is made in the "Land Protection Plan" for dealing with future drainage situations as they are identified.

The ownership of the bed of the Little Missouri River is being contested in the courts by the federal government (represented by the Bureau of Land Management) and the state of North Dakota. The mineral rights within the river bed, should they be determined to be the state's, are not proposed for acquisition, as the state has indicated it would not issue mineral leases within the park. Also, the state has designated the Little Missouri as a state scenic river and thus has declared its intent to preserve the river and its shoreline environment.

External Concerns. A major issue that is primarily external involves protection of the Elkhorn (ranch) unit. Theodore Roosevelt's former Elkhorn ranch is surrounded by national grassland to the west, State Historical Society land to the north and south, and private ranch land to the east--across the Little Missouri River. In several instances, the park boundary to the west is found halfway up a hillside, instead of over the crest of the hill. To the east, private land is found only the distance of the width of the river from the ranch headquarters site; the primary view from this site is of the river and the area beyond it. Thus, the Elkhorn ranch area is inadequately protected, especially visually.

This issue has been of limited concern in the past because of the unit's remoteness and difficult access and the fact that little visual impact has existed. However, Billings County, in cooperation with Golden Valley

County to the west, plans to construct a new road and bridge across the Little Missouri River, the location of which will probably be just south of the unit's south boundary. This road should increase visitation to the ranch site, especially if the Park Service provides access into the unit, parking, and interpretive facilities. In time, the improved county road access might also increase interest in developing commercial facilities or residences near the unit, thus increasing the need to provide additional protection for the historic ranch site.

Additional oil and gas development on private, state, or federal land within view of the Elkhorn ranch is another disturbing possibility. As an example, a small but quite visible oil and gas complex was sited on land managed by the Forest Service, a short distance south and slightly west of the ranch site; fortunately, this operation has been abandoned and the site reclaimed. There are tracts that have been leased for potential oil and gas development near the Elkhorn unit. However, through use of agreements, easements, or mineral entry withdrawals, it may be possible to limit future leasing, discourage the development of oil and gas facilities in highly visible locations on existing leases, or both.

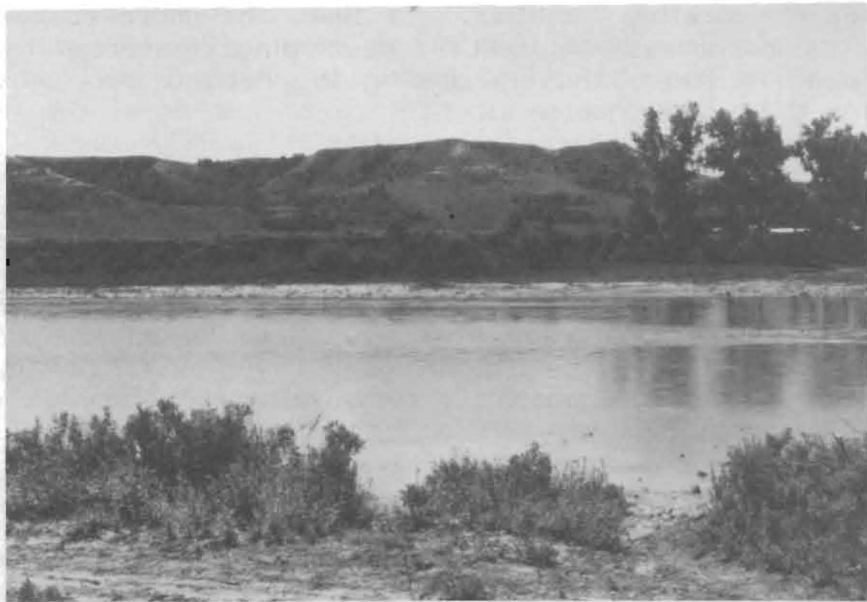
The Medora airport, which is situated on a detached tract of Forest Service-managed land on a mesa top a short distance north and slightly east of Medora, is a lightly used facility that has been in existence for about 40 years. The airport is actually more of an emergency airstrip because the runway is short, ungraded, and unpaved, and has no user facilities or landing lights. In 1977, it was discovered that the airstrip encroaches on park land by about 300 feet.

In 1981-82, the city of Medora proposed an improvement that would involve realigning and lengthening the landing field, which would result in further encroachment onto park land. The proposal, which cites hazards of the present facility, would also result in more air traffic flying over or easily seen from nearby park areas. A long-term use agreement has been requested from the Park Service for 11 acres of park land that would be needed. The Park Service has not yet granted or denied the city's request, although park and regional staff have been quite concerned about this questionable use of park land and the effects increased air traffic would have on park visitors, wildlife, protection of the natural scene, and use of the interpretive/historic facilities at Medora. This proposal, which has been supported by the North Dakota Aeronautics Commission, is also addressed in the 1984 Natural Resources Management Plan and Environmental Assessment.

Energy development outside the park, in its several aspects, constitutes the greatest single concern for the park. The extent and type of such development or potential development is depicted on the Oil/Gas Resource, Coal Resource, and External Conditions maps, which are found at the end of this section.

As recently as 1970, the areas surrounding the three park units consisted of grazing lands and vacant areas with few roads, limited croplands, scattered oil and gas wells, and little habitation. The air over the park

View from the Elkhorn unit across the river, showing ranch and farm land that might eventually be developed for other more intensive uses.



The Medora airstrip. Private plane had recently crash-landed.



was clear, and sounds were mostly limited to those from the railroad and the new interstate highway south of the south unit. The backcountry of both the south and north units was, in effect, a part of a much larger backcountry that stretched to the horizon.

The energy development boom that began in the extensive Williston Basin in the early 1970s has, however, drastically changed the scene. There are hundreds of oil and gas wells within 6 to 7 miles of the three park units--predominantly on areas of the Little Missouri National Grasslands (Forest Service) and private lands. Fewer wells are on public domain (Bureau of Land Management) and state lands. Some wells are within 1,000 feet or less of the park boundaries. The greatest concentrations and closest wells are to the north and northeast, to the west, and to the south of the east end of the south unit; within the area adjacent to the Elkhorn unit; and west of the north unit.

Somewhat farther from the park are many other oil and gas wells and several gas processing plants, existing or proposed, that do or could add to the park's air pollution problems. A natural gas sweetening plant is proposed for construction by the Northern Natural Gas Products Company in the vicinity of Rawson, approximately 12 miles northwest of the north unit. If the plant is built as proposed, it would emit substantial quantities of sulfur dioxide (SO_2), as well as other gases and particulates. The SO_2 emissions could significantly increase air pollution over the north unit and, at times, exceed the class 1 air quality standards (increments) of the park.

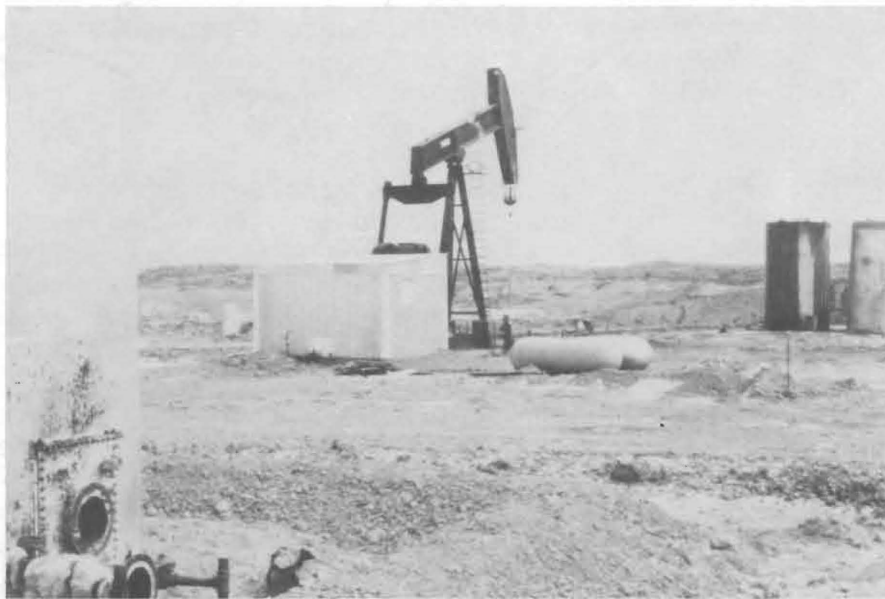
Approximately 75 to 150 miles from the park (both to the east and west and into eastern Montana), there are several existing (or proposed) coal-fired electric generating plants, natural gas processing plants, coal to methanol conversion plants, and oil refining plants that could increase the park's air quality problems. Should all the proposed plants be built, there would be 20 (or more) point sources of pollution that could have an adverse effect on the air quality of the park.

The potential for large-scale recovery and processing of lignite in western North Dakota and eastern Montana is another air quality concern. Lignite is a relatively low grade form of coal found extensively in this area, with some apparently minable deposits near the south unit of the park. Lignite-fueled power plants must be built close to the source of the fuel. Because of the strip mining and large-scale developments that would be involved, the threat to maintenance of park air quality with major lignite development would be potentially greater than that from current forms of energy development and processing. Particulate matter, sulfur dioxide, and nitrogen oxides would likely be the primary pollutants.

Several sources of environmental concern are related to the oil and gas development, including visual impacts, noise, and obnoxious odors that conflict with the solitude and natural scene of the park. These environmental impacts are caused by various structures and conditions, including batteries of large tanks, as well as new high standard roads, hydrogen sulfide gas, flaring wells, smoke, dust, pump engines, and the



Oil and gas development west of the western boundary of the south unit of the park. In some cases, these developments can be seen from the park.



sensation of being in a shrinking wilderness. Smoke and particulate matter are frequently observed from the park. Some of the smoke or haze is probably from indeterminate sources, including the plants mentioned above, some distance away.

The Forest Service has given increasing emphasis to including environmental stipulations in oil and gas leases; however, only since 1975 has the agency asked for lease requirements specifically aimed at reducing park impacts. Many older leases remaining in effect through oil and gas production contain few, if any, environmental stipulations. The new "Custer National Forest Plan" gives greater emphasis to environmental concerns, but proposes a visual quality objective of "partial retention" for the area seen from the park. The Bureau of Land Management and the state of North Dakota do not have such policies; however, the acreage of BLM and state lands close to the park is limited.

An issue closely related to energy development is the potential water quality and flood hazard problems from sources outside the park. This concern is associated with groundwater aquifers and watercourses that enter the park from areas outside the park where contamination could arise. Flood hazards along the Little Missouri River, a significant and different problem, are discussed separately.

Because extensive oil and gas development and transport are being conducted outside the park but within the drainage area of park aquifers and watersheds, aquifer and stream contamination could occur. Large oil and gas storage and treatment facilities are within the watershed, and there is a risk of well blowouts or contaminant spills into tributary waters of the Little Missouri River, with subsequent contamination of the river and possibly water wells and springs within the park. The river could also have contamination where pipelines, railways, and highway bridges cross.

An issue that will likely become more important in the future is the potential for greater interaction with local and state governments on land use matters. Local land use regulations and state laws have limited applicability in providing protection from inappropriate development of private holdings within the park. However, the proper enforcement of local zoning ordinances and other land use and environmental control measures could aid in limiting or modifying proposals for undesirable developments and activities on private lands that are near park boundaries. The National Park Service can provide a positive influence and technical assistance as a means of achieving goals mutually agreeable to all concerned--the state, McKenzie and Billings counties, the city of Medora, and the Park Service.

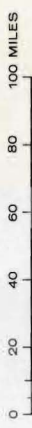
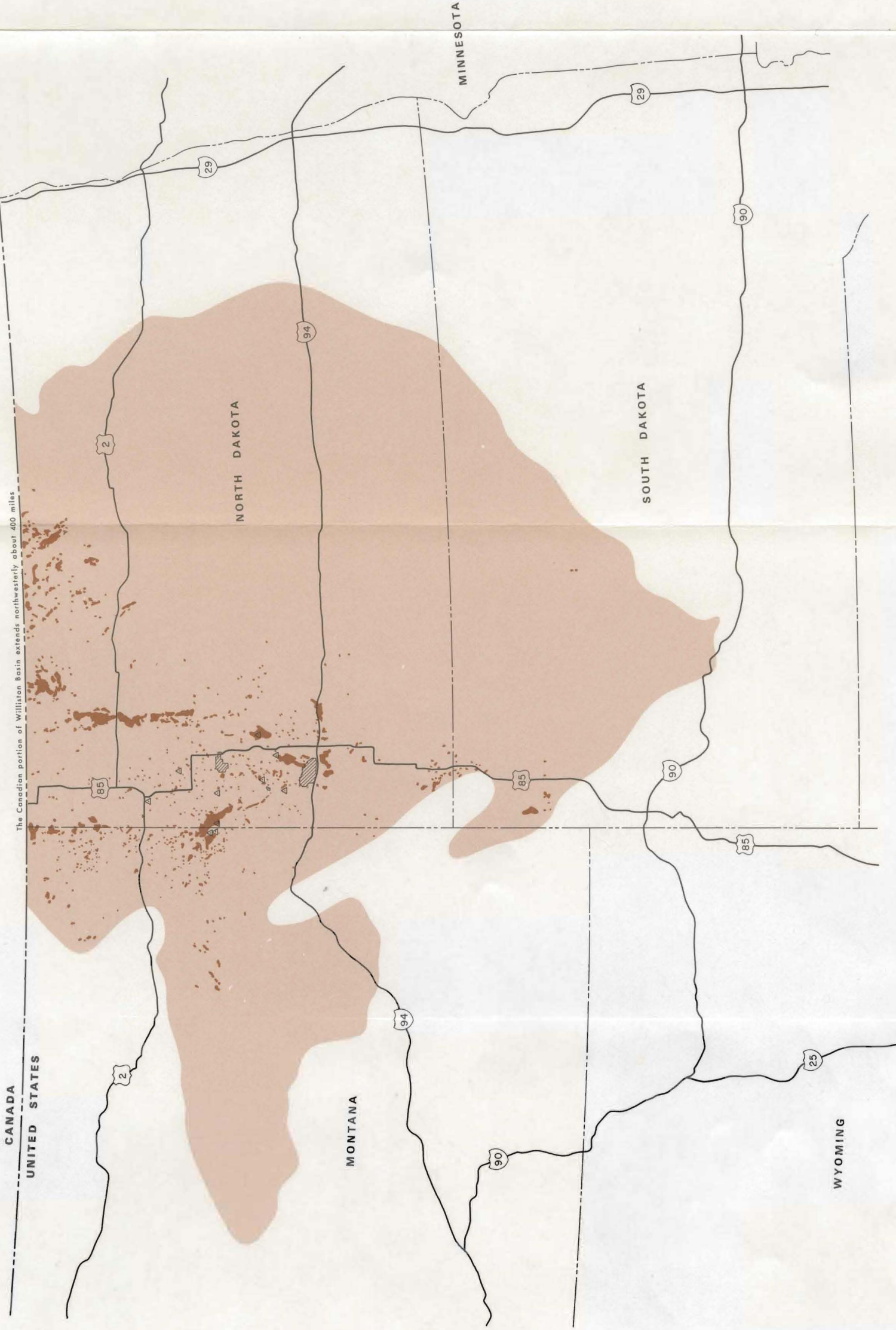
Other Issues. Other land protection issues addressed in this plan include opportunities for cooperative agreements with other agencies, potentials for land exchanges and transfers, and other (non-NPS) federal and state programs that bear on or complement NPS management of park resources, including the Little Missouri River.

OIL/GAS RESOURCE

THEODORE ROOSEVELT NATIONAL PARK NORTH DAKOTA

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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MAY 85 DSC



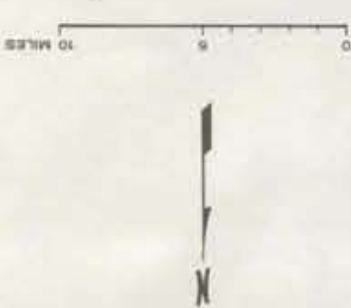
- OIL OR GAS FIELD
- WILLISTON BASIN
- NATURAL GAS PLANT
- THEODORE ROOSEVELT N.P.

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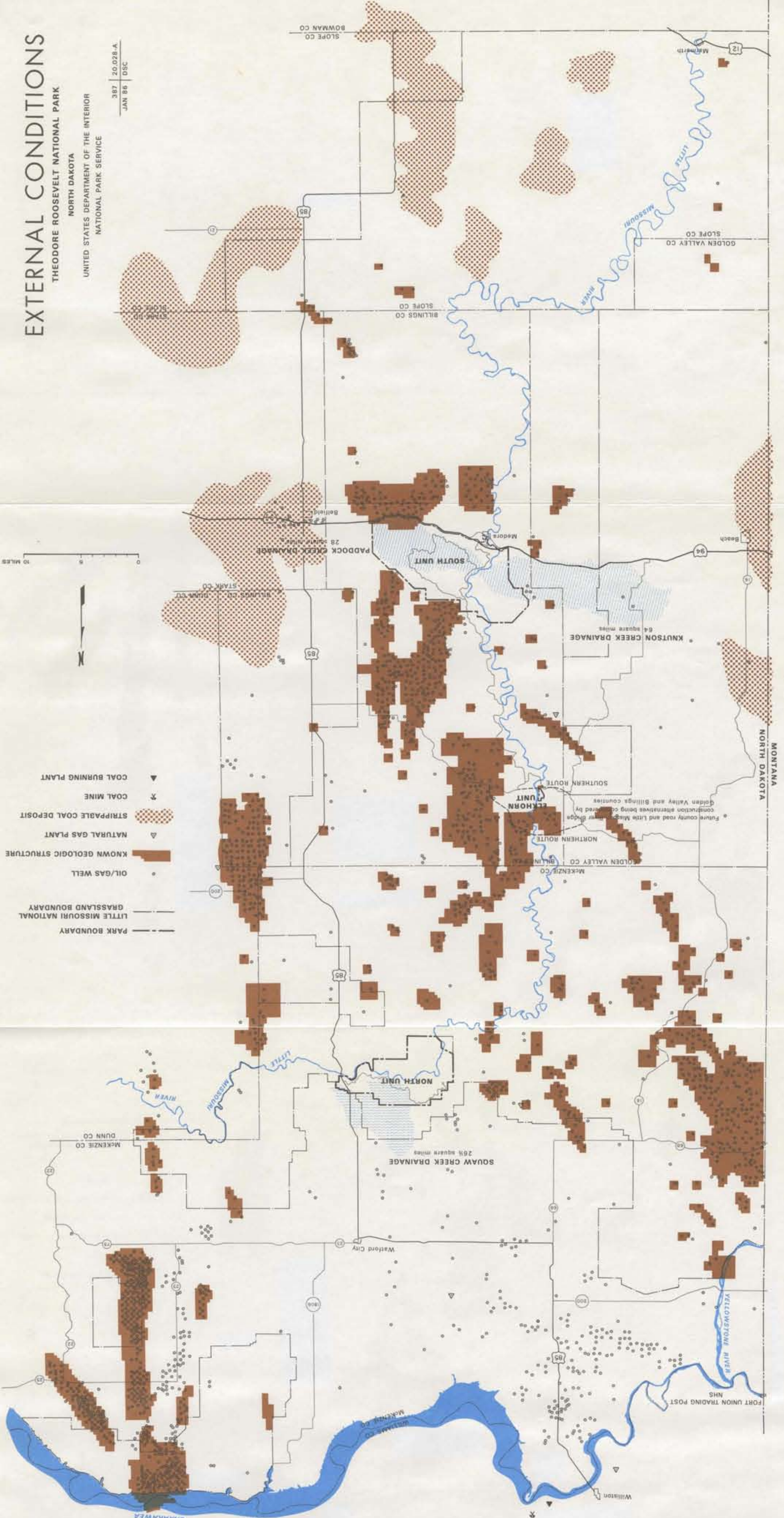
EXTERNAL CONDITIONS

THEODORE ROOSEVELT NATIONAL PARK
 NORTH DAKOTA
 UNITED STATES DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE

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- ▲ COAL BURNING PLANT
- ⋈ COAL MINE
- ▨ STRIPPABLE COAL DEPOSIT
- ▲ NATURAL GAS PLANT
- KNOWN GEOLOGIC STRUCTURE
- OIL/GAS WELL
- GRASSLAND BOUNDARY
- - - LITTLE MISSOURI NATIONAL
- - - PARK BOUNDARY

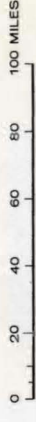







COAL RESOURCE

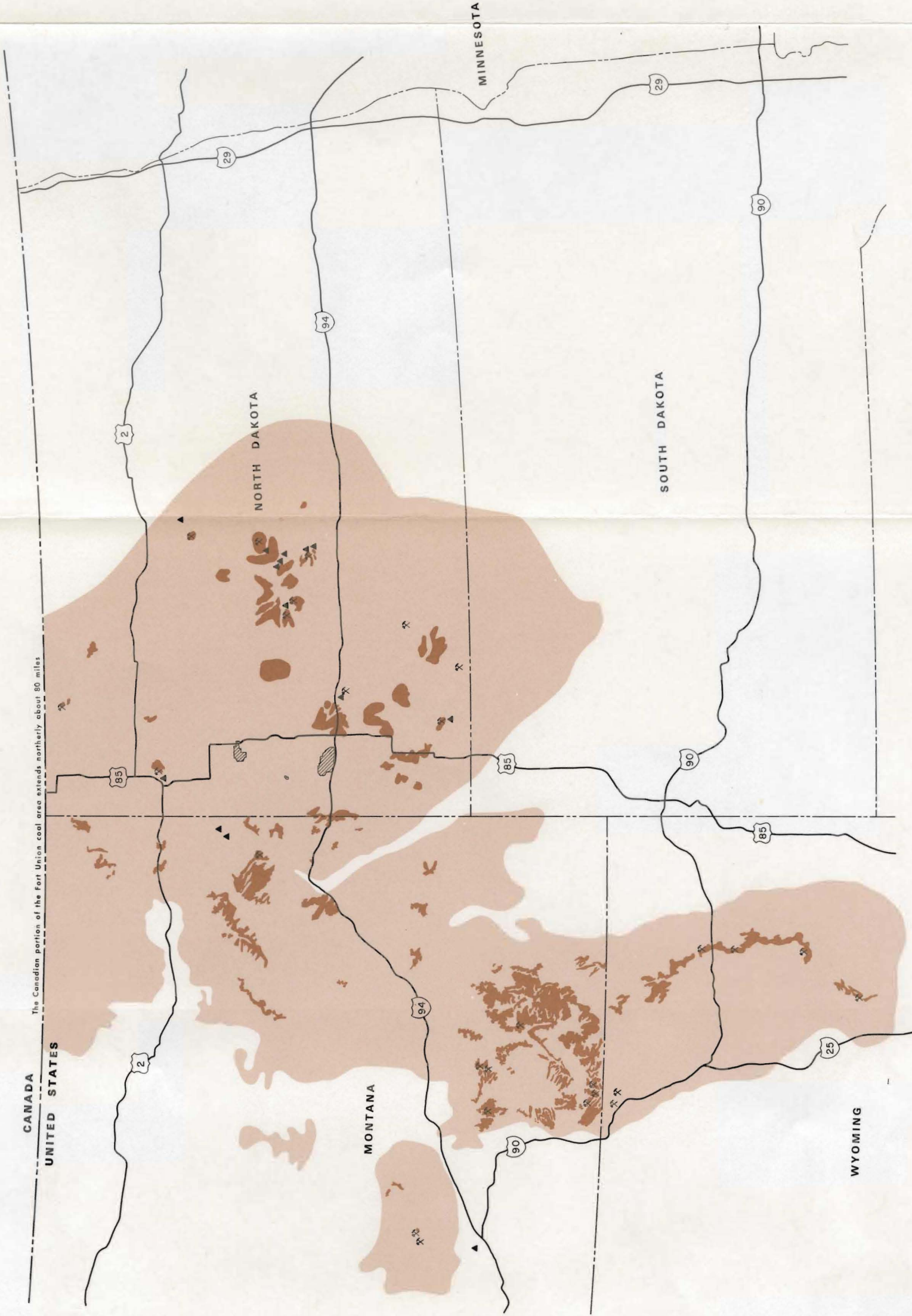
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-  STRIPPABLE COAL DEPOSIT
-  FORT UNION COAL AREA
-  COAL MINE
-  COAL BURNING PLANT
-  THEODORE ROOSEVELT N.P.



Canada
The Canadian portion of the Fort Union coal area extends northerly about 80 miles

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