Missouri River Corridor Concept Plan

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JUNE 2003

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Special Recognition

The North Dakota State Water Commission, Dale Frink, State Engineer; BOMMM Joint Board, Andy Mork, Chairperson; and the North Dakota Water Education Foundation, Mike Dwyer, Executive Director are deserving in special recognition for funding and facilitating this planning effort for the five counties.

Recognition is also given to Charles Manders, Senior Planner, HPC, inc. and Ronald Sando, Water Resources Consultant for facilitating the overall effort on a day-to-day basis.

Missouri River Corridor Concept Plan

1.0 Introduction

1.1 Purpose of the Plan

The Burleigh, Oliver, McLean, Mercer, and Morton (BOMMM) counties have one of the nation's most treasured resources – the Missouri River. In order to manage properly their reach of this 87-mile river corridor a Concept Plan is being developed and a Comprehensive Plan is being considered by the five counties.

The Concept Plan and Comprehensive Plan shall be made with the purpose of guiding and accomplishing a coordinated, adjusted, and harmonious development of the Missouri River corridor that will, in accordance with present and probable future needs and resources, best promote the health, safety, order, convenience, prosperity, and general welfare of the inhabitants.

The contents of these plans are intended to enhance existing county comprehensive plans that serve as a guide for public and private actions and decisions to assure development of public and private property in the most appropriate relationships. The development of the concept and comprehensive plans will be structured around open and inclusive citizen involvement.

The five counties are taking the first step by preparing this Concept Plan, which is an inventory document that provides local decision makers with:

- A clearly-defined study corridor agreed upon by the five BOMMM counties;
- Itemizes statutory and administrative authority of key local, state, and federal jurisdictions in the corridor;
- Provides a framework for soliciting public input and gathering essential land use planning information;
- For the corridor entities with planning and zoning authority, the Concept Plan outlines a list of "Opportunities" and "Benefits" to continue the Missouri River corridor planning effort; and
- An established/representative Overview Committee that could develop a "Scope of Work" for a corridor Comprehensive Plan and determine how the plan would be funded.

1.2 Summary of CRMP Vision Process

The BOMMM Joint Water Resource District Board initiated the Coordinated Resource Management Program (CRMP) in 1998 to provide coordination and communication among all stakeholders along the Missouri River; to protect and accommodate individual, group, public, and federal rights; to provide continuing education; and to develop a plan for the long-term future of the river. A part of that program was the establishment of a Vision Group in 1999. This group was made up of Missouri River stakeholders (landowners, governmental agencies, developers, and nonprofit groups) who accepted the invitation to participate in discussion on Missouri River issues, concerns, and opportunities.

The overall CRMP effort was to address and seek consensus on critical issues relating to the Garrison reach of the Missouri River. The Vision Group developed a document in October 2000 that was titled "Vision Group Summary of Issues and Plan Outline" which summarized the results of the CRMP efforts further articulated in Appendix I.

This document articulated 10 broad issue areas, a vision statement, and the need for a plan to help guide future corridor development. The group adopted the following statement to express its vision and purpose: "To recommend long-term strategies for the management and protection of the Garrison reach of the Missouri River so that its values and functions are sustained through the generations." To support the vision statement the Vision Group identified four essential components:

1. Continued coordination and communication among all stakeholders on the Missouri River.
2. Protection and accommodation of individual, group, public, and private rights.
3. A Comprehensive Plan.
4. Programs of continuing education.

The Vision Group discussions focused on developing recommendations to accomplish the vision statement. In some cases consensus could be reached but in other cases no consensus could be reached but a range was provided.

The development of a Comprehensive Plan would further address the issues in the Vision report and the issues brought forward in public meetings. The Vision Group was unanimous in identifying the need for a Comprehensive Plan. The plan would guide future development, acquisition of conservation/historic easements, and bank protection measures along the Garrison reach of the Missouri River to prevent a loss in economic, agriculture, aesthetic, environmental, recreational, and natural resource values of the river. The 10 identified issue areas and corresponding goal statements follow:

1. Aquatic Habitat – Maintain and enhance, where feasible, high quality aquatic habitat and the food chain necessary to support all aquatic life.

2. Land Use – To develop a Comprehensive Plan so that the values and functions are sustained through the generations.

3. Riverbank Erosion – Address critical eroding Missouri River banks along the 87-mile reach from the Garrison Dam to the headwaters of the Oahe reservoir, utilizing existing and new alternatives.

4. Endangered Species/Sandbar Habitat – Maintain and enhance threatened and endangered species habitat along the Missouri River corridor.

5. Floodplain Management/Delta Formation – Promote wise use and development along the Missouri River.

6. Riparian Woodlands/Adjacent Woodlands – Maintain and enhance a diverse riparian woodland community, including the wetland areas in the Missouri River corridor.

7. Historical/Archeological Features – Preserve and protect historical/archaeological features of the Missouri River floodplain and adjacent bluffs.

8. Water Quality – Maintain and, where feasible, enhance water quality to support existing beneficial uses.

9. Regulatory/Jurisdictional Issues –Inform the public about local, county, state, and federal regulatory procedures governing bank stabilization and river front development activities and develop recommendations for implementing a fair and consistent regulatory review process.

10. Master Manual Reservoir Operation – Understanding the Missouri River Master Manual review process and how the manual will affect the Garrison reach.

1.3 Concept Plan Formation

The following entities joined together to fund and develop the Concept Plan:

- Burleigh County Commission
- Oliver County Commission (officially withdrawn but still sitting on the Overview Committee)
- McLean County Commission
- Mercer County Commission
- Morton County Commission
- Burleigh, Oliver, McLean, Mercer, and Morton (BOMMM) Joint Board
- North Dakota Water Education Foundation
- North Dakota State Water Commission

To guide this effort a Concept Plan Overview Committee was established in April 2002. The Overview Committee set the corridor boundaries, guided the public input meeting, and determined the content of the Concept Plan. Each county commission appointed two members to sit on the committee. Those appointed were:

Burleigh County

- Carl Hokenstad, Bismarck-Burleigh Planning Director
- Kevin Magstadt, Burleigh County Planning Commissioner

Oliver County

- Donald Albers, former County Commissioner
- Carlyle Hillstrom, Oliver County Water Resource District Board

McLean County

- Lauren Hunze, McLean County Land Use Administrator
- Ronald Krebsbach, County Commissioner

Mercer County

- Richard Sorenson, Mercer County Land Use Administrator
- Lyle Latimer, County Commissioner

Morton County

- Gregg Greenquist, Morton County Planning Director
- Matt L. Erhardt, County Commissioner

The Concept Plan has six chapters: Introduction, Background, Regulatory Authority, Land Use Inventory, Public Input, and Implementation; and an Appendix.

The Background Chapter contains a summary of historic land use, demographic, and cultural activities occurring in the Missouri River corridor.

The Regulatory Chapter summarizes applicable federal, state, county, township, and city authorities in the corridor. An inventory and analysis of applicable city, county, and township land use ordinances is also provided. This chapter also depicts intergovernmental cooperation options for entities considering development of a Comprehensive Plan.

In the Land Use Inventory Chapter primary land use information and maps are provided. Because of the large number of maps, users should refer to the Missouri River corridor website, (http://web.apps.state.nd.us/hubexplorer/missouri/viewer.html) where they can access a family of maps and utilize an interactive mapping system.

The Public Input Chapter summarizes the results of the public meetings held in Stanton, Washburn, Bismarck, and Mandan, North Dakota. A summary of issues and concerns is provided. To reinforce this information, a summary of existing Missouri River education programs is included.

The Implementation Chapter summarizes a vision for the corridor shown as a "List of Opportunities." This chapter includes a plan adoption schedule and estimated cost of moving forward with a Comprehensive Plan and outlines the benefits.

The appendices include ancillary resource information directly supporting the plan, such as the five county corridor maps and examples of other relevant land use maps.

1.4 Defining the Corridor

The CRMP was an effort to address and seek consensus on issues relating to the Garrison reach of the Missouri River. The 87-mile reach of the Missouri River extends from the Garrison Dam to the confluence of Apple Creek; also the approximate Oahe reservoir high water line. The CRMP effort did not define a study margin from the riverbanks. The CRMP recommended the development of a Comprehensive Plan for the Missouri River that would further define the corridor.

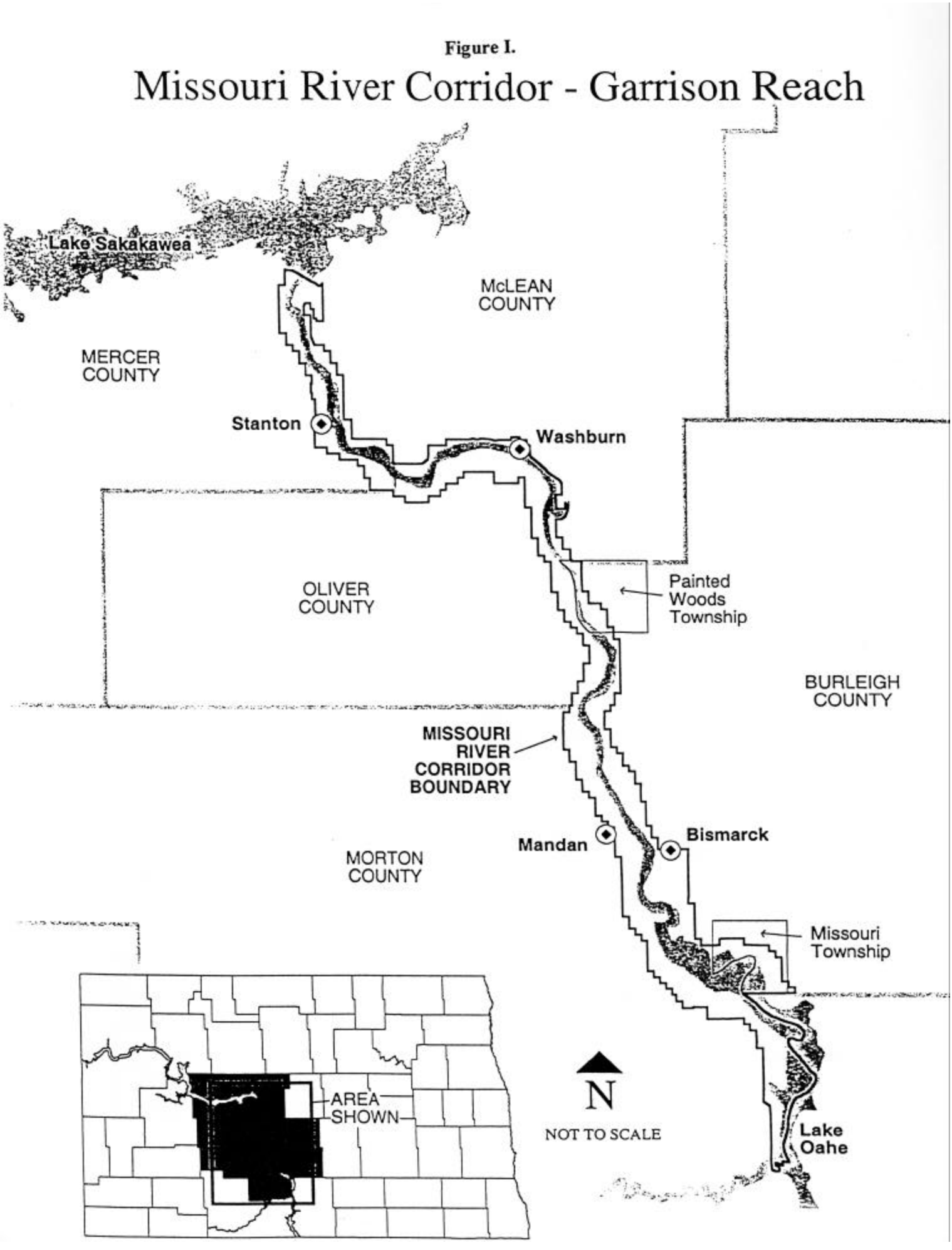
The first primary task that the Missouri River Concept Plan Overview Committee addressed was the identification of the study corridor. The committee decided to extend the corridor boundary to the southern limits of Morton and Burleigh counties. The following parameters were considered to define the distance from the riverbanks:

1. Bluff line plus ½ mile (nearest quarter-section line);
2. View sheds from key cultural/historic sites;
3. Public land ownership, including entire boundary; and
4. Topography and floodplain information with a clearly defined legal description.

Figure I on the following page depicts the general boundary of the corridor and corridor entities with planning and zoning authority. The corridor boundaries are depicted at a much larger scale on the five county maps (Burleigh, Oliver, McLean, Mercer, and Morton) in Appendices II-VI. The Overview Committee members defined their county corridor boundaries, with approval from each county commission.

Figure I.

Missouri River Corridor - Garrison Reach



2.0 Background

2.1 Land Use

The Missouri River in North Dakota, albeit quite different today than the river first observed by Lewis and Clark's Expedition in 1804, remains as a significant natural resource of the state. Lewis and Clark, John J. Audubon, and others that followed in the later 1800s, discovered a muddy, free-flowing, and untamed river that meandered for 355 miles from northeastern Montana, across west-central North Dakota, and into north-central South Dakota. Although local Indian populations inhabiting the Missouri River floodplain used timber for fuel and as building materials and cleared some land for cultivation of crops and tobacco, vast acreages of riparian woodlands dominated the floodplain terraces along the river.

As European civilization encroached upon the frontier, agricultural, urban, and industrial development along the Missouri River began to alter significantly the natural resource values of the riverine and floodplain ecosystems. With homesteading and settlement of the river valley and adjacent prairie uplands came the clearing of vast acreages of bottomland forests for agricultural purposes. Modifications to the ecosystem climaxed in the 1950s when a majority of the free-flowing Missouri River in the state and its riparian forest was inundated by the construction of two large multipurpose reservoirs in North Dakota and South Dakota by the U.S. Army Corps of Engineers.

Lake Sakakawea and Lake Oahe inundate 70 percent of the Missouri River reach in North Dakota. Only 87 miles between Garrison Dam (Lake Sakakawea) and Lake Oahe and less than 20 miles upstream of Lake Sakakawea remain as a "natural" or "free-flowing" river segment in North Dakota. The "natural" river's normal flow channel, braided around numerous sandbars and islands, lies in a sandy bed. The valley width from bluff to bluff between the 1700 mean sea level (msl) contour averages 1.7 miles, 25 percent of which is occupied by river channel having an average width of 2,100 feet.

A large proportion of western North Dakota drains into the Missouri River. Major tributaries entering from the west into the study area are the Knife, Heart, and Cannonball rivers. Tributaries from the east are smaller and include Painted Woods, Turtle, Apple, and Beaver creeks, as depicted in Figure II.

Terrain on both sides of the river features gently rolling hills to nearly flat agricultural land. Natural habitats of the floodplain include wetlands, river bottom forests, and native grasslands. Much of the natural habitat has been converted to cropland, most of which is irrigated. Of the remaining forest most is grazed in varying degrees.

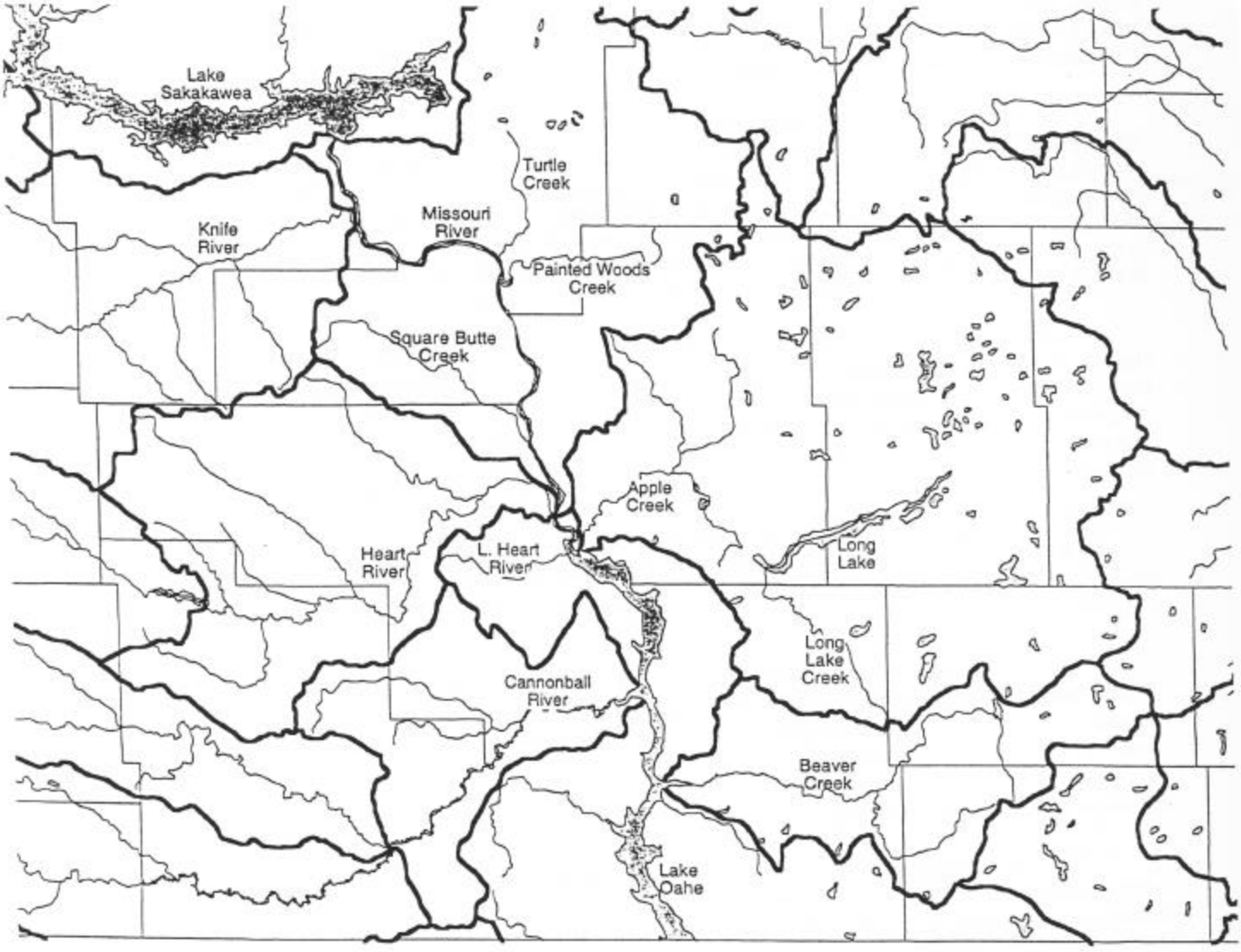
2.2 Economic and Demographic

The five-county region economy is dominated by the Bismarck-Mandan metropolitan area, which lies in Burleigh and Morton counties, respectively. Appendices VII-XI depict an economic and demographic summary by county. This information shows that net income from farming and ranching dropped from $124 million in 1970 to $17 million in 2000. In this same period, only Burleigh and Morton counties showed any significant income growth, primarily in service and professional and nonlabor sources. The number of new businesses established in the five counties showed a net increase of 423 between 1990 and 2000. Burleigh and Morton counties contained over 90 percent of those new businesses. Of the remaining three counties, only Mercer had a significant increase in new firms.

From 1970 to 2000 the five counties had a net population increase of 33,771 persons. Burleigh, Mercer, and Morton counties increased by 36,111 persons; whereas, McLean and Oliver counties decreased by 2,340 persons. Burleigh County represented over 85 percent of the net population increase between 1970 and 2000. In 2000 the five counties population was 114,739 persons. According to the

Figure II.

Missouri River Corridor - Garrison Reach Major Tributaries



2000 census data, approximately 95 percent of the region's population is classified Caucasian, while American Indian represents the next highest ethnic group. Following is a cumulative five-county population summary by category, 1990 and 2000.

Table I

BOMMM Counties Cumulative Population by Category, 1990 and 2000

	1990	% of Total	2000	% of Total	% of Change 1990-2000
Population	106,477		114,739		7.76%
Male	52,361	49%	56,555	49%	8.00%
Female	54,116	51%	58,184	51%	7.52%
Under 20 years	33,779	32%	32,906	28%	-2.58%
65 years & over	13,137	12%	15,759	14%	19.96%

Table I data indicate that the five counties total population increased 8,262 persons from 1990 to 2000. However, a review of the individual county population data in Appendices VII and XI shows that only Burleigh and Morton counties population grew between 1990 and 2000. The data also clearly show the under 20-year-old age group decreasing in all counties and the corresponding 50-year-old and over age group increasing in population. More economic and demographic trends and analysis for the five counties are depicted in Appendices VII-XI.

2.3 Cultural and Historic

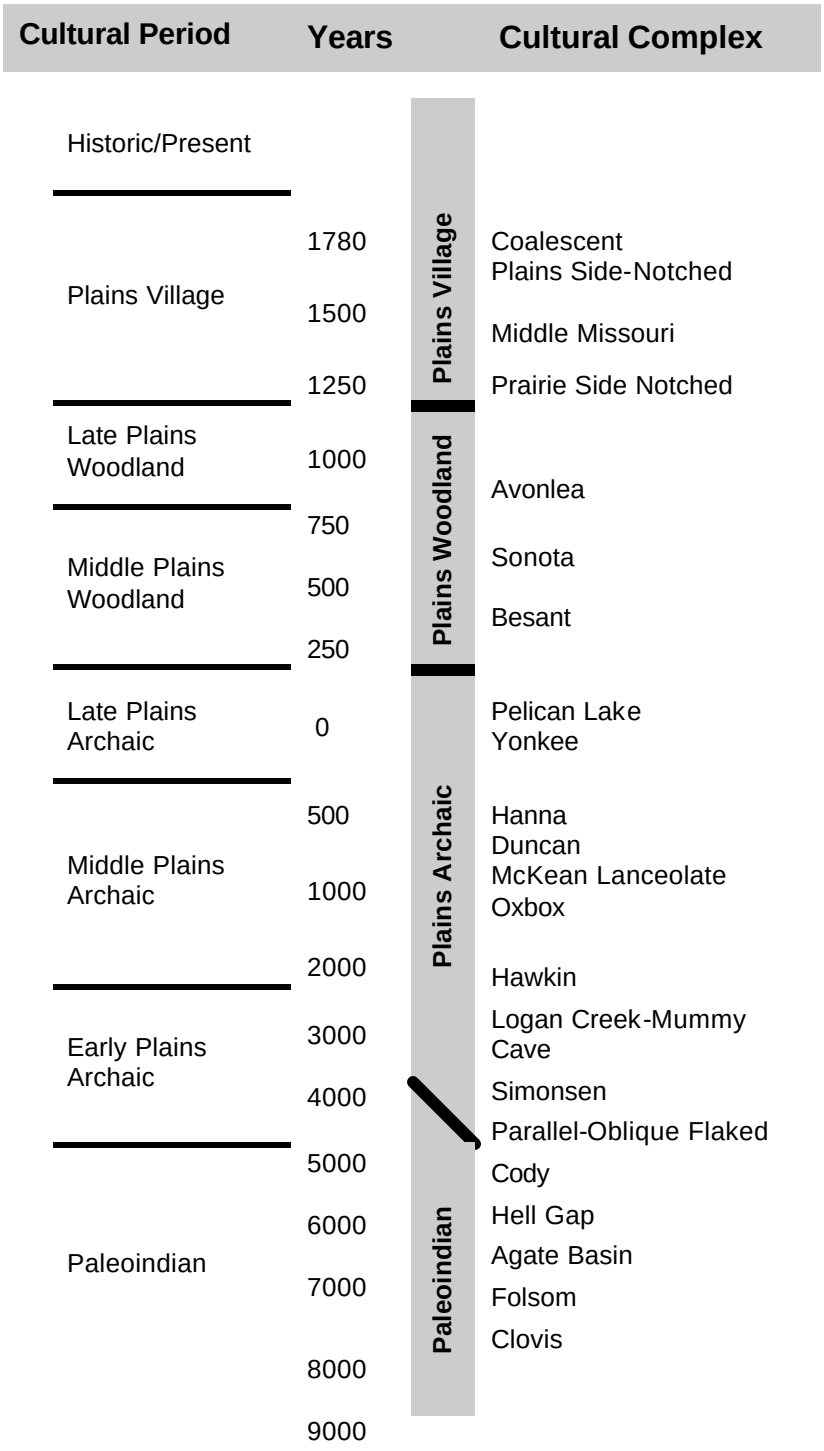
The Missouri valley in North Dakota from the upper reaches of the Oahe reservoir near Bismarck north to the Garrison Dam has witnessed and participated in all of the state's prehistory (Historic Preservation Division, State Historical Society of North Dakota 1990, 2002). Parts of this landscape likely retain the natural configurations they had late in prehistory so that we can visually comprehend the premodern natural setting. There are many narrative descriptions of the river and the valley in the journals of explorers and traders who entered the North Dakota portion of the land of the Mandans, Hidatsas, and Arikaras in the late 1700s and early 1800s (McDermott 1970; Robinson 1966; Wood and Thiessen 1985).

Evidence of human settlement and land use in the Missouri valley spans the last 12,000 years. The cultural chronology for the study area uses units of classification for identifying and temporally organizing archeological and historical remains and setting forth the rudiments of past life-ways. Referring to accompanying Figure III, cultural periods are simply nonoverlapping segments of time. Named periods offer a convenient way to refer to general blocks of time. Naming patterns for cultural traditions connote differences in certain aspects of material culture and technology. For the Missouri valley study area, five such cultural traditions are identified: (1) Paleo-Indian, (2) Plains Archaic, (3) Plains Woodland, (4) Plains Village, and (5) Euro-American (HPD, SHSND, 1990, 2002; Robinson 1966; Wozniak 1983). Cultural complexes are exemplified by groups of similar and distinctive material remains that have been repeatedly found at sites in an area. Important sites dating to all time periods have been reported and others may be expected to occur in a variety of physiographic settings within the Missouri River corridor study area (HPD, SHSND 1990). Examples of these site types include earth lodge villages, campsites, bison kill locations, lithic (stone) procurement areas, and burial locations. As irreplaceable and nonrenewable resources, these sites merit consideration in activities that have the potential to impact them.

The Missouri River corridor study area epitomizes the physiographic and ecological diversity that has attracted long-term human settlement and land use for the last 12,000 years. As Ahler et al. (1991:11) have aptly characterized the valley environs and their importance:

Figure III.

General Cultural Chronology for the Missouri River Corridor Study Area



> The zoned environment in the Missouri River valley provides a rich composite of habitats and resources that has supported development of complex human cultures. The timbered floodplain provided winter shelter, wood supplies, and relatively well-watered soils suitable for agriculture practiced with stone and bone technology. The terraces above the floodplain, free from flooding, provided suitable locations for permanent settlements. Such settlements were juxtaposed between the riverine/floodplain resources, on the one hand, and the vast animal resources in the nearby and more distant upland prairies. The breaks zone provided small niches with important tree and animal species and sheltered locations for animal traps, hunting camps, and temporary settlements. In addition to being a huge hunting arena, the uplands provided promontories and locations with grand vistas suitable for religious and ceremonial observances.

The historical importance of this reach of the Missouri River valley is attested to by significant sites located in all four of the physiographic zones, as is the case for the Cross Ranch Archeological District in Oliver County (HPD, SHSND 1990:5.17; Schliesman 1995:21; Toom and Ahler 1985). Nearly a century ago, Jacob V. Brower (Minnesota Historical Society), in reference to what is now known as "Double Ditch," remarked in a January 23, 1905, letter to Orin G. Libby (State Historical Society of North Dakota) that "The beautiful village site beyond the Sperry farm should be owned and preserved by North Dakota." The site was later acquired as a State Historic Site (Schliesman 1995:iv, 4; Snortland 2002:83-85). Other prominent and irreplaceable villages, such as Deapolis, about three miles southwest of Stanton, have not fared as well. Wood (1986:20) has reported, "Little if anything of Deapolis now remains, for it was first the location of a gravel pit, and the remainder of the site was destroyed when a power plant was built over its remnants a few years later."

The built environment, covering the last two centuries and often associated with ethnic Euro-American settlement, merits consideration in the Missouri River corridor study area (HPD, SHSND 2002; Robinson 1966:174-196; Sherman and Thorson 1988). This built environment reflects what Sherman (1988: i) notes in his *Preface*, "In a sense, the story of ethnic groups in North Dakota *is* the story of North Dakota."

In summary, preservation concerns for the corridor's archeological, historical, and architectural resources may be linked to ongoing demographic trends and patterns:

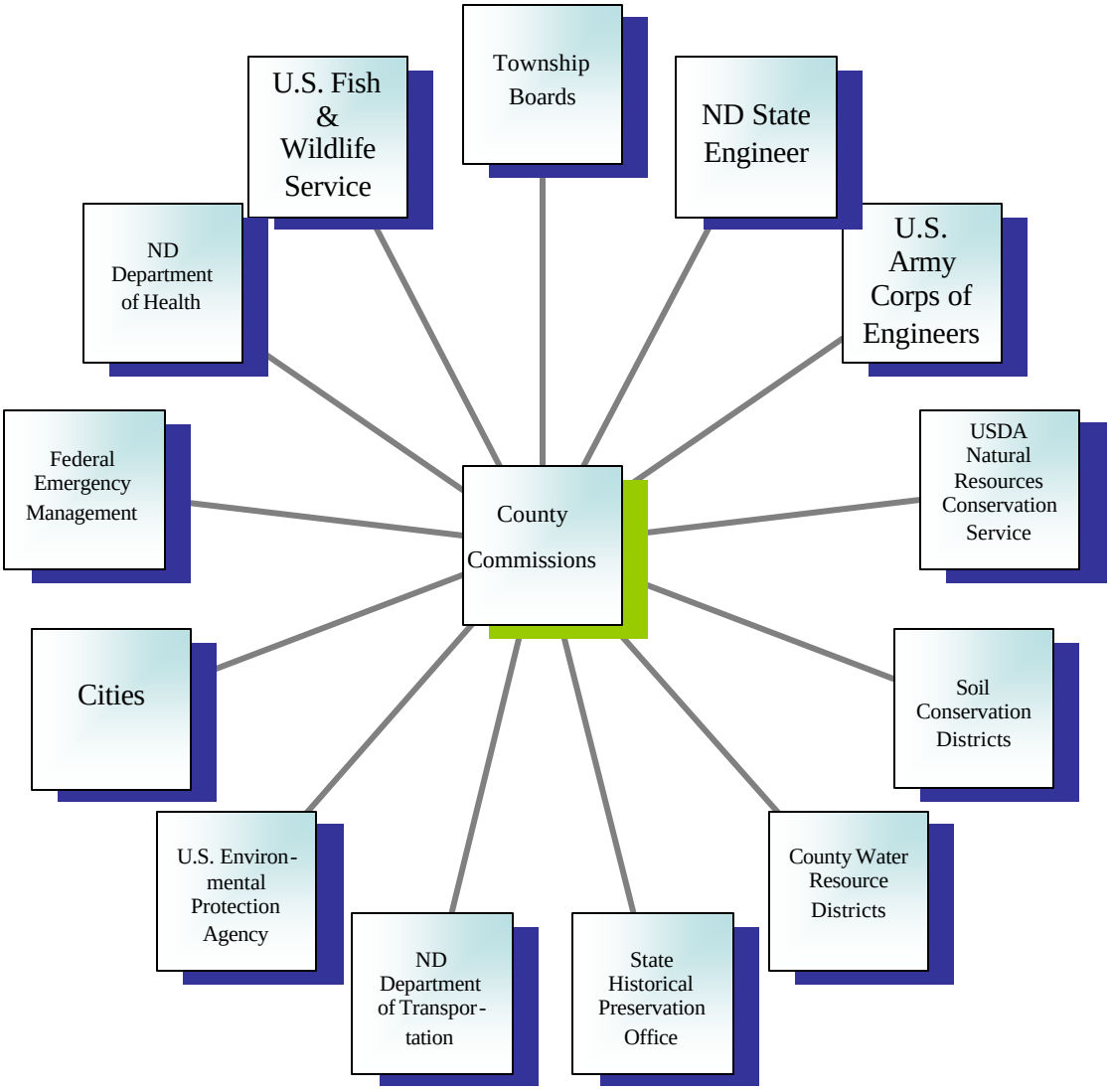
> This relocation has two aspects each with its own effects on historic preservation considerations. Areas vacated by former residents experience a reduction of their active volunteer support base and diminishment of their funding base whether private/charitable or public/tax. At the opposite end of the quandary, i.e., in the cities where both the economy and population appear to be growing, demands for new housing, public infrastructure, and commercial developments result in land clearing, land disturbance, and/or demolition of older buildings and structures as part of redevelopment projects and expanding infrastructure. Obviously, there will be a continuing need to encourage awareness of, and appreciation for, historic properties in both types of settings. (HPD, SHSND 2002:21-22)

3.0 Regulatory Authority

There are numerous entities with jurisdiction in the Missouri River corridor ranging from local to state to federal units of government as depicted by Figure IV. This section includes a summary of those entities governing and/or regulatory authority. All future plans and ordinances for the corridor must be consistent with these entities and the laws that govern.

Figure IV

Interjurisdictional Governance



3.1 Federal Authority

3.1.1 Federal Emergency Management Agency

U.S. Federal Emergency Management Agency
FEMA – Region VIII
Denver Federal Center
Bldg-710
Denver, CO 80225

North Dakota Division of Emergency Management
PO Box 5511
Bismarck, ND 58506-5511
Attention: Douglas Friez, Director
Phone: (701) 328-8100

Disaster Mitigation Act of 2000-(PL 106-390). This amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act to authorize a program for pre-disaster mitigation. 44 CFR part 201, Hazard Mitigation Planning establishes new criteria for state and local hazard mitigation planning. In brief, local governments will be required to have approved local mitigation plans when applying for pre-disaster mitigation funds. After November 1, 2003, approved plans will need to be in place before mitigation project grants can be approved.

3.1.2 Department of Army, U.S. Army Corps of Engineers (COE)

U.S. Army Corps of Engineers
North Dakota Regulatory Office
1573 South 12th Street
Bismarck, ND 58504
Attention: James Winters
Phone: (701) 255-0015

Clean Water Act (33 USC 1251, et seq.) – Amendments to the Federal Water Pollution Control Act of 1972 added what is called the Section 404 authority (33 USC 1344) to the U.S. Army Corps of Engineers Program. The Federal Water Pollution Act was further amended in 1977 (Public Law 92-500) and given the common name of the Clean Water Act (CWA). The Secretary of the Army, acting through the Chief of Engineers, is authorized to issue permits, after notice and opportunity for public hearings, for the discharge of dredged or fill materials into the waters of the United States (33 CFR 323.2) at specified disposal sites. Selection of such sites must be in accordance with the guidelines developed by the U.S. Environmental Protection Agency (EPA) in conjunction with the Secretary of the Army. These guidelines are known as the 404 (b) (1) Guidelines. A Section 404 permit cannot be issued unless a discharge is in compliance with the guidelines and is not found contrary to the public interest.

Rivers and Harbors Act (RHA) – Section 10 of the RHA approved on March 3, 1899, (33 USC 403) prohibits the unauthorized obstruction or alteration of any navigable waters of the United States (33 CFR 329.5) and covers construction, excavation, or deposition of materials in, over, or under such waters, or any work that would affect the course, location, condition, or capacity of those waters.

Master Water Control Manual – The Missouri River Mainstem Reservoir System consists of six dam and reservoir projects. These projects were constructed and are operated and

maintained by the U.S. Army Corps of Engineers (Corps) for flood control, navigation, irrigation, hydropower, water supply, water quality, recreation, and fish and wildlife habitat. To achieve these multipurpose benefits, the projects are operated as a hydrologically and electrically integrated system.

The Missouri River Master Water Control Manual (Master Manual) records the basic water control plan and objectives for the integrated operation of the mainstem reservoirs. The Master Manual was first published in December 1960 and was later revised in 1973, 1975, and 1979. The first Master Manual and its subsequent versions were developed in consultation with state governments within the Missouri River basin and federal agencies having related authorities and responsibilities.

Much has changed since the Mainstem Reservoir System was first authorized, which influenced the Corps' decision in November 1989 to review and update the Master Manual. Development associated with the Mainstem Reservoir System has changed the focus of residents of the Missouri River basin. The use of lake and river water for water supply has increased, as have the awareness and importance of recreation and the environment. Tribal issues and the Corps' awareness of its tribal trust responsibilities have evolved. Since 1986 two bird species and one fish species have been listed as threatened or endangered under the Endangered Species Act (ESA). Section 7(A) (2) of the ESA states that all federal agencies shall ensure that any action authorized, funded, or carried out is not likely to jeopardize the survival or recovery of listed species.

The 1987 to 1993 Missouri River basin drought had significant effects on all project purposes. Recreation around the lake was affected by the largest reduction in lake levels since the lakes were first established at normal operating levels in 1967. Navigation experienced shorter seasons and reduced service due to reduced navigation-designated releases. Lower lake levels caused access problems. Lower flows in winter accompanied by ice jams caused the shutdown of some city water supply facilities along the river and prompted some water intake owners to modify their intakes. Lower water levels also reduced wetland areas along the river and increased them at lakes.

The drought impacts prompted numerous inquiries from the tribes, general public, state and federal agencies, private companies, publicly and privately owned utilities, and congressional interests regarding the operation of the Mainstem Reservoir System. In response to all of the above issues, the Corps initiated a review of the current Master Manual in November 1989 under the authority of Corps regulations (ER11-2-240a) to determine if the Current Water Control Plan (CWCP) best meets the contemporary needs of the Missouri River basin. This review has taken the form of a study called the Missouri River Master Water Control Manual Review and Updated Study.

The search for a water control plan that better serves the contemporary uses of the Mainstem Reservoir System has focused on two primary features of the Master Manual:

1. The amount of system storage set aside for the permanent pool and the flood control and carryover multiple use zones.
2. The multipurpose regulation of storage releases for downstream needs – e.g., navigation, water supply, irrigation, power production, water quality, flood control, recreation, and environmental quality.

The criteria for the exclusive and annual flood control zones were reviewed, and the Corps determined that the size of these zones should not be reduced.

The study focused on system storage and system releases indicated in the Master Manual. In developing new alternatives, the following changes to storage release patterns were also considered:

- Navigation service criteria;
- Service level changes for fish and wildlife during the navigation season;
- Flood control criteria;
- Non navigation service criteria; and
- Intrasystem regulation criteria.

The Master Manual provides criteria for releases from the flood control and carryover multiple use zones for flood control and carryover multiple use zones for flood control, navigation service, and non-navigation service. Each criterion relates to the amount of water in system storage. The criteria were designed so that system storage in the flood control zone can be evacuated in an orderly manner before the beginning the next flood season. When storage volumes fall during extended droughts, cutbacks in system releases are made to conserve water. The criteria were originally designed so that the water in the carryover multiple use zone would be adequate to provide navigation service through a drought comparable to that of 1930 to 1941.

Augmenting downstream tributary flows by releasing water from the mainstem reservoir system provides support for navigation on the Missouri River below Sioux City. In drought periods, storage water is limited and cutbacks in releases may shorten the navigation season and reduce navigation service. The CWCP has two criteria for reducing navigation service in droughts: navigation service level and season length. The service level and season length are established by the following criteria.

Navigation Service Criteria for the Current Water Control Plan

Service Level – March 15 Check	
Full Service/Million Acre Feet (maf)	Minimum Service (maf)
54.5	46
Service Level – July 1 Check	
Full Service (maf)	Minimum Service (maf)
59	50.5
Season Length – July 1 Check	
8-month season (maf)	5.5 month season (maf)
41	25

The Revised Draft EIS for the Master Manual review presented six alternative operating plans; the Current Water Control Plan (CWCP), the Modified Conservation Plan (MCP), and four Gavins Point plans (GP alternatives).

The MCP includes drought conservation criteria that would result in a minimum storage level in the 1987 to 1993 drought of approximately 43 million acre-feet (maf) This was accomplished by making more stringent cuts to navigation earlier in droughts while eliminating back-to-back minimum service years for navigation, which were identified by the navigation industry as potentially eliminating navigation on the river in the future. Thus, to accomplish a

change in operations during drought that is both beneficial and detrimental to those who view themselves as being adversely affected, the Corps hoped to get some buy-in to the change by the navigation industry. To provide some perspective, had the CWCP been strictly followed during the 1987 to 1993 drought, minimum storage would have been 40 maf. Some adjustments were made during this drought, however, that resulted in a minimum storage of about 41 maf.

One other navigation criterion is included in the MCP alternative. To limit drawdown of the lakes during the more severe droughts (like the 1930 to 1941 drought), the MCP specifies a storage level that precludes navigation. If the amount of water in storage on March 15 is less than 31 maf, there will be no navigation season that year.

The MCP and the GP options are identical to one another, with the exception of changes in releases from Gavins Point Dam. Under the GP options, the spring rise would occur on average once every three years between May 1 and June 15 (modeled May 15 to June 15), as conditions allow. The potential starting point for the spring rise under the GP alternatives is 15,000 cubic feet per second (cfs) above full navigation service releases, the lowest spring rise value of the two included in the GP options. The amount of the spring rise could be adjusted upward to 20,000 cfs if monitoring and data analysis indicate this measure is recommended for the pallid sturgeon by the Act under adaptive management. The rise is intended to provide a spawning cue for the species.

Summer flows would be lower every year as conditions allow under the GP options. The lower summer flows would expose more sandbar acres for tern and plover nesting and create shallow water habitat for young pallid sturgeon. The potential starting point for the lower summer releases from Gavins Point Dam would provide minimum service to Missouri River navigation (modeled as a 28,500 cfs flat release but it would be variable under actual operations). Spring rise releases would initially be stepped down to provide minimum service to navigation (6,000 cfs less than full service) by June 21. The lower releases would be held steady until September 1, when releases would revert back to full navigation service or greater if necessary to evacuate excess water from the flood control zones in the system. Summer releases could be adjusted downward toward a combination of 25,000 cfs from June 21 to July 15, followed by 25,000 cfs to September 1, if monitoring and data analyses indicate this is necessary for the species.

3.1.3 Department of Interior, U.S. Fish and Wildlife Service

U.S. Fish and Wildlife Service
Ecological Services, North Dakota Field Office
3425 Miriam Avenue
Bismarck, ND 58501-7926
Attention: Jeffrey K. Towner, Field Supervisor
Phone: (701) 250-4481

Endangered Species Act of 1973 (ESA) – The Endangered Species Act was passed by Congress in 1973 and is administered by the Fish and Wildlife Service and the National Marine Fisheries Service. The purpose of the Act is to provide a practical means to recovery of the populations of species that are rare or threatened with extinction. The Endangered Species Act establishes a coordination process to ensure projects constructed, authorized, or funded by federal agencies do not contribute to the demise of threatened and endangered species or their habitats. State and federal agencies in North Dakota work closely together to evaluate proposed construction activities and develop recommendations to avoid/minimize impacts.

In North Dakota, four species have been designated as endangered. They are the least tern, whooping crane, black-footed ferret, and pallid sturgeon. Four species, including the piping plover, bald eagle, gray wolf, and western prairie fringed orchid are listed as threatened. The Endangered Species Act also establishes provisions to designate critical habitat for a species. For the eight threatened and endangered species that occur in the state, critical habitat has only been designated for the piping plover. This action was taken as the result of a lawsuit brought by the Defenders of Wildlife against the Fish and Wildlife Service, which has no plans to designate critical habitat for the remaining seven species.

3.1.4 U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS)

Natural Resources Conservation Service
220 East Rosser Avenue
PO Box 1458
Bismarck, ND 58502-1458
Attention: Jennifer C. Heglund, Assistant State Conservationist
Phone: (701) 530-2095

Farmland Protection Policy Act (7 CFR Part 658) – The Farmland Protection Policy Act requires potential impacts to prime farmland be addressed when federal financial or technical assistance is provided. Where prime/important farmland is permanently removed from production for any facilities related to a proposed project, a Farmland Conservation Form (AD 1006) must be compiled and processed through the NRCS.

3.1.5 U.S. Environmental Protection Agency (EPA)

U.S. EPA Region 8 (8EPR-EP)
999 18th Street, Suite 500
Denver, CO 80202-2466

North Dakota Department of Health
Division of Water Quality
1200 Missouri Avenue
PO Box 5520
Bismarck, ND 58506-5520
Attention: Dennis Fewliss
Phone: (701) 328-5210

Clean Water Act Section 402 – In an effort to limit the pollution of our nations many streams, rivers, and lakes, Congress directed the Environmental Protection Agency to enact Section 402 of the Clean Water Act. Section 402 established the National Pollution Discharge Elimination System (NPDES) to regulate the discharge of pollutants from point sources. In 1990 EPA published further regulations related to discharge from construction activities. Phase II of the NPDES permit process, signed in 1999, requires construction activity that disturbs one to five acres of land to obtain an NPDES permit. The permitting requirement begins in March 2003. The Environmental Protection Agency granted the responsibility of administration and enforcing NPDES permitting to the states and has approved the North Dakota Department of Health to administer and enforce the process in North Dakota.

Clean Water Act Section 401 – The State of North Dakota has an antidegradation policy that is administered by the Water Quality Division of the North Dakota Department of Health.

The policy assert in part: The State of North Dakota, in accordance with the 1972 Federal Water Pollution Act as amended given the common name Clean Water Act, declares that state or public policy is to maintain or improve, or both, the quality and purity of the waters of this state. Standards are established for the protection of public health and enjoyment of these waters; to ensure the propagation and well being of fish, wildlife, and all biota associated or dependant upon said waters; and to safeguard social, economical, and industrial development associated with the resource. The Department of Health issues 401 water certifications under the above authority.

3.1.6 Advisory Council of Historic Preservation (ACHP)

North Dakota State Historic Preservation Office
North Dakota Heritage Center
612 East Boulevard Avenue
Bismarck, ND 58505
Attention: Fern Swenson
Phone: (701) 328-3575

National Historic Preservation Act – Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. § 470 f.) as amended, requires all federal agencies to take into account the effects of their actions on historic properties, and provide the Advisory Council for Historic Preservation with a reasonable opportunity to comment on those actions. Historic properties include properties listed on, or eligible for listing in, the National Register of Historic Places.

3.2 State Authority

3.2.1 North Dakota State Engineer, North Dakota State Water Commission

Office of the State Engineer
900 East Boulevard Avenue
Bismarck, ND 58505-0850
Attention: Dale Frink, State Engineer
Phone: (701) 328-4940

The North Dakota State Engineer is authorized in the North Dakota Century Code (NDCC) to permit the following water resources activities:

1) Appropriation of water – Permit for beneficial use of water required (Section 61-04-02, NDCC)

Any person, before commencing any construction for the purpose of appropriating waters of the state or before taking waters of the state from any constructed works, shall first secure a water permit from the state engineer unless such construction or taking from such constructed works is for domestic or livestock purposes or for fish, wildlife, and other recreational uses or unless otherwise provided by law. However, immediately upon completing any constructed works for domestic or livestock purposes or for fish, wildlife, and other recreational uses the water user shall notify the state engineer of the location and acre-feet (1233.48 cubic meters) capacity of such constructed works, dams, or dugouts. Regardless of proposed use, however, all water users shall secure a water permit prior to constructing an impoundment capable of retaining more than twelve and one-half acre-feet (15418.52 cubic meters) of water or the construction of a well from which more than twelve and one-half acre-feet (15418.52 cubic meters) of water per year will be appropriated. In those cases where a permit is not required of a landowner or the landowner's lessee to appropriate less than twelve and one-half acre-feet (15418.52 cubic meters) of water from any source for domestic or livestock purposes or for fish, wildlife, and other

recreational uses, those appropriators may apply for water permits in order to clearly establish a priority date; the state engineer may waive any fee or hearing for such applications. An applicant for a water permit to irrigate need not be the owner of the land to be irrigated;

2) Permit to construct or modify dam, dike, or other devices (Chapter 61-16.1, NDCC)

No dikes, dams, or other devices for water conservation, flood control regulation, watershed improvement, or storage of water which are capable of retaining, obstructing, or diverting more than twelve and one-half acre-feet (15,418.52 cubic meters) of water shall be constructed within any district except in accordance with the provisions of this chapter. An application for the construction of any dike, dam, or other device, along with complete plans and specifications, shall be presented first to the state engineer. After receipt, the state engineer shall consider the application in such detail, as he deems necessary and proper. The state engineer shall refuse to allow the construction of any unsafe or improper dike, dam, or other device which would interfere with the orderly control of the water resources of the district, or may order such changes, conditions, or modifications as in the judgment of the state engineer may be necessary for safety or the protection of property. Within forty-five days after receipt of the application, except in unique or complex situations, the state engineer shall complete his initial review of the application and forward the application, along with any changes, conditions, or modifications to the water resource board of the district within which the contemplated project is located. The board thereupon shall consider, within forty-five days, the application, and suggest any changes, conditions, or modifications to the state engineer. The state engineer shall make the final decision on the application and forward his decision to the applicant and the local water resource board. Any person constructing a dam, dike, or other device, which is capable of retaining twelve and one-half acre-feet (15,418.52 cubic meters) of water, without first securing a permit to do so, as required by this section, shall be liable for all damages proximately caused by such dam, dike or other device, and shall be guilty of a class B misdemeanor;

3) Permit to drain waters (Section 61-32-03, NDCC)

Any person, before draining water from a pond, slough, or lake, or any series thereof, which has a watershed area comprising eighty acres (32.37 hectares) or more, shall first secure a permit to do so. The permit application must be submitted to the state engineer. The state engineer shall refer the application to the water resource district or districts within which is found a majority of the watershed or drainage area of the pond, slough, or lake for consideration and approval, but the state engineer may require that applications proposing drainage of statewide or inter district significance be returned to the state engineer for final approval. A permit may not be granted until an investigation discloses that the quantity of water which will be drained from the pond, slough, or lake, or any series thereof, will not flood or adversely affect downstream lands. If the investigation shows that the proposed drainage will flood or adversely affect lands of downstream landowners, the water resource board may not issue a permit until flowage easements are obtained. The flowage easements must be filed for record in the office of the register of deeds of the county or counties in which the lands are situated. An owner of land proposing to drain shall undertake and agree to pay the expenses incurred in making the required investigation. This section does not apply to the construction or maintenance of any existing or prospective drain constructed under the supervision of a state or federal agency, as determined by the state engineer.

Any person draining, or causing to be drained, water of a pond, slough, or lake, or any series thereof, which has a watershed area comprising eighty acres (32.37 hectares) or more, without first securing a permit to do so, as provided by this section, is liable for all damage sustained by any person caused by the draining, and is guilty of an infraction. When temporary ponding of water occurs due to spring runoff or heavy rains, an area not in excess of eighty acres (32.7 hectares) may be drained without first securing a permit.

There is an exception to the statutory drainage permit requirement. The drain permit law as enacted in 1957 did not require a drainage permit in counties that had a board of drain commissioners or for the establishment of drains by a board of county commissioners or by a township, or for any drain constructed under the supervision of a state or federal agency. These exceptions existed until 1975 when the drainage law was amended, leaving an exception only for drains constructed under the comprehensive supervision of a state or federal agency. This provision was further amended in 1981, so that the exception to the requirement of Section 61-32-03, NDCC, is limited to any drain constructed under the supervision of a state or federal agency, as determined by the state engineer;

4) Sovereign Land Management and Permits (Chapter 61-33, NDCC)

"Sovereign lands," means those areas, including beds and islands, lying within the ordinary high watermark of navigable lakes and streams. Lands established to be riparian accretion or reliction lands pursuant to section 47-06-05 are considered to be above the ordinary high watermark and are not sovereign lands. (See Appendix XX.)

61-33-02. Administration of sovereign lands. – All sovereign lands of the state must be administered by the state engineer and the board of university and school lands subject to the provisions of this chapter. Lands managed pursuant to this chapter are not subject to leasing provisions found elsewhere in this code.

61-33-05. Duties and powers of the state engineer. – The state engineer shall manage, operate, and supervise all properties transferred to it by this chapter; may enter into any agreements regarding such property; may enforce all rights of the owner in its own name; may issue and enforce administrative orders and recover the cost of the enforcement from the party against which enforcement is sought; and may make and execute all instruments of release or conveyance as may be required pursuant to agreements made with respect to such assets, whether such agreements were made heretofore, or are made hereafter.

3.2.2 North Dakota Department of Health

Waste Management Rules:
North Dakota Department of Health
Waste Management Division
1200 Missouri Avenue
Bismarck, ND 58506
Attention: Dave Glatt, Director
Phone: (701) 328-5166

The waste management regulations come from two sources: the North Dakota Century Code and the North Dakota Administrative Code. The following is a reference index denoting the "current regulations":

- North Dakota Hazardous Waste Management Rules (July 1, 1997)
  - North Dakota Hazardous Waste Management Rules Cover Page
  - Hazardous Waste Management, North Dakota Century Code Chapter 23-20.3
  - Hazardous Waste Rules Index
  - Chapter 33-24-01, General Provisions
  - Chapter 33-24-02, Identification and Listing of Hazardous Waste
  - Chapter 33-24-03, Standards for Generators
  - Chapter 33-24-04, Standards for Transporters
  - Chapter 33-24-05, Standards for TSDFs

- Chapter 33-24-05, Standards for TSDFs (Appendices)
- Chapter 33-24-06, Permits
- Chapter 33-24-07, Permitting Procedures

- North Dakota Underground Storage Tank Rules (April 1, 1992)
  - Chapter 33-34-08, Technical Standards and Corrective Actions Requirements for Owners and Operators of Underground Storage Tanks

- North Dakota Solid Waste Management Rules (May 1, 1999)
  - North Dakota Solid Waste Management Rules Cover Page
  - North Dakota Solid Waste Management Rules Title Page
  - Solid Waste Management, North Dakota Century Code Chapter 23-29
  - Solid Waste Rules, North Dakota Administrative Code Title 33-20

Air Quality Permitting
North Dakota Department of Health
Division Air Quality
1200 Missouri Avenue
Bismarck, ND 58506
Attention: Terry O'Clair
Phone: (701) 328-5788

The Permit to Construct process provides for the review of proposed sources or proposed modifications to existing sources of air contaminants. A Permit to Construct is required for any new stationary source, or modification to an existing source, within a source category designated in North Dakota Administrative Code Section 33-15-14-01. Sources that are exempt from obtaining a Permit to Construct are listed in Section 33-15-14-02.13. A Permit to Construct is issued only if it is expected that the proposed source or modification will comply with the applicable rules. A Permit to Operate is required for the routine operation of an installation or source designated in Section 33-15-14-01. Those sources that received a Permit to Construct under Section 33-15-14-02 need submit only a 30-day prior notice of proposed startup to satisfy the requirement to apply for a Permit to Operate. The Permit to Operate is then issued after the conditions of the Permit to Construct have been satisfied. For those sources that were not issued a Permit to Construct (i.e., portable sources), an application for a Permit to Operate must be made on forms (same as the Permit to Construct application forms) supplied by the department prior to initiating operations.

Water Quality Regulations:
North Dakota Department of Health
Division of Water Quality
1200 Missouri Avenue
Bismarck, ND 58506
Attention: Dennis Fewless
Phone: (701) 328-5210

Under the federal regulations section of this document, the North Dakota Department of Health has been granted the responsibility for permitting and enforcing two sections of the Clean Water Act; Section 401 and Section 402.

3.3 Local Government Authority

3.3.1 Townships

A township must develop a Comprehensive Plan before it may engage in zoning, Section 58-03-12 North Dakota Century Code (NDCC). The plan must be a "statement in documented text setting forth explicit goals, objectives, policies, and standards to guide public and private development," Section 58-03-12, NDCC. The township must establish a township zoning commission to recommend the boundaries of various township zoning districts and appropriate regulatory and restrictions to be established therein, Section 58-03-13, NDCC. Townships may relinquish their zoning powers to the county by resolution of the board of township supervisors.

3.3.2 Cities

As with townships, cities are mandated to adopt a Comprehensive/Master Plan before they implement zoning regulations, Section 40-47-03, NDCC. The Comprehensive Plan shall be a statement in documented text setting forth explicit goals, objectives, policies, and standards of the jurisdiction to guide public and private development within its control, Sections 40-47-03, NDCC. Chapter 40-48, NDCC, sets forth the authority for the development of municipal master plans and formation of planning commissions. The master plans shall be adopted by ordinance and shall be conclusive with respect to the location and width of streets, ways, plazas, open space, public easements, parks, and establishment of public rights in lands shown therein, Chapter 40-50.1, NDCC.

City zoning authority is defined in Chapter 40-47, NDCC. This chapter indicates that cities may regulate and restrict the erection, construction, reconstruction, alteration, repair, or use of buildings, structures, or land with each zoning district. The city must hold a public hearing before adopting zoning regulations, Section 40-47-04, NDCC.

A city may, by ordinance, extend the application of a city's zoning regulations to any quarter-quarter section of unincorporated territory if a majority of the quarter-quarter section is located within the following distance of the corporate limits of the city, Section 40-47-01.1, NDCC:

1. One mile (1.61 kilometers) if the city has a population of less than five thousand.
2. Two miles (3.22 kilometers) if the city has a population of five thousand or more, but less than twenty-five thousand.
3. Four miles (6.44 kilometers) if the city has a population of twenty-five thousand or more.

Figure I depicts the local entities in the corridor with planning and zoning authority. The corporate limits and extraterritorial zoning limits of the four incorporated cities in the corridor are shown on the county corridor maps in Appendices II-VI. Washburn has recently extended its extraterritorial jurisdiction to one-mile and Mandan and Bismarck are considering the full extension to two and four miles, respectively.

3.3.3 Counties

Counties are required to adopt a Comprehensive Plan before enforcing zoning regulations, Section 11-33-03, NDCC. The purpose of a Comprehensive Plan is similar to the city definitions. For the purpose of promoting health, safety, morals, public convenience, general prosperity, and public welfare, the board of county commissioners of any county may regulate

and restrict within the county, subject to Section 11-33-20 and Chapter 54-21.3, the location and the use of buildings and structures and the use, condition of use, or occupancy of lands for residence, recreation, and other purposes. County enabling regulations may not prohibit or prevent the use of land or buildings for farming or ranching. The county may regulate the scope of concentrated feeding operations, Section 11-33-02, NDCC.

Townships and cities may relinquish planning, zoning, and subdivision authority to counties, Section 11-33-20, NDCC. This chapter does not prevent townships from making regulations as provided in Sections 58-03-11 through 58-03-15, but such townships may relinquish their powers, or any portion thereof, to enact zoning regulations to the county by resolution of the board to township supervisors. This chapter may not be construed to affect any property, real or personal, located within the zoning or subdivision authority of any city of this state, except that any city by resolution of its governing body may relinquish to the county its authority, or any portion thereof, to enact zoning regulations under Chapter 40-47 or subdivision regulations under Chapter 40-48, in which case the property is subject to this chapter.

Table II depicts BOMMM entities with planning and zoning authority and the status of their regulations.

Table II

Inventory of BOMMM Entities with Planning and Zoning Authority and Status of their Regulations

	Current Comprehensive Plan Date Adopted	Current Zoning Ordinance Date Adopted	Current Subdivision Regulations Date Adopted	Current Building Code Date Adopted	Other Land Use Regulations
Burleigh County	1980	1959 updated 1980	1959 updated 1980	State Code	Floodplain Ordinance (revisions pending), Storm water Ordinance Riverfront Ordinance
City of Bismarck	1981	1982 amended extensively	1982 amended extensively	1997 Uniform Building Code, 2000 International Building Code (pending)	Floodplain Ordinance (revisions pending), Storm Water Ordinance
Missouri Township	None	Limited Zoning	None	Follow Bismarck Building Code	None
Painted Woods Township	None	Limited Zoning	None	None	None
Oliver County	1976	1977	1977	National Building Code (no inspections)	Flood Insurance Rate Maps
Mercer County	1975 updated 2000	1975 updated 2000	1975 updated 2000	None	Flood Insurance Rate Maps
City of Stanton	None	1979 minor revision	1979	State Code	None
McLean County	1978	1974 revisions 1982, 2000	1979	State Code	Flood Insurance Rate Maps
City of Washburn	None	1983	1983	State Code	None
Morton County	1984 (update pending)	1985	1985	1985 State Code	Floodplain Ordinance (revisions pending)
City of Mandan	Late 1970s	1957 revisions 1994	1957 revisions 1994	Revised State Code	Floodplain Ordinance (revisions pending), Street Master Plan

3.4 Intergovernmental Cooperation

As previously stated, planning and zoning authority in North Dakota is delegated to townships, cities, and counties. Table II depicts the townships, cities, and counties that have planning and zoning authority in the corridor. Along the Garrison reach of the Missouri River corridor, Burleigh and Morton counties contain the only organized townships. The Morton County township of Captains Landing is completely within Mandan's one-mile exterritorial limits, therefore, has no planning and zoning authority. In the Burleigh County river corridor, only Painted Woods and Missouri Township have retained planning and zoning authority. The remaining townships have either relinquished their planning and zoning authority to the county or they are unorganized townships.

All four of the corridor's incorporated cities exercise planning and zoning authority within their corporate limits and designated extraterritorial limits. Counties exercise planning and zoning authority for the remainder of the corridor's land.

A review of North Dakota statutes regarding options for intergovernmental planning and zoning cooperation suggest four possible scenarios:

1. **Joint Planning Commissions.**
2. **Regional Planning and Zoning Commissions.**
3. **Joint Powers Agreement.**
4. **Memorandum of Understanding.**

3.4.1 Joint Planning Commissions

The legislature has also authorized two or more counties to create a joint planning commission. Membership of the joint planning commission should consist of five members of each county planning commission, but its authority appears to be limited to submitting recommendations to the respective county planning commissions of each county involved; Section 11-33-15, NDCC.

3.4.2 Regional Planning and Zoning Commissions

Regional planning and zoning commissions are authorized under Section 11-35-01, NDCC. The legislature has authorized counties, cities, and organized townships to organize regional planning and zoning commissions for the region defined by the governing bodies of the political subdivisions involved in the regional planning and zoning commission. These regional commissions may exercise any of the powers that are specified and granted to counties, cities, or organized townships in matters of planning and zoning.

The commission consists of five members: one from the board of county commissioners, two from the rural region, and two from the city; all to be appointed by their respective governing boards. It is unclear if this authority applies to multiple counties. If all the townships, cities, and counties in the corridor have to participate and each political subdivision has to delegate its planning and zoning authority to the regional commission, it would be a significant undertaking.

3.4.3 Joint Powers Agreement

The authority to enter into joint powers agreement is articulated in Section 54-40.3-01, NDCC, as follows:

1. Any county, city, township, city park district, school district, or other political subdivision of this state, upon approval of its respective governing body, may enter into an agreement with any other political subdivision of this state for the cooperative or joint administration of any power or function that is authorized by law or assigned to one or more of them. A joint powers agreement may provide for:

    a. The purpose of the agreement or the power of function to be exercised or carried out.
    b. The duration of the agreement and the permissible method to be employed in accomplishing the partial or complete termination of the agreement and for disposing of any property upon the partial or complete termination.
    c. The precise organization, composition, and nature of any separate administrative or legal entity, including an administrator or a joint board, committee, or joint service council or network, responsible for administering the cooperative or joint undertaking. Two or more political subdivisions that enter into a number of joint powers agreements may provide a master administrative structure for the joint administration of any number of those agreements, rather than creating separate administrative structures for each agreement. However, no essential legislative powers, taxing authority, or eminent domain power may be delegated by an agreement to a separate administrative or legal entity.
    d. The manner in which the parties to the agreement will finance the cooperative or joint undertaking and establish and maintain a budget for the undertaking. The parties to the agreement may expend funds pursuant to the agreement, use unexpended balances of their respective current funds, enter into a lease-option to buy and contract for deed agreements between themselves and with private parties, accumulate funds from year to year for the provision of services and facilities, and otherwise share or contribute property in accordance with the agreement in cooperatively or jointly exercising or carrying out the power or function. The agreement may include the provision of personnel, equipment, or property of one or more of the parties to the agreement that may be used instead of other financial support.
    e. The manner of acquiring, holding, or disposing of real and personal property used in the cooperative or joint undertaking.
    f. The acceptance of gifts, grants, or other assistance and the manner in which those gifts, grants, or assistance may be used for the purposes set forth in the agreement.
    g. The process to apply for federal or state aid, or funds from other public and private sources, to the parties for furthering the purposes of the agreement.
    h. The manner of responding for any liability that might be incurred through performance of the agreement and insuring against that liability.
    i. Any other necessary and proper matters agreed upon by the parties to the agreement.

2. Any county, city, township, city park district, school district, or other political subdivision of this state may enter into an agreement in the manner provided in subsection 1 with any agency, board, or institution of the state for the undertaking of any power or function, which any of the parties is permitted by law to undertake. Before an agreement entered into pursuant to this subsection is effective, the respective governing body or officer of the state agency, board, or institution must approve the agreement and the attorney general must determine that the agreement is legally sufficient.

3. An agreement made pursuant to this chapter does not relieve any political subdivision or the state of any obligation or responsibility imposed by law except to the extent of actual and timely performance by a separate administrative or legal entity created by the agreement. This actual and timely performance satisfies the obligation or responsibility of the political subdivision.

Section 54-40.3-03 further states that a political subdivision entering into a joint powers agreement pursuant to this chapter or any other law is encouraged to file one copy of the agreement and explanatory material with the advisory commission on intergovernmental relations, to assist the commission in providing information for other political subdivisions exploring cooperative arrangements.

Chapter 54-40.3 appears to give local entities great latitude to design a program to address an effort such as this multijurisdiction Concept/Comprehensive Plan.

3.4.4 Memorandum of Understanding

The purpose of a Memorandum of Understanding is to establish a framework for cooperation and coordination between two or more parties to accomplish a designated set of tasks. The Memorandum of Understanding should set forth general terms and conditions under which these parties will coordinate and cooperate. These terms and conditions would specify:

1. Project purpose (Scope of Work)
2. Project background
3. Operating principles
4. Effective date, amendment, and termination clause
5. Signatures of approval

4.0 Land Use Inventory

This chapter of the Concept Plan provides the decision makers some basic land use information in map form. Because of the large volume of information, a partial listing of available mapping is provided along with directions on how to access the information on the North Dakota Missouri River Geographic Information System (GIS) website.

The website can be found at http://web.apps.state.nd.us/hubexplorer/missouri/viewer.html. The maps and other data found at this website will provide the decision maker a wealth of information to facilitate sound planning and implementation of proposed project developments. Following is a list of current map information that is available on the Missouri River website:

1. State and Federal Highways
2. County Boundaries
3. Shaded Relief
4. National Park Service Lands
5. North Dakota Park and Recreation Lands
6. North Dakota Land Department Lands
7. North Dakota Game and Fish Department Lands
8. Missouri River Corridor
9. Missouri River Corridor Two-Mile Buffer
10. Morton County Aquifers
11. Mercer and Oliver County Aquifers
12. McLean County Aquifers
13. Burleigh County Aquifers
14. Land Use/Land Cover
15. 24k USGS Quad Map Index
16. National Elevation Data Set
17. Missouri River Corridor Wetlands
18. Missouri River Corridor View Shed Maps

The State of North Dakota has funded a data hub and the development of a Geographical Information System (GIS) for the state. The Information Technology Department (ITD) has had the lead in gathering digitized information and placing it on the states data hub. As part of the GIS effort, the North Dakota State Water Commission (SWC) has developed a Missouri River Corridor GIS website. Chris Bader has led this development with the assistance of Rod Bassler, SWC, and Bob Nutsch, ITD.

The site has interactive mapping capabilities and allows the user to view map overlays and develop specific site maps. A detailed explanation on how to access and use the site is provided later in this chapter.

In addition to the specific corridor related information the user can also go to the North Dakota home page for GIS and access the following information:

1. Aerial Photos
2. USGS Quad Maps
3. Utility Locations
4. City and Corporate Features
5. Water Aerial Features (Surface)
6. Township Lines
7. Railroads

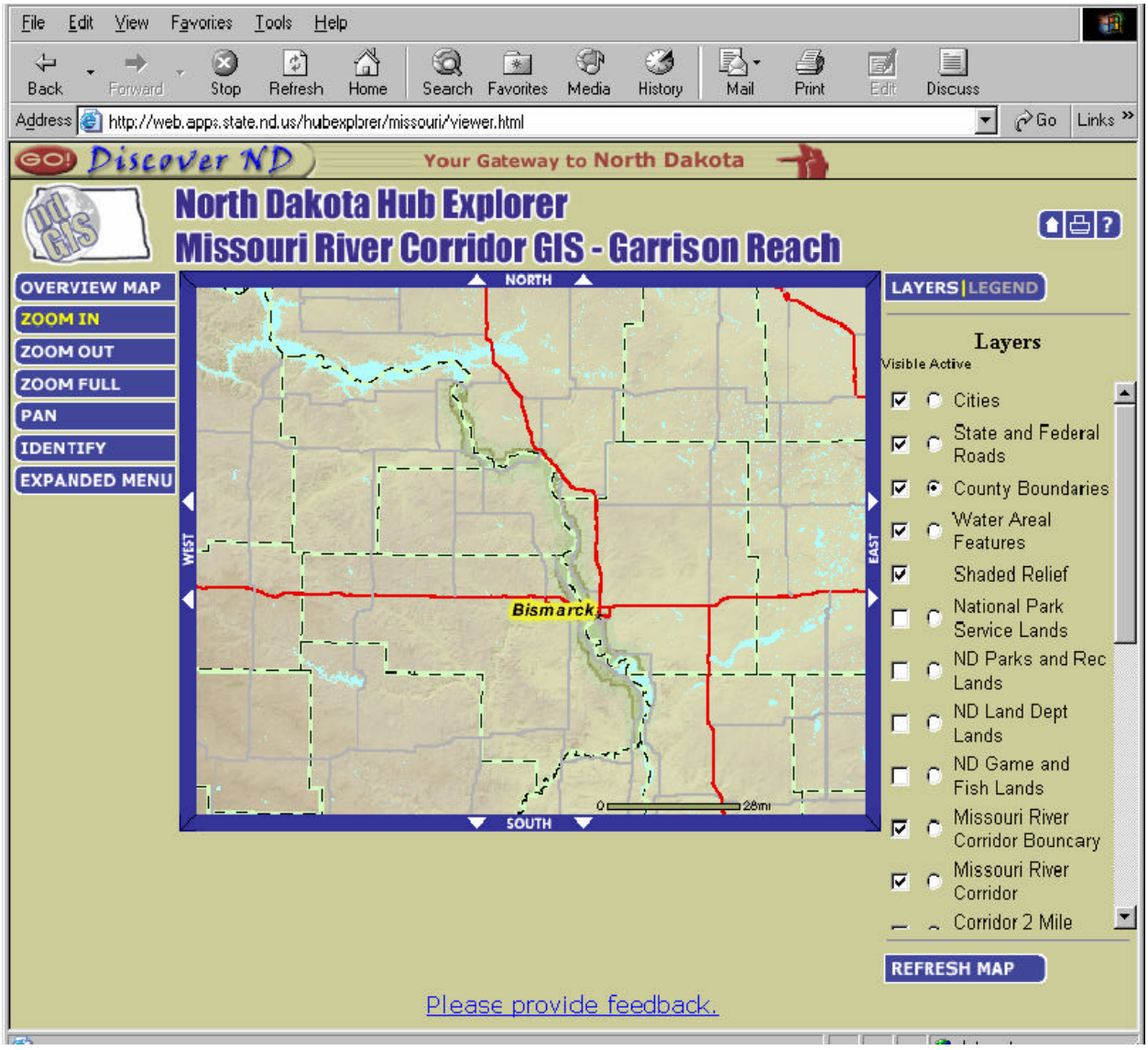
8. Interstate Ramps
9. Legislative Districts
10. Water Resource Districts
11. Cellular Markets and Tower Locations
12. Surface Geology
13. Bedrock Geology
14. Soils
15. Tribal Lands
16. Federal and State Lands
17. Open for Sportsmen Hunting Plots
18. Roads and Trails (graded, gravel, paved, etc.)
19. Churches, Hospitals, Airports, Buildings
20. Cemeteries
21. Hydrologic Units

This is a partial listing of the land use mapping information presently available. The list is growing almost daily. The Appendix includes the following examples of the type and quantity of maps at the website:

Appendices	Map Content
II.	Missouri River Corridor – Burleigh County
III.	Missouri River Corridor – Oliver County
IV.	Missouri River Corridor – McLean County
V.	Missouri River Corridor – Mercer County
VI.	Missouri River Corridor – Morton County
XII.	Legislative Districts
XIII.	24k USGS Quad Map (1)
XIV.	North Dakota Park and Recreation Land
XV.	Burleigh County Aquifers
XVI.	Soils
XVII.	View Shed Map – Double Ditch Site

The reader is encouraged to utilize the internet and access the entire family of maps that are available for the Missouri River Corridor at the Missouri River website. To access the website go to http://web.apps.state.nd.us/hubexplorer/missouri/viewer.html. The following web page will load onto the users screen, as illustrated in Figure V.

Figure V.
North Dakota Hub Explorer Viewer Website



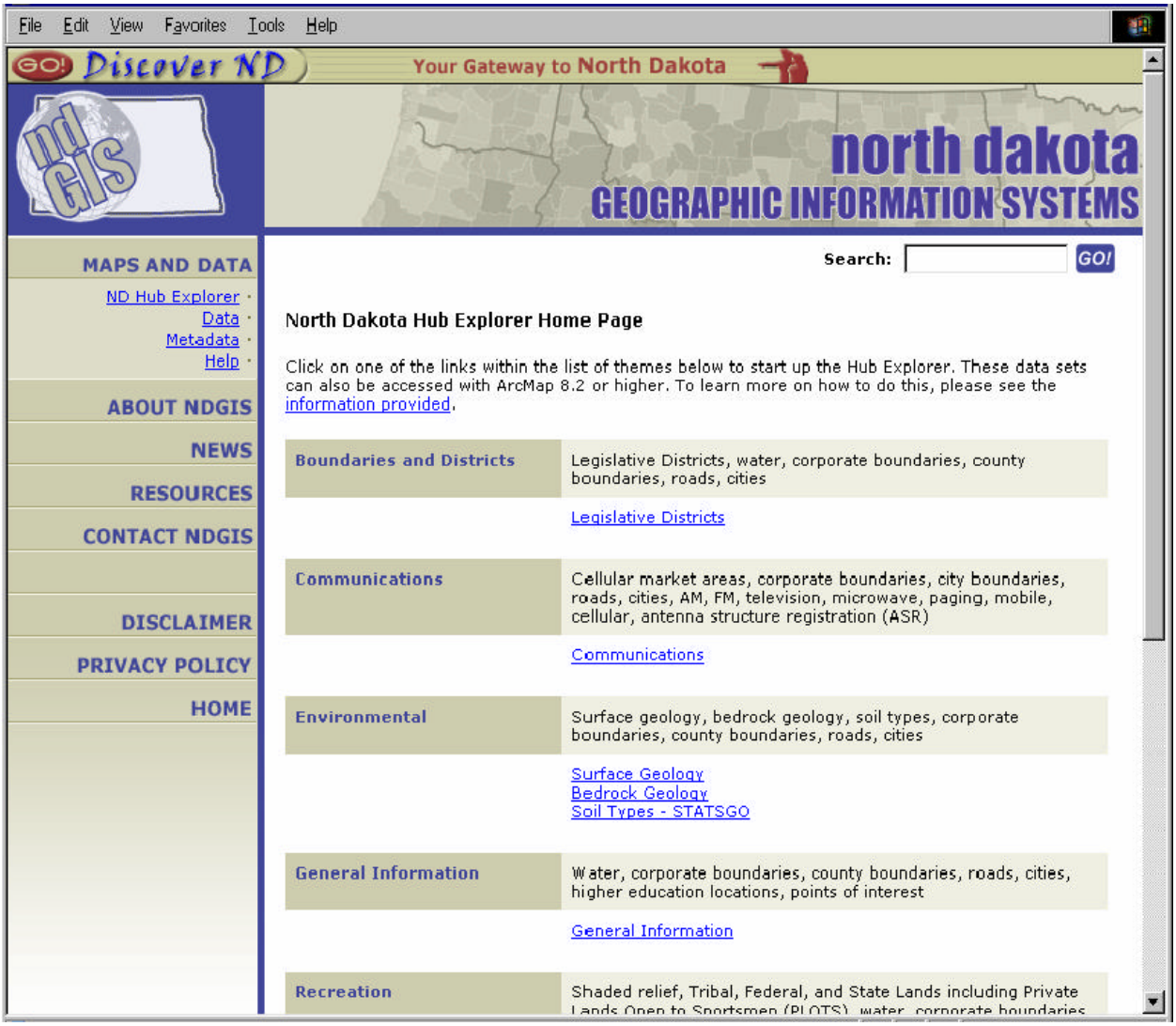
To use the interactive mapping tool, click on the layer the user wishes to view on the right-hand side of the screen. As an example, you want to view the county boundaries, the Missouri River corridor, and federal and state roads; click on each of the three layers under "visible" and then click on "refresh." In the map-viewing screen, the state map will come up with the state and federal roads, the county boundaries, and the Missouri River corridor boundary. The viewer can now get a more detailed view by clicking on the "zoom in" and dragging to the map-viewing screen. Then, you click to "zoom in" and click to reach the detail needed for the project. The user can create a variety of maps with all the layers listed on the right-hand side of the map-viewing screen. To get the legend for the maps generated, go to the upper right of the screen and click on "legend." The map legend will come up on the right-hand side of the map-viewing screen.

The North Dakota data hub has a host of maps that are not all included on the Missouri River corridor site. To access this information, go to the upper right-hand corner and click on the "up arrow" which will than take the user to the home page of the North Dakota Hub Explorer. The web page illustrated shows the home page and seven broad areas with mapping information available, as depicted in Figure VI. The seven broad areas are:

1. Legislative Districts
2. Communications
3. Environmental
4. General Information
5. Recreation
6. Transportation
7. Water

Located in the upper right-hand corner of the screen the users will also find a "?". Clicking on this will take the user to a help page. It is recommended that first time users of this website read the help information in order to be able to maximize the use of the available mapping information. A "printer" is also located at the same location in the right-hand corner of the screen. The user can click on this and it will print the map information the user has developed in the map view screen. The users of this site will find a powerful mapping tool a wealth of mapping information that can be used in planning and managing the Missouri River corridor resources.

Figure VI.
North Dakota Hub Explorer Home Page



5.0 Public Input

5.1 County Meetings

The following is a summary of public meeting findings where issues, concerns, and opportunities were presented for consideration by the public. Four public meetings were held.

- Mercer County, November 5, 2002, at 1:30 p.m. (MST) at the Mercer County Courthouse, Stanton, North Dakota.

- McLean and Oliver Counties, Joint Meeting, November 18, 2002, at 7:00 p.m. at the Memorial Building, Washburn, North Dakota.

- Burleigh County, December 3, 2002, at 5:15 p.m. at the City/County Building, Bismarck, North Dakota.

- Morton County, December 5, 2002, at 2:00 p.m. at the Courthouse, Mandan, North Dakota.

Meeting Summary:

5.1.1 Mercer County

Notice of the meeting was advertised twice in the Hazen Star and the Beulah Beacon newspapers. No letters of invitation were mailed. Lyle Latimer, County Commissioner, chaired the meeting. There were 26 people in attendance including County Commissioners Wayne Entz and Gary G. Murray. Ronald Sando, Water Resource Consultant, and Charles Manders, Senior Planner, presented an overview on the plan development and took oral testimony from the public. Six people gave oral testimony including three landowners who articulated skepticism or were against the process because of concerns of private property right infringement. Paul Feyereisen, President, Missouri River Adjacent Landowners Association (MRALA), articulated a concern about private property rights but said MRALA did not have a position of support or nonsupport at this time.

The interest in and value of the Missouri River-Garrison reach extends far beyond the corridor boundary including statewide and national significance. Greg Lange, an attorney from Hazen, spoke strongly in favor of Mercer County supporting the concept/comprehensive planning effort. “The alternatives are worse. If we do not act to preserve the heritage of this river, others will. Federal agencies and influential nonprofit organizations are watching this stretch of water very closely. If we let it continue to be sold off to the highest bidder, either urban sprawl will permanently reduce its recreational appeal and take many acres away from agricultural use – including potential irrigation development, or some federal agency will do what we are unwilling to do. My experience with federal agencies is that they are far less flexible and ‘user friendly’ to their neighbors.”

Three other Mercer County residents indicated support for the planning process and three provided written objections to continuing the process. In summary, three areas of concern were most prevalent – protection of private property rights, gain control of urban sprawl, and maintain local control of development.

5.1.2 McLean and Oliver Counties

Notices of meetings were published twice in the Center Republican, Mandan Finder, McLean County Independent, Washburn Leader News, and Underwood News. Letters of invitation were sent to landowners in the corridor by McLean County. Oliver County sent letters to those they thought had an interest in the planning effort. This meeting had the largest attendance of the four meetings, likely attributed to the mailing and the fact that it was an evening meeting. Ronald Krebsbach, McLean County Commissioner, chaired the meeting, attended by approximately 150 people (110 people registered). Newly elected McLean County Commissioners Steven J. Lee and Julie Hudson-Schenfisch were in attendance.

Ronald Sando and Charles Manders provided an overview of the concept planning process then accepted oral testimony. Paul Feyereisen spoke for the MRALA and as a McLean County corridor landowner. He again stated his concern about the infringement on private property rights. He stated that since the Mercer County meeting he had decided to oppose the development of a Concept/Comprehensive Plan. Don Albers, Oliver County Overview Committee member, also spoke against the planning process, suggesting no value to his county. Commissioner Krebsbach requested a show of hands in support of the proposed Concept Plan; approximately 75% of the people opposed the planning effort primarily over concerns about private property rights. Numerous McLean County landowners spoke against the Concept Plan indicating concern that it would infringe on their property rights. Daryl Asbridge, attorney representing the Price family in Oliver County, stated existing regulations are adequate; therefore, no changes are needed. Mike Thyberg, McLean County, stated the corridor map does not show two electrical high voltage transmission lines and they detract from the river view shed.

Four individuals expressed support for the plan and the need to keep local control including, Steve Martin, who emphasized this concern. Andy Mork, BOMMM Board Chairman, stated he has lived on the river for many years and has private property rights concerns but supports the preparation of a full comprehensive plan to guide development and protect the river corridor. Don Streifel, Washburn, said the proposed plan is 200 years too late. Streifel, among many participants, supports bank stabilization but opposes view shed set backs and suggests view shed restriction of river use for river banks/bluff owners. Elaine Flinn, in a written statement, indicated that bank stabilization would reduce downstream sedimentation but objected to possible plan regulations.

The three Oliver County commissioners were in attendance but did not offer testimony. However, Oliver County Chairman David Porsburg offered written comments verifying that agricultural land would be exempt from most local planning and zoning regulations. To summarize the meeting, the majority of the adjacent landowners opposed any planning because of fear of private property rights infringement.

5.1.3 Burleigh County

Two public notices were published in the Bismarck Tribune along with a news article about the Concept Plan. No letters of invitation were mailed. Claus Lembke, Burleigh County Commissioner, chaired the meeting attended by 25 people, which was carried on cable access TV. Newly elected County Commissioner Doug Schonert and former Commissioner Helen Schatz were also in attendance. The meeting format was the same as prior meetings.

Burleigh County has been working on new river ordinances for approximately 12 months. Concerns were raised that the planning process would be in conflict with Burleigh County's proposed river front ordinance. Assurances were given by Ronald Sando and Carl Hokenstad, Burleigh County Planning Director, that the planning effort would not affect the nearly one year effort to develop river ordinances.

Burleigh County is the only BOMMM county with organized townships that exercise planning and zoning authority in the corridor. Burleigh County's northern most and southern most corridor townships (Painted Woods and Missouri) exercise planning and zoning authority. Commissioner Schonert stated that the Painted Wood Township's river boundary represents approximately 10 percent of the overall corridor length on one side of the river. Consequently, he recommended including the township in the planning effort.

The Burleigh County meeting had numerous advocates who spoke to the concerns of the public. Edgar Anderson, Painted Woods Township, supports bank stabilization. Bill McCullough, river landowner (180 acres), raised concerns about the health of the river bottom's forest and suggested that the State Forest Service should be involved in the planning process. Alexis Duxbury suggested that the Overview Committee meetings and overall planning process should be more open to public review and comment. She supports Burleigh County's effort to address river front issues. Commissioner Schonert requested that the Overview Committee clarify whether all BOMMM counties will proceed with the planning process. Representative from the Sierra Club and Missouri Valley Resource Council spoke to the need to protect view sheds and threatened and endangered species and to limit bank stabilization. Bismarck resident Jan Swenson said the Concept/Comprehensive Plan should articulate a 50- to 100-year vision for the Missouri River. Paula Nordwall, Bismarck, opposes further riprapping and supports acquisition of public land for trails and river access.

To summarize the meeting's oral testimony, private property rights issues were raised again; and a much broader support for the planning effort was expressed. Six people spoke in favor of planning and two spoke against. The meeting attendance seemed to be affected by previous large turnouts for the river front ordinance hearings and the fact that no letters of invitation were mailed.

5.1.4 Morton County

A notice was published in all county papers two weeks before the meeting. Matt Erhardt, County Commissioner, chaired the meeting, with 15 people in attendance, including Morton County Commissioners Bendish, Tokach, and Boehm. The meeting format was identical to the prior meetings.

An overview of the planning process was presented by Ronald Sando. Numerous questions were raised about the process and clarification was provided by Ronald Sando. Jim Schmidt, southern Morton County landowner, expressed concerns related to private property rights. His family had lost large acreage to the Corps of Engineers for the Oahe reservoir and he believes they should not have to give up more land to satisfy planned public access requests. Ralph Vinje, business owner living on the river, is concerned about the process but believes Concept Plan would not have a negative impact. Paul Bollinger, Broken Oar Bar owner, supports the Concept Planning process if it does not eliminate economic development opportunities. Commissioner Bendish raised concern that the federal government needs to address bank erosion and sedimentation issues. Commissioner Erhardt expressed concerns about private property rights but thinks the Concept Plan would not jeopardize the existing private property rights. Andy Mork,

BOMMM Chairman, closed testimony by giving a summary of BOMMM's involvement in the Concept Planning process.

The meeting attendance was affected by the afternoon time slot, lack of individual notification, and other meetings being held at the same time. Greg Greequist, Morton County Planner, suggested after the meeting that a questionnaire on issues, opportunities, and concerns be included in the year end property tax statement. He felt a questionnaire would improve the response by the public. Oral testimony was very limited. Private property rights was the number one concern; however, no major objection to the Concept Plan was presented.

5.1.5 Summary of the Four Meetings

All meetings had county commissioners in attendance. Each meeting was taped and the tapes are available for review at the North Dakota Water Education Foundation at 1303 East Central Avenue, Bismarck, ND 58501. A file also is maintained with the attendance listings, mailed, and e-mailed comments.

The summary of issues, concerns, and opportunities from the CRMP Vision meetings, Overview Committee meetings, county commission meetings, planning commission meetings, and individual contacts are listed below. The number one issue was the protection of private property rights, the number two issue was bank stabilization, and the number three issue was the public's right of access and use of the Missouri River. The remaining issues are in no order of ranking.

1. Private property rights protection
2. Bank stabilization
3. Public's right of access
4. Protection of high bottom land and prime farmland
5. Floodplain and floodway management
6. Aquatic habitat protection
7. View shed protection
8. Land Use – buffer strips, building setbacks
9. Water quality protection
10. Feedlot sitings
11. Cultural and historic site protection
12. Threatened and endangered species
13. Urban sprawl
14. Bluff line setbacks
15. Utility corridors
16. Trail system
17. Riparian woodland/wetland protection and improvement
18. Outdated/unused existing county comprehensive plans
19. Impacts of rural water
20. Boat ramps
21. Need to develop long-term vision for the river

Charles Manders and Ronald Sando, public meeting moderators, found several areas of significant concern. The existing county comprehensive plans, which are required by the North Dakota County Code Chapter 11-33, are outdated in four counties and are not often used by the county commissions to guide development in the corridor. Mercer County is the only county with

an updated plan, year 2000. The current plan dates are Mercer County 2000, McLean County 1978, Burleigh County 1980, Morton County 1984 (working on update), and Oliver County 1976.

5.2 Missouri River Water Educational Programs

5.2.1 North Dakota Water Education Foundation Summer Water Tours

For seven years, the North Dakota Water Education Foundation has coordinated summer water tours. Participants have included legislators; elected and appointed officials from city, county, state, and federal agencies; water managers; engineers; educators; irrigators; farmers; environmentalists; students; bankers; researchers; news reporters; and casual tourists from North Dakota and across the country.

The water tours offer a firsthand look at North Dakota's critical water issues. Water supply and quality, environmental restoration, fish and wildlife, flood management, water conservation and more are illustrated and addressed by a wide variety of speakers representing different viewpoints during the one-day tours.

The Missouri River expedition is the highest attended and most popular tour the foundation offers. On the Missouri River expedition, participants tour the river from Bismarck to Riverdale, while learning about critical issues such as bank stabilization, fishing, recreation, water use and management, endangered species, natural resources, and water quality.

The tour includes visits to agriculture, recreation, and wildlife sites in the Bismarck area, the Lewis and Clark Interpretive Center, Garrison Dam, Stanton Station Power Plant, Tesoro Refinery, and Cross Ranch State Park, while traveling the Lewis and Clark trails via motorized coach and riverboat.

5.2.2 The North Dakota Water Magazine

For nearly 10 years, the North Dakota Water Education Foundation has published *North Dakota Water*, a magazine with the purpose to communicate to people about North Dakota's water issues. The magazine is published 10 times per year, with special issues devoted to specific topics being published in addition to the regular schedule.

Along with frequent stories relating to Missouri River issues being printed in the regular issues of *North Dakota Water*, there have been three special issues devoted to the river, *The Missouri River Story, Upper Missouri Water* and *Exploring the Missouri River of the Past 200 Years* (more commonly referred to as the Lewis and Clark issue).

5.2.3 Project WET

Project WET or Water Education for Teachers is a program sponsored by the North Dakota Water Education Foundation and the North Dakota State Water Commission. Its purpose is to educate teachers, and therefore students, about water resource and management concerns in North Dakota.

There are several different areas of study in the WET program, three of which focus on the Missouri River.

Lewis and Clark's Big Muddy Missouri River Cultural History Institute is a program that has been done in the past and will be offered again in the future. This week-long program gives participants a broad view of the Missouri River from 1790 to 1910-1915.

Discover Today's Missouri River is a six-day program instructed by professionals and individuals who are knowledgeable and experienced about the science and social issues and concerns of today's Missouri River. Its focus is on contemporary Missouri River water management and use issues and on watershed quality issues and concerns.

A new, single-credit WET Missouri River workshop is currently being developed. It will deal with both the WET program and the Missouri River.

5.2.4 Upper Missouri Briefing

The *Upper Missouri Briefing* is a newsletter published monthly by the Upper Missouri Water Association, an organization dedicated to protect, manage, and develop upper Missouri water. Articles often include noteworthy court cases, legislation affecting upper Missouri water, Bureau of Reclamation funding issues, and other issues significant to the upper Missouri region.

5.2.5 Missouri River Update

The *Missouri River Update* is published several times per year by the North Dakota Water Education Foundation and the Burleigh, Oliver, Morton, Mercer, and McLean Joint Water Resource Board. The purpose of the newsletter is to explain the challenges of trying to preserve and enhance the 87-mile Garrison to Oahe reach of the Missouri River. The main components of the newsletter are a feature story on an important issue facing this reach and a Missouri River runoff report provided by the U.S. Army Corps of Engineers.

6.0 Implementation

6.1 List of Opportunities

The summary of the county public input meeting in Chapter V outlines river issues and concerns. Following is a corresponding list of "opportunities" for consideration. Many of these opportunities, which reflect both public and private interests, could be realized through the development of a Comprehensive Plan for the river corridor.

1. An opportunity to make informed decisions by having a comprehensive research document that focuses on this reach of the river.

2. An opportunity to create public policy for the corridor from a local, grassroots perspective.

3. An opportunity to understand the significance of our river and to know how important it is to protect this valuable resource for future generations.

4. An opportunity for the five river-counties to speak with one voice to outsiders, saying that the five counties share a vision and are committed to long-range planning and management of our resource.

5. An opportunity for counties to update their existing policies on guiding long-range development within the river corridor.

6. An opportunity to consider policies that would result in the protection and stabilization of property values by preventing incompatible adjacent land uses.

7. An opportunity to provide information on the long-range economic and visual impacts of converting agricultural and riparian lands to residential, commercial, and industrial uses.

8. An opportunity to protect property from flood damage and make flood insurance available to residents by promoting the study of unmapped, flood-prone areas.

9. An opportunity to assess the impacts of erosion and siltation.

10. An opportunity to address federal policies and regulations on bank stabilization, river navigation, threatened and endangered species, protection of farmland, aquatic habitat improvements, water quality, and growth management.

11. An opportunity to influence the U.S. Army Corp of Engineers' revisions to the Mainstem Master Manual Regulations and participate in the annual operation plan.

12. An opportunity to identify the need for and possible locations of public access sites.

13. An opportunity to gather information from local residents on their views of conservation, landowner issues, local control, and management of the Missouri River corridor resources.

14. An opportunity to expand the region's economic development base through the promotion and enhancement of tourism, especially events and sites dealing with the upcoming Lewis and Clark Bicentennial and beyond.

15. An opportunity to explore amending North Dakota statutes as they relate to perpetual easements statewide, transfer of development rights, and restrictions on acquisition of land from willing sellers for public and quasi public uses.

16. An opportunity to encourage improved cooperation between river users and corridor landowners.

17. An opportunity to help plan and support the Missouri River Trails Initiative in the Garrison reach and other similar recreational initiatives.

18. An opportunity to protect, preserve, and enhance important recreational, scenic, cultural and historic sites, artifacts, and view sheds from obtrusive development: (i.e., wind farms, utility lines, residential urban sprawl, and industrial development).

19. An opportunity to promote paving the entire length of North Dakota State Highways 1804 and 1806.

20. An opportunity to protect the riparian woodland and encourage the reforestation of appropriate land tracts with native species.

21. An opportunity to support irrigation development that will allow for crop diversification.

22. An opportunity to protect existing feedlots from inappropriate development encroachment and protect existing and planned residential/commercial development from new feedlot encroachment.

23. An opportunity to ensure a smooth transition of undeveloped land to developed and from a rural setting to an urban/annexed setting.

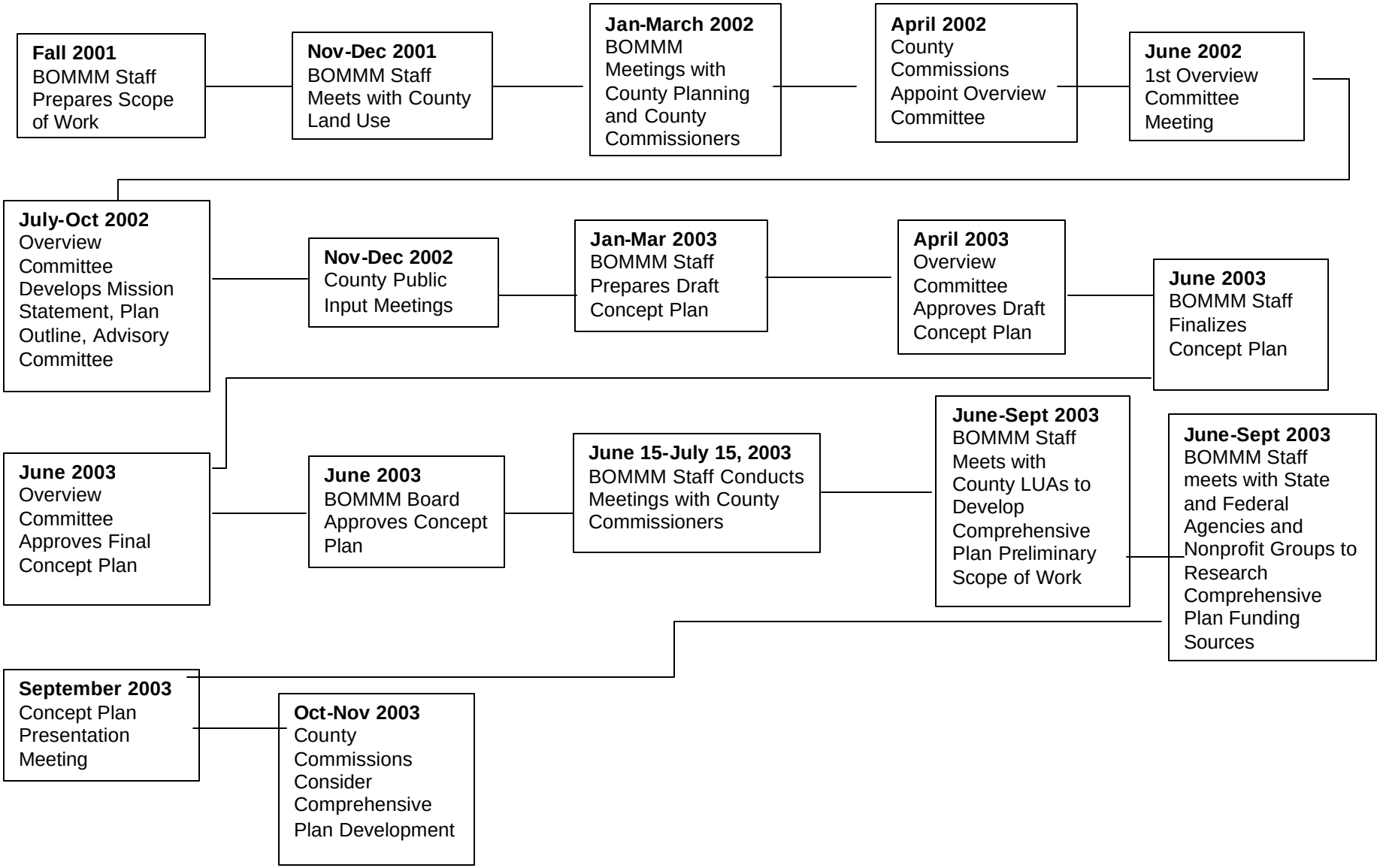
24. An opportunity to plan ahead for parks, greenways, utility and road corridors, and industrial areas.

25. An opportunity to work with the Missouri River Task Force (P.L. 106-541 included in Appendices XIX) and Missouri River Trust to establish a plan and fund Missouri River restoration project development.

6.2 Plan Adoption Schedule

As is indicated throughout this document, the Concept Plan is intended to give local decision makers an inventory of information concerning the Missouri River corridor. Figure VII depicts a logical chain of activities and decision points in the concept planning effort. This planning effort began in the fall of 2001, and the decision of whether to proceed with a Comprehensive Plan is projected for the fall of 2003. The Concept Plan Overview Committee met nine times throughout the concept planning effort. In addition, BOMMM staff has met with the Vision Group Advisory Committee on three occasions and had numerous meetings with the full Vision Group to gather input. The BOMMM staff has solicited input from other interested river stakeholders throughout the concept planning effort. Formal action by each county commission is necessary before proceeding with a Comprehensive Plan.

Figure VII.
Concept Plan Critical Path



6.3 Plan Cost

Throughout the concept planning process, the cost of completing a Comprehensive Plan has been a regular source of discussion. Table III outlines a summary of critical variables affecting the cost of developing a river corridor plan to assist the five BOMMM county commissions, the Overview Committee, and interested stakeholders. This information is intended to serve as a guide when preparing a study "Scope of Work" and when soliciting the necessary funds to complete the Missouri River Corridor Garrison Reach Comprehensive Plan. The development of a "Scope of Work" should address the magnitude of these study variables. Table III, Column (g), indicates three potential levels of study, from limited to detailed, that would impact the study cost. Table III also shows examples of a wide variety of study approaches, mitigating factors and associated costs.

There are two basic approaches to complete a Comprehensive Plan that will affect the cost. A planning consultant can be retained to develop the plan under the supervision of an Overview Committee, or said committee could complete the plan with existing county, state, and BOMMM planning staff assistance. A combination of both these approaches might be the most achievable and fiscally responsible. As mentioned, the study "Scope of Work" developed by the five BOMMM counties could address these and other basic questions on how to proceed into the comprehensive planning process. The counties should partner with federal, state, and private agencies to fund this planning effort. Completion of a Comprehensive Plan could take two to four years and cost between $250,000 and $500,000, depending upon the "Scope of Work."

6.4 Plan Impact

Since the Concept Plan is primarily an inventory document, there will be no significant negative impact on the corridor entities that maintain planning and zoning authority. The Concept Plan provides these entities the following information needed to determine if they should move forward and develop a Corridor Comprehensive Plan:

- **A clearly defined study corridor agreed upon by the five BOMMM counties.**
- **Itemizes statutory and administrative authority of key local, state, and federal jurisdictions in the corridor.**
- **Provides a framework for soliciting public input and gathering essential land use planning information.**
- **For the corridor entities with planning and zoning authority, the Corridor Plan outlines a list of "25 opportunities" and "8 benefits" to continuing the Missouri River corridor planning effort.**
- **An established/representative Overview Committee which could develop a "Scope of Work" for a corridor Comprehensive Plan and determine how the plan would be funded.**

The mechanism to complete, adopt, and enforce a corridor Comprehensive Plan includes the following optional scenarios: (See Section 3.4 for a further explanation of some of these scenarios.)

1. **Counties, cities, and townships establish a Regional Planning Authority to implement the Comprehensive Plan.**

2. **Counties, cities, and townships, through a joint powers agreement, establish an authority to implement the Comprehensive Plan or implement through existing local planning offices.**

3. **Corridor entities petition state legislature to pass special legislation creating a Regional Planning Authority.**

4. **Counties, cities, and townships, through a memorandum of understanding, establish a mechanism to adopt and enforce the corridor Comprehensive Plan.**

5. **Counties, cities, and townships individually adopt and enforce the corridor Comprehensive Plan.**

Table III
Critical Variables in Determining Comprehensive Plan Cost

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
River Corridor Name	**Date Organized**	**Rural/Urban Land**	**Corridor Length**	**# of Impacted Counties**	**Plan Preparer**	**Level of Study Detail**	**Prep time/ Completion Date**	**Approximate Cost**	**Other Mitigating Factors**
Mississippi Headwater Board	1980	100% Rural-excludes city limits	400 miles	8	In-house staff/local task force	Moderate	4 yrs / July 2002	$100,000.00 cash, $100,000.00 in-kind	State enabling legislation/ DNR agency
Connecticut River Joint Commission	early 1980s	N/A	275 miles	53 select board *	In-house staff/local task force	Limited/ Management Plan	5 yrs / 1997	In-kind services & 1/2 time staff for 5 years, $150,000	State enabling legislation/ 2 members from each select board
Niobrara/Missouri River Siltation Study	N/A	95% Rural - Yankton only major city	Last 10 miles of Niobrara/ 30 miles of Missouri River	2 counties in SD; 2 counties in NE	Lewis and Clark SD & NE Preservation Association	Limited/ Siltation Study	2 yrs / Spring 2003	$200,000 Corp-Water Resource Development Act	Niobrara River dumps 800 tons of silt per day; Niobrara designated wild and scenic river; Watertable elevated 8-12 feet
Lower St. Croix River Cooperative Management Plan	1973	50% Rural 50% Urban	52 miles intersecting Mississippi River	5 counties, 10 cities	Consultant working with MN and WI DNR and NPS	Moderate	4 yrs / Sept. 2000	$150,000, $80,000 in-kind	Plan prepared with heavy public participation (80 meetings); Designated task force groups of 25-100 people addressed specific issues; Lower St. Croix designated wild and scenic in 1972

1. Mississippi Headwater Board: Jane Van Hunik, Executive Director: Ph: 218-547-7263: *cass.mhb@co.cass.mn.us*
2. Connecticut River Joint Commission: Sharon Frances, Director: Ph: 603-826-4800: *http://www.crjc.org*
3. Niobrara Siltation Study: Rick and Mary Hurd, Committee Members: Ph:605-286-3373: *rmhurd@direcway.com*
4. Lower St. Croix River Cooperative Management Plan: Randy Thoreson, Coordinator, Now with NPS: Ph:651-290-3004: *randy_thoreson@nps.gov*

* A select board is a local government similar to a township.

The "List of Opportunities" serves primarily as goals statements. The benefits to the corridor counties of pursuing these goals and examples are listed as follows:

1. **Maintaining Local Control.**

   - Adoption of a unified plan by the five river-counties indicates to outsiders that Missouri River corridor stakeholders understand their obligation to plan for future generations.

   - It indicates to those who would take control of the corridor away from the stakeholders that they have accepted their responsibility to regulate the nature and scope of development along the river.

   - It shows that the stakeholders understand the significance of this resource and are capable of determining how it is managed.

   - It indicates that the stakeholders have carefully formulated policies that promote the long-range public interest.

2. **Reduced cost of development infrastructure and services.**

   - A development plan can guide growth and development by identifying areas for development and the associated public infrastructure improvements.

   - Sprawl is costly because expensive infrastructures such as roads, rural water, and electric have fewer users over a given area.

   - Public utility providers can better determine sizing of their supply lines to accommodate future growth in pre-designated areas.

3. **Support of bank stabilization projects.**

   - Demonstration project on State Prison land in south Bismarck has garnished support from the landowner and environmental community.

4. **Improved public access to the Missouri River.**

   - Dedication of public access sites as part of subdivision approval.

   - Missouri River Trails Initiative provides the public an opportunity for increased river access.

5. **Enhanced Missouri River education programs.**

   - The formulation and implementation of a Comprehensive Plan would provide an open forum for all river stakeholders to articulate issues/concerns and to offer policy recommendations.

   - The issues of the public right to access to the Missouri River as summarized in Appendix XVIII can be explored and, if agreed upon, legislation pursued to clarify and support these issues.

6. **Increased property values.**

   - Preventing adjacent, incompatible land use reduces the risk of your neighbor engaging in an activity that could reduce your property value.

7. **Protection, preservation, and enhancement of critical scenic, cultural, historic, and recreational view shed.**

   - Identification of the most unique and significant features within the study area could protect them from loss or degradation.

   - Significant features, such as those mentioned, attract tourist dollars, an important component of our local economy.

8. **Improved river corridor management.**

   - More leverage to negotiate with U.S. Army Corp of Engineers on amendments to Master Manual and Annual Operating Plan.

   - A Comprehensive Plan will show state and federal regulatory agencies that the local entities wish to be partners in river management issues.

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Appendix I

MISSOURI RIVER
COORDINATED RESOURCE MANAGEMENT PROGRAM

VISION GROUP
SUMMARY OF ISSUES
AND PLAN OUTLINE

OCTOBER 2000

ISSUE 1. AQUATIC HABITAT

GOAL

Maintain and enhance, where feasible, high-quality aquatic habitat and the food chain necessary to support all aquatic life.

RATIONALE

The Garrison Reach of the Missouri River and the upper reaches of Lake Oahe currently provide a world-class walleye fishery, and other outdoor recreation activities contributing $20 million annually to North Dakota's economy. The majority of this water-based industry resides with fishing. Also, the native fish populations of the Missouri River and its tributaries have been directly impacted by the construction and operation of the main-stem dams. Future management decisions must consider fish populations and their habitat needs.

TASKS	TIMELINE
1. Monitor and evaluate water quality and improve where possible.	Ongoing
2. Maintain and enhance backwater areas. • Develop policy • Improve flow	Ongoing
3. Maintain habitat diversity within the channel (i.e. deep channel, calm-water areas, submerged sandbars and islands). Trees that have fallen in the river provide an important aspect for the river's ecology. They provide substrate for macro invertebrates, spawning and escape cover for fish, and hydraulic complexity.	Ongoing
4. Monitor the effects (both beneficial and adverse) of bank erosion protection on the fisheries of the Garrison reach of the Missouri River.	Ongoing

ISSUE 2. LAND USE

GOAL

To develop a comprehensive plan so that the values and functions of the Missouri River are sustained through the generatio

RATIONALE

The values of the riparian corridor include both terrestrial and aquatic habitats. A vast majority of the riparian land is privately owned. People are instinctively drawn to water as a place to live, play and relax. People desire a certain amount and variety of park and recreational facilities, trails and open space areas along the river. Industrial and commercial development has also required water as a necessary resource. There are many competing uses for riparian land along the Missouri River, and balancing these competing uses is necessary as part of a comprehensive plan for the river.

TASKS & RECOMMENDATIONS	TIMELINE
1. Development of Public Use and Recreation Areas	
A. Publish a guide of available public use areas (boat ramps, picnic areas, camping areas, public parks, historic sites, etc..) The North Dakota Tourism Department recently issued the "Lewis and Clark Travel Guide" directing visitors to public use areas along the river.	Completed
B. Identify additional sites for public use, i.e., canoe launches, camping, comfort stations, etc. This task will be part of a comprehensive plan.	1-2 years
C. Establish and develop these new public use areas in time for the Lewis and Clark celebration.	Long-term
2. Development of Conservation and Natural Areas	
A. Develop a conservation easement program applicable for North Dakota to be utilized along the Garrison reach of the Missouri River. Seek appropriate legislative action for such program.	1-3 years
B. Identify areas to be protected as conservation or natural areas along the river. This task will be part of a comprehensive plan.	1-2 years
C. Implement conservation easement or related programs.	Long-term

3. Development of Urban Areas: **Urban area means the area along both sides of the river from Double-Ditch south.** Setback discussions are presented as a range.

	(Restrictions/Zoning)
• Residential development	
A. Structural setback	75 ft. to 200 ft.
B. Sewage setback	(state health regulations)

	(Restrictions/Zoning)
• Commercial development (Water dependents are exempt)	
A. Structural setback	75 ft. to 200 ft.
B. Sewage setback	(state health regulations)
• Industrial development	
A. Structural setback	75 ft. to 200 ft.
B. Sewage setback	(state health regulations)

4. Development of Rural Areas: **Rural areas have been defined to mean those areas along both sides of the river north of Double-Ditch. Rural areas are mostly undeveloped at this time. Vision Group discussions have focused on developing recommendations to accomplish the vision statement. The setback and buffer strip proposals represent a range of discussion. There seems to be a consensus there should be a setback, which may vary depending on whether a bank is protected or unprotected, but there is not a consensus on buffer strips, the width of setbacks or the widths of buffer strips. A comprehensive plan will further address these issues.**

	(Restrictions/Zoning)
• Residential developments	
A. Structure setback	150 – 300 ft.
B. Sewage set back	(state health regulations)
C. Bluff line set back	50 – 100 ft.
D. Buffer strips	0 - 50 ft. (50% mowed)
E. Trees	(There is a desire to keep healthy trees)
F. Lot Size	1 acre
G. Building height	35 ft.
H. Color	Restrictive covenants
I. Floodplain & flooding	Federal/local restrictions
• Development of Commercial areas	
A. Structures set back	500 ft.
B. Sewage setback	(state health regulations)
C. Bluff line setback	100 ft.
D. Buffer strips	0 - 50 ft.
E. Trees	(There is a desire to keep healthy trees)
F. Lot size	Zoning
G. Building height	50 ft.
H. Color	Restrictive covenants
I. Floodplain & flooding	Federal/local restrictions
• Development of Industrial areas	
A. Structures set back	1,320 ft.
B. Sewage setback	(state health regulations)
C. Bluff line setback	100 ft.
D. Buffer strips	50 ft.
E. Trees	(There is a desire to keep healthy trees)
F. Lot size	Zoning
G. Building height	50 ft.
H. Color	Restrictive covenants
I. Floodplain & flooding	Federal/local restrictions

5. Development of Agricultural areas
   A. Farming (structural)
   B. Crop land + Grazing
   C. Feedlots

Most of the riparian land along the river in the rural area is utilized for agriculture. Landowners would have the option of participating in voluntary development or conservation easement programs.

6. Marinas/Other off-bank development

CONCEPT DEFINITIONS:

These concept definitions of setback areas and buffer strips represent examples, but not a consensus, concerning either the definition or the application of these items.

Buffer Strip

(1) For the first 50 feet inland from the top of the high bank of the river, for the purpose of maintaining the river's natural scenery, wildlife values, and water quality, a buffer strip must exist consisting of 50% undisturbed natural vegetation. Permissible uses in the buffer strip are as follows:

(A) For the purpose of having access paths to the river, 50% of the buffer strip underbrush may be cut and trees selectively cut, on a limited basis, but not in a contiguous patch, strip, row, or block.

(B) Vehicles, machinery, buildings, structures, junk, garbage, refuse, stockpiles or like material may not be located in the buffer strip.

(C) For the purpose of controlling invasive exotics, spot spraying is permissible.

Setback Area

(1) For the 100 to 250 feet inland from the 50-foot buffer strip (depending on selected setback), permissible uses include the following:

(A) For the purpose of having a lawn, underbrush may be cut, cleared, and removed; the ground graded and tilled; sod laid or grass planted; and the grass mowed. Trees may be selectively cut.

(B) For the purpose of maintaining the river's natural scenery, wildlife values, and water quality; a property owner is encouraged to maintain undisturbed natural vegetation and trees in the setback area. Planting cottonwood trees is encouraged.

(C) A deck that is attached to a structure may extend up to 30 feet into the setback area, but no other structure or building may be located in the setback area.

ISSUE 3. RIVERBANK EROSION

GOAL

Address critical eroding Missouri River banks along the 87-mile reach from the Garrison Dam to the headwaters of the Oahe Reservoir, utilizing existing and new alternatives.

RATIONALE

Bank erosion threatens water intake sites, cultural resource sites, residential properties, recreation facilities, cropland and native cottonwood stands. The sediment load into the Oahe reservoir and the rate of aggravation occurring on the lower reaches of the river are serious concerns. Sediment is also one of the ingredients for maintaining the natural ecosystem needed for fish and wildlife habitat values. Bank protection through rock stabilization is the focus of extensive discussion.

TASKS & RECOMMENDATIONS — **TIMELINE**

1. Corps EIS
   A. Provide input and scoping comments to the Corps on the development of the Programmatic Environmental Impact Statement (PEIS). (Specific comments on scope of work)

   B. Identify effects of bank stabilization measures proposed, and any necessary mitigation measures through the Programmatic Environmental Impact Statement (PEIS). (i.e., economic, environmental, social, recreational)

2. Develop a definition or a method to identify critically eroding banks. **A consensus has not been reached in a definition of critical erosion. This may be unnecessary if consensus is reached on identifying the sites along the river that are critically eroding.**

3. Identify alternatives for addressing bank erosion.
   A. Identify structural and non-structural alternatives for addressing bank erosion. Non-structural alternatives may include easements, land exchanges and setbacks, land-use plans, and alternate development plans. Structural alternatives may include soil fill requirements to provide growth of appropriate plants and trees. — Start - October 1999, End - December 2000

   B. Develop construction standards for structural alternatives. Secure assistance from the Army Corps of Engineers and the State Water Commission to develop environmentally sensitive design and construction standards for structural alternatives to be used by agencies, engineering firms, and private individuals. — Start – April 2000, End - December 2000

4. Identify critically eroding sites and concur on those sites requiring implementation of specific alternatives, both structural and non-structural, for addressing erosion.
   A. Organize a team of specialists from the N.D. Game and Fish Department, N.D. State Department of Health, N.D. State Water Commission, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, representatives from the five counties; Burleigh, Oliver, Mercer, McLean, and Morton, and a landowner from each. — Start – April 2000, End – December 2000

B. Seek Vision Group concurrence on sites. December 2000

C. Enter sites into a Geographical Information System (GIS). December 2000

D. Coordinate with the Corps the results of Programmatic Environmental Impact Statement (PEIS) to develop proposed structural and non-structural alternatives for critically eroding sites. December 2000

5. Develop structural and non-structural pilot projects to address selected bank erosion sites. December 2000

6. Identify funding sources for implementation of structural and non-structural pilot projects. 2001
   A. Compile a list of potential funding sources for implementation of both structural and non-structural alternatives.

7. Develop recommendations for administrative processes and approval of required permits for addressing bank erosion.
   A. Develop overall Garrison Reach conceptual designs and administrative processes for review by permitting agencies.

   B. Provide information to the Army Corps of Engineer's permitting office and other reviewing agencies.

   C. Secure assistance from the Corps and State Water Commission to develop environmentally sensitive operation and maintenance standards for bank stabilization measures.

8. Secure necessary permits for structural alternatives and administrative/institutional process for non-structural alternatives.
   A. The Vision Group will support applications for bank stabilization permits and non-structural alternatives for the sites identified above which meet the goals and standards outlined in this document.

9. Conduct an inventory of existing bank stabilization measures from Garrison Dam to the headwaters of Lake Oahe.

10. Develop criteria to classify the rate of erosion for each segment of the Garrison reach.

11. Develop long-term strategies for the continued maintenance and protection of the Missouri River.
    A. The Vision Group will articulate a desired process to address future challenges.

ISSUE 4. ENDANGERED SPECIES/SANDBAR HABITAT

GOAL

Maintain and enhance threatened and endangered species habitat along the Missouri River corridor.

RATIONALE

Rare species act as an environmental barometer indicating detrimental affects of human activity. All species are dependent o other species in what is known as an ecological web. With the loss of each species the web is weakened. Rare species provi a unique outdoor recreation experience. With each extinction, future generations cannot experience the values provided by that species. The Endangered Species Act requires that endangered species and their habitat needs be considered as part of most construction projects.

TASKS & RECOMMENDATIONS	TIMELINE
1. Public outreach and education efforts: these are provided by the U.S. Fish and Wildlife Service.	Ongoing
2. Maintain isolated reaches of the river and minimize disturbance during critical nesting seasons.	
3. Maintain and enhance the nesting habitat of the least tern and piping plover:	
A. Identify current baseline data for nesting habitat.	
B. Periodically regulating flows during the spring.	
C. Identify sandbar habitat needs and create additional sandbar habitat to meet needs.	
D. Enhance existing habitat by manipulating vegetation, dredging new islands, maintaining and enhancing shallow, backwater feeding sites, and managing predator control.	

ISSUE 5. FLOOD PLAIN MANAGEMENT/DELTA FORMATION

GOAL #1

To promote wise use and development along the Garrison reach of the Missouri River.

RATIONALE

Due to the dynamic nature of the Missouri River, it is imperative to accurately delineate the flood plain and inventory existing bank stabilization structures, housing developments and areas of critical erosion. This will facilitate wise use of the land within the Garrison Reach.

TASKS & RECOMMENDATIONS	TIMELINE
1. Delineate the 100-year and 500-year flood plains, including the flood way and flood fringe from Garrison Dam to the mouth of Apple Creek.	(2000-2005)
A. Publish a map delineating high bank, flood plain and flood way sections of the Missouri River, i.e., layered maps, GIS systems, info mapping, etc.	(On-going, FEMA study)
2. Determine the annual volume of accretion occurring in the Oahe Delta at Bismarck and the vertical flood level impact of this accretion.	(On-going)
3. Develop educational programs about the dynamic influence of the delta, and information about FEMA, flood insurance, flood management, related issues.	(December 2000)
4. Encourage the various government subdivisions (municipalities, counties, etc.) to adopt the revised state flood plain management standards requiring a one-foot-over-base flood elevation for all new development.	(December 2000)

GOAL #2

To mitigate and reduce impacts relative to the continued increase in delta areas near Bismarck.

RATIONALE

The construction of Garrison and Oahe dams has resulted in a significant sediment load being deposited in the headwaters of Lake Oahe. Deltas increase groundwater levels, reduce river capacity and cause other impacts. Since delta formation cannot be stopped, the size of the deltas will increase over time.

The quantitative long-term impacts and future forecasts for the formation of the deltas are largely unknown. Presently, only qualitative prediction can be made. (i.e. the size of the deltas is expected to increase with time.) As a result, there is a need to develop a long-term monitoring program that will allow more definitive predictions for delta size and impacts. Certain measures, however, may delay the amount of sediment deposited in these areas. As a result, ways to mitigate and reduce these impacts should be evaluated.

TASKS & RECOMMENDATIONS	TIMELINE
1. Regular reassessment of the increasing delta on flood levels, habitat, ground water, etc.	Immediate and ongoing
A. Identify benchmarks outlining the current delta area.	
B. Identify original source of the upstream sediment.	
2. Promote best management practices in key watersheds to reduce excess sediments.	
• conservation, land cover/minimum tillage	
• grass waterways	

ISSUE 6. RIPARIAN WOODLANDS/ADJACENT WOODLANDS

GOAL

Maintain and enhance a diverse riparian woodland community, including the wetland areas in the Missouri River corridor.

RATIONALE

Riparian woodlands and adjacent wetlands add diversity to the landscape and provide important habitat for resident wildlife, including white-tailed deer, wild turkeys, fur bearers, migratory birds including songbirds, waterfowl and raptors, and the bald eagle and other threatened species. Riparian areas make up about one percent of the North Dakota landscape.

TASKS & RECOMMENDATIONS

1. Conserve existing riparian woodlands and adjacent wetlands through habitat conservation incentives or initiatives.

2. Maintain and enhance the existing riparian woodland community for the bald eagle (especially cottonwood stands).
   A. Encourage planting/re-planting of trees – especially cottonwoods.
   B. Beaver control may be necessary for cottonwood growth.

ISSUE 7. HISTORICAL/ARCHEOLOGICAL FEATURES

GOAL

To preserve and protect historical/archaeological features of the Missouri River flood plain and adjacent bluffs.

RATIONALE

The Missouri River has long served as an important travel artery linking diverse people and places. Archaeological surveys have discovered several thousand sites along the river. These sites are rich with North Dakota's heritage and have vast historical resource value to the state and nation.

TASKS & RECOMMENDATIONS — **TIMELINE**

1. Identify sites and develop a protected GIS cultural resource site location layer. (Coordinate with State Historical Preservation Officer (SHPO) to develop this GIS layer.) — As Soon as Funding is available

2. Coordinate with the SHPO and BOMMM county commissions to adopt language that will preserve and protect the sites and at the same time allow orderly development of the land adjacent to the river.
   A. Develop recommendations for setbacks, sight-lines, and recreational districts — Year 2000

3. Create awareness of the value and importance of these sites.

ISSUE 8. WATER QUALITY

GOAL

Maintain and, where feasible, enhance water quality to support existing beneficial uses (i.e. municipal water, irrigation and aquatic life).

RATIONALE

Communities, industry, irrigators, rural farm families, and others depend on the Missouri River for a reliable source of high quality water. Existing aquatic life also depends on water quality and habitat. Maintaining the water quality is necessary to support and maintain a healthy eco-system.

TASKS & RECOMMENDATIONS

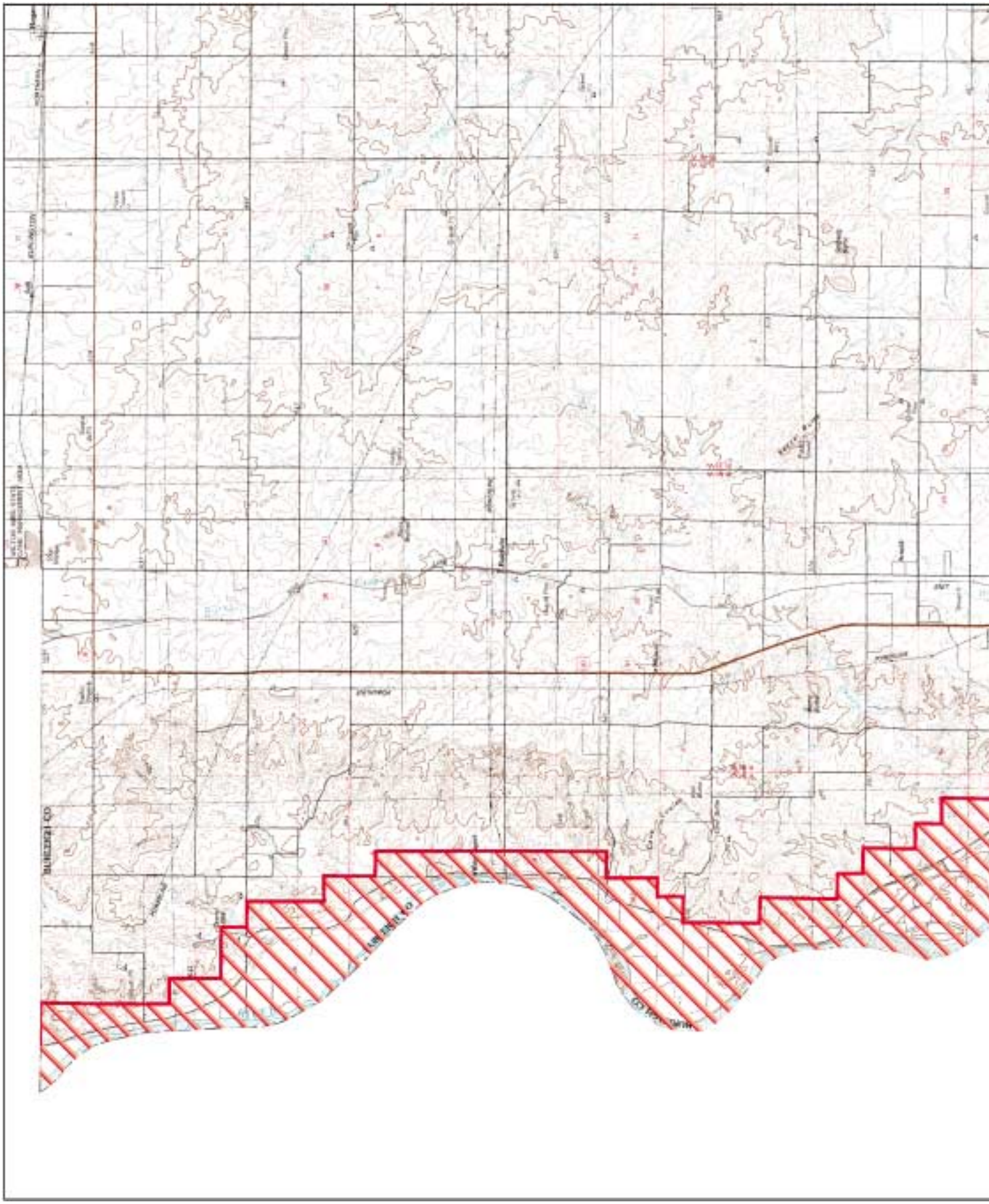
1. Develop strategies addressing water quality issues.
   A. Establish baseline data for future referencing.

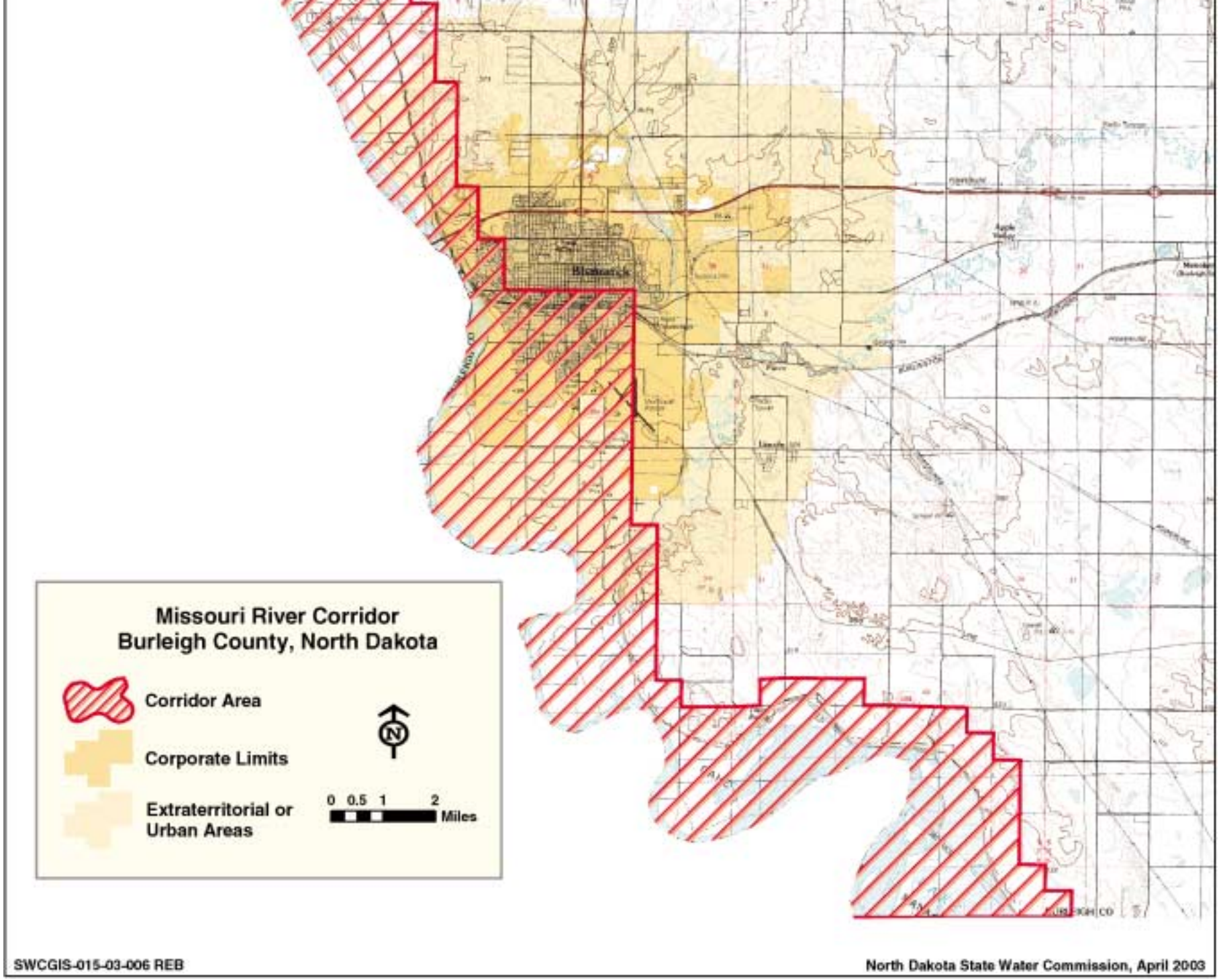
2. Evaluate nutrient budgets necessary to maintain aquatic life (nutrient load).

3. Develop a long-term water quality-monitoring program.

4. Identify and evaluate point and non-point sources of pollution.
   A. Establish ordinances requiring septic drain fields be constructed in such a way as to extend away from the river and its tributaries.

5. Implement best management practices for crop lands bordering the Garrison Reach and its tributaries.
   A. Identify minimum/maximum standards.
   B. Establish if/then operational procedures.

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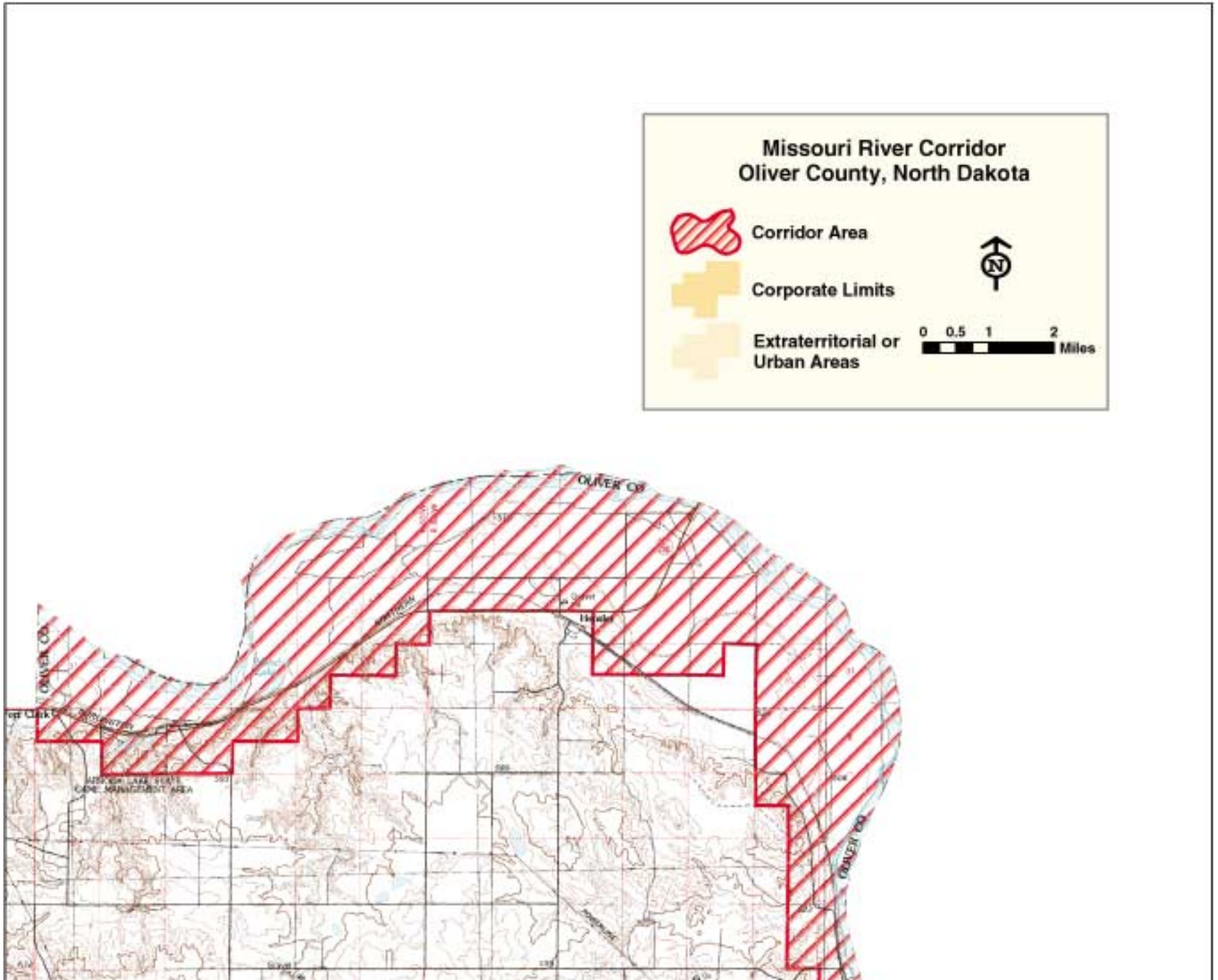
SWCGIS-015-03-006 REB
North Dakota State Water Commission, April 2003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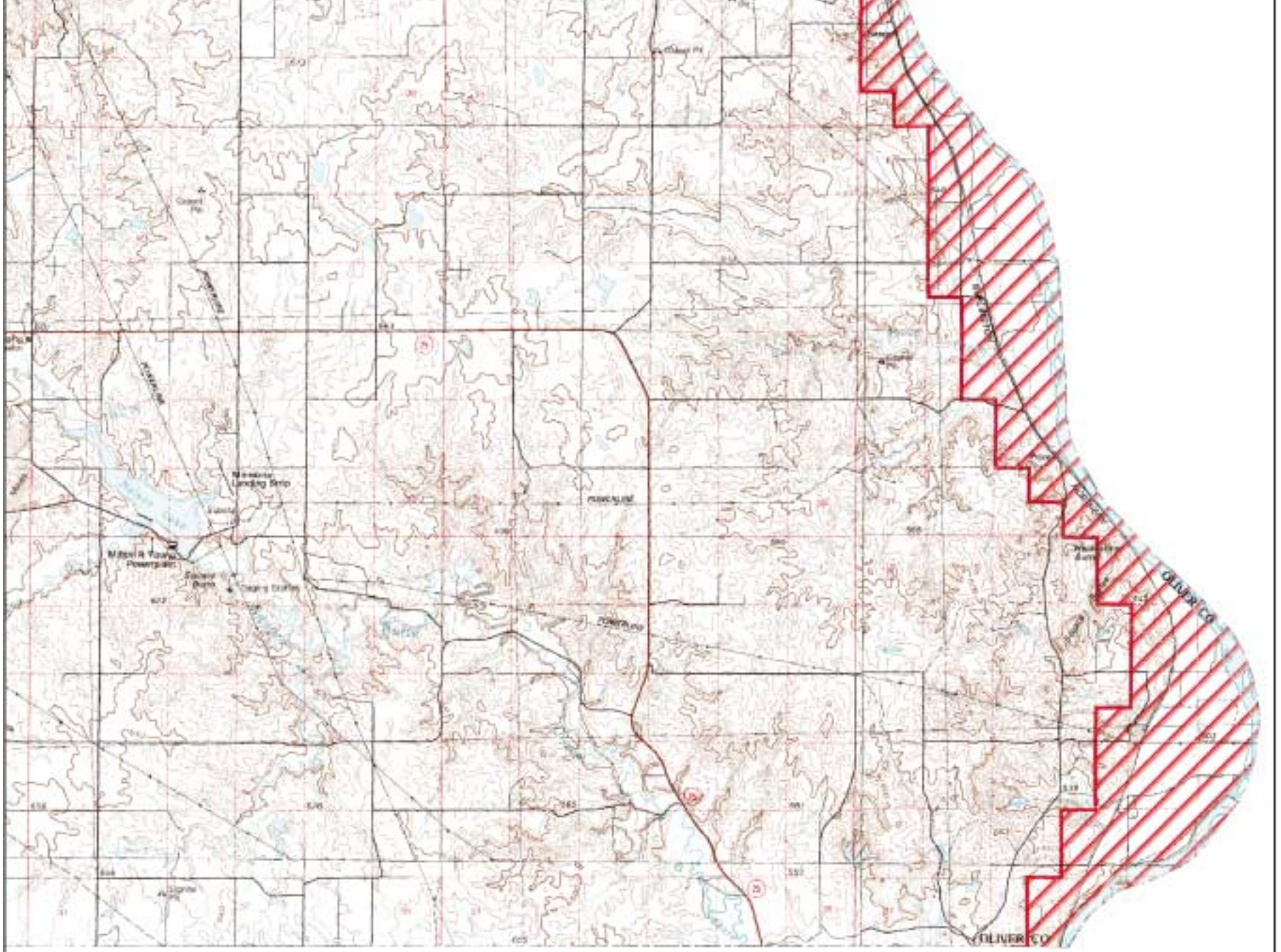
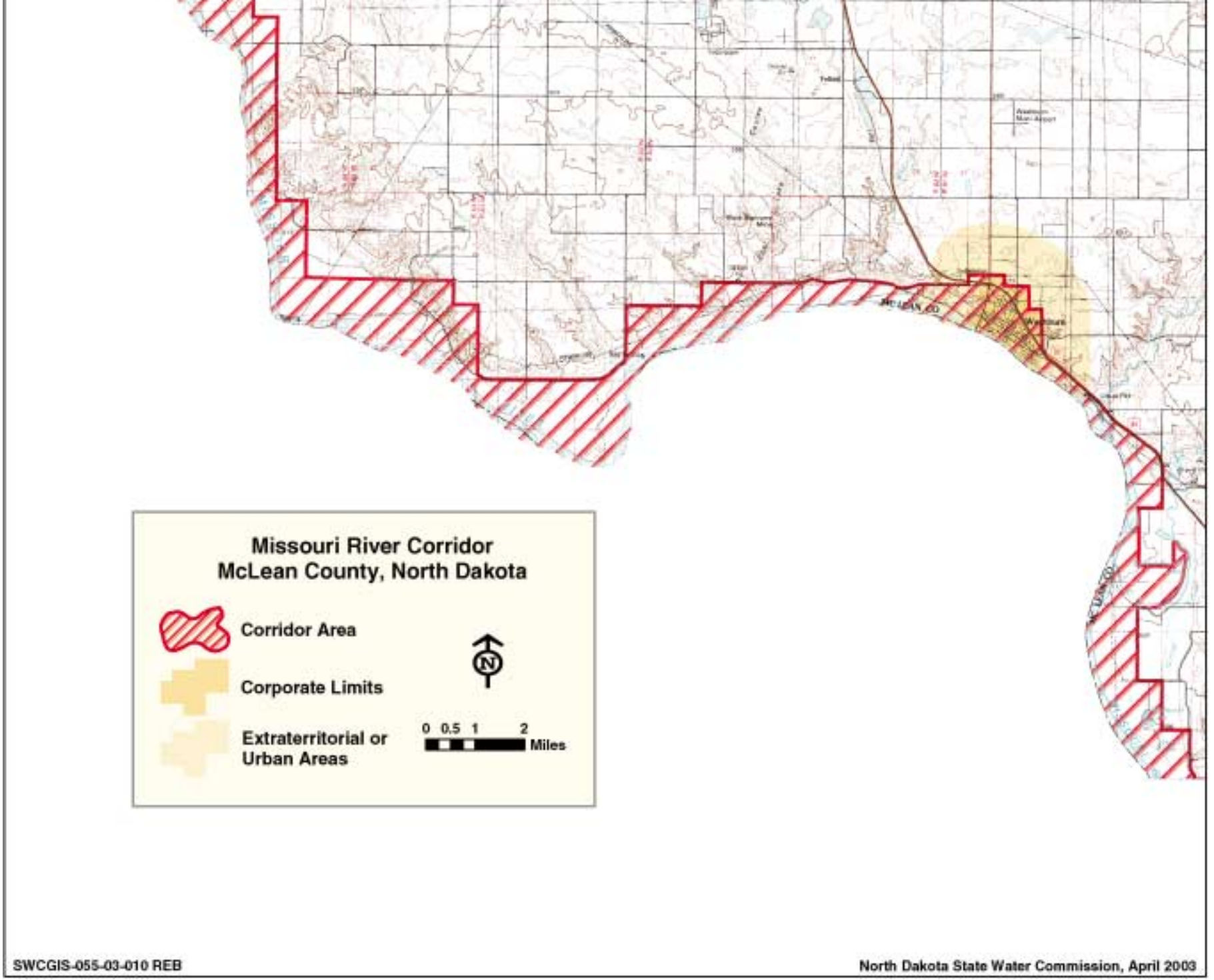


SWCGIS-065-03-011 REB

North Dakota State Water Commission, April 2003



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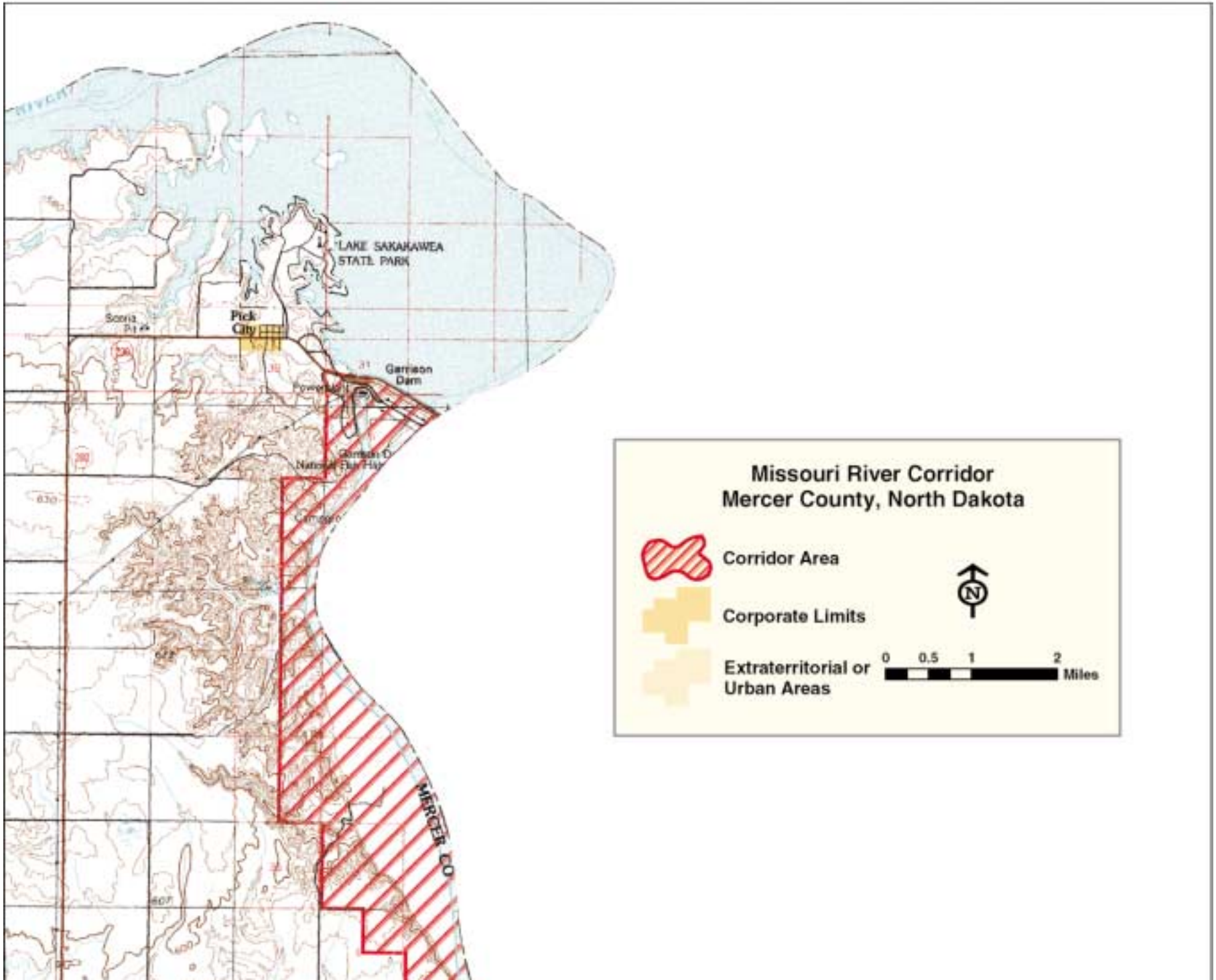
LAKE SAKAKAWEA
STATE PARK
Pick City
Garrison Dam
MERCER CO
Missouri River Corridor
Mercer County, North Dakota
Corridor Area
Corporate Limits
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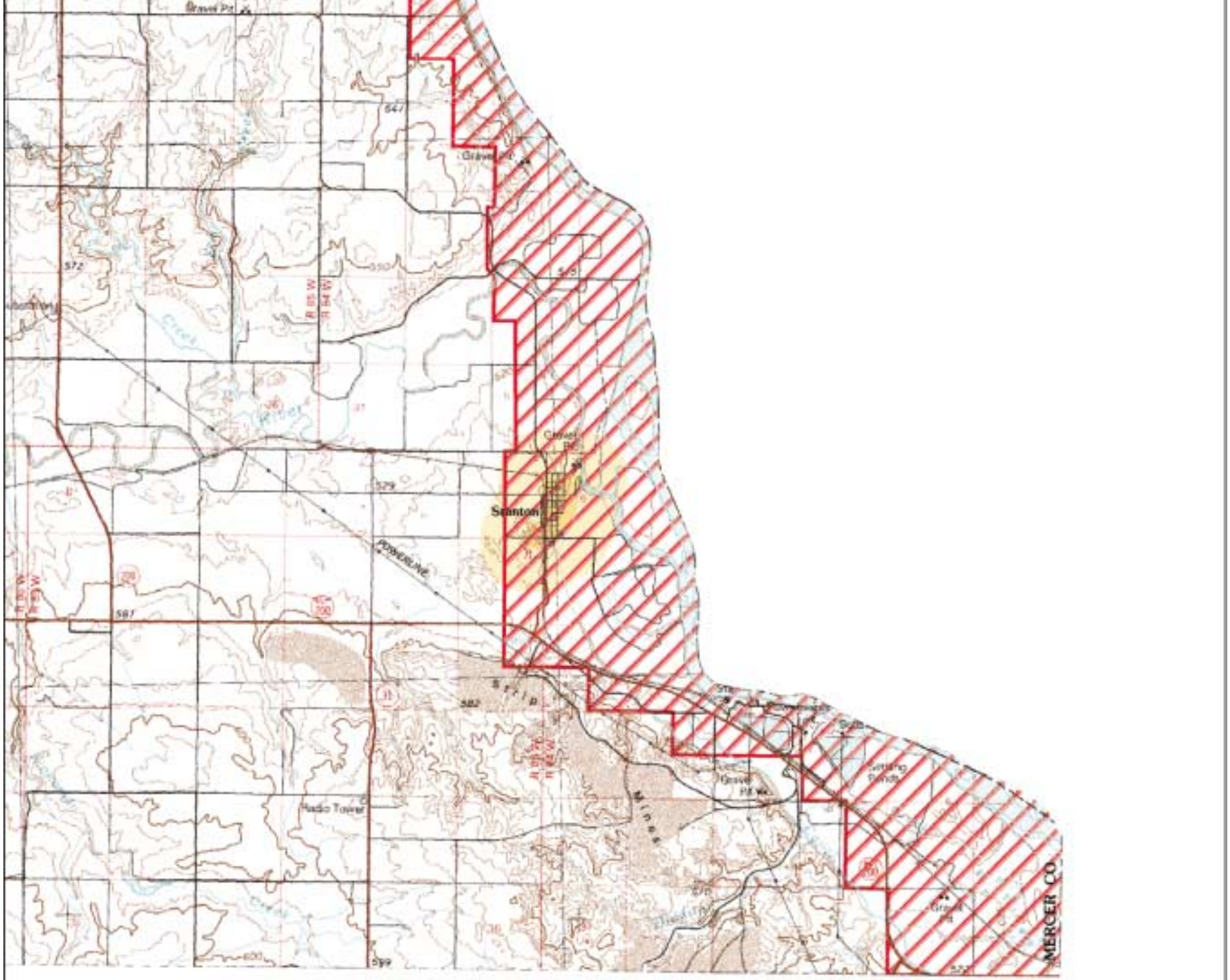

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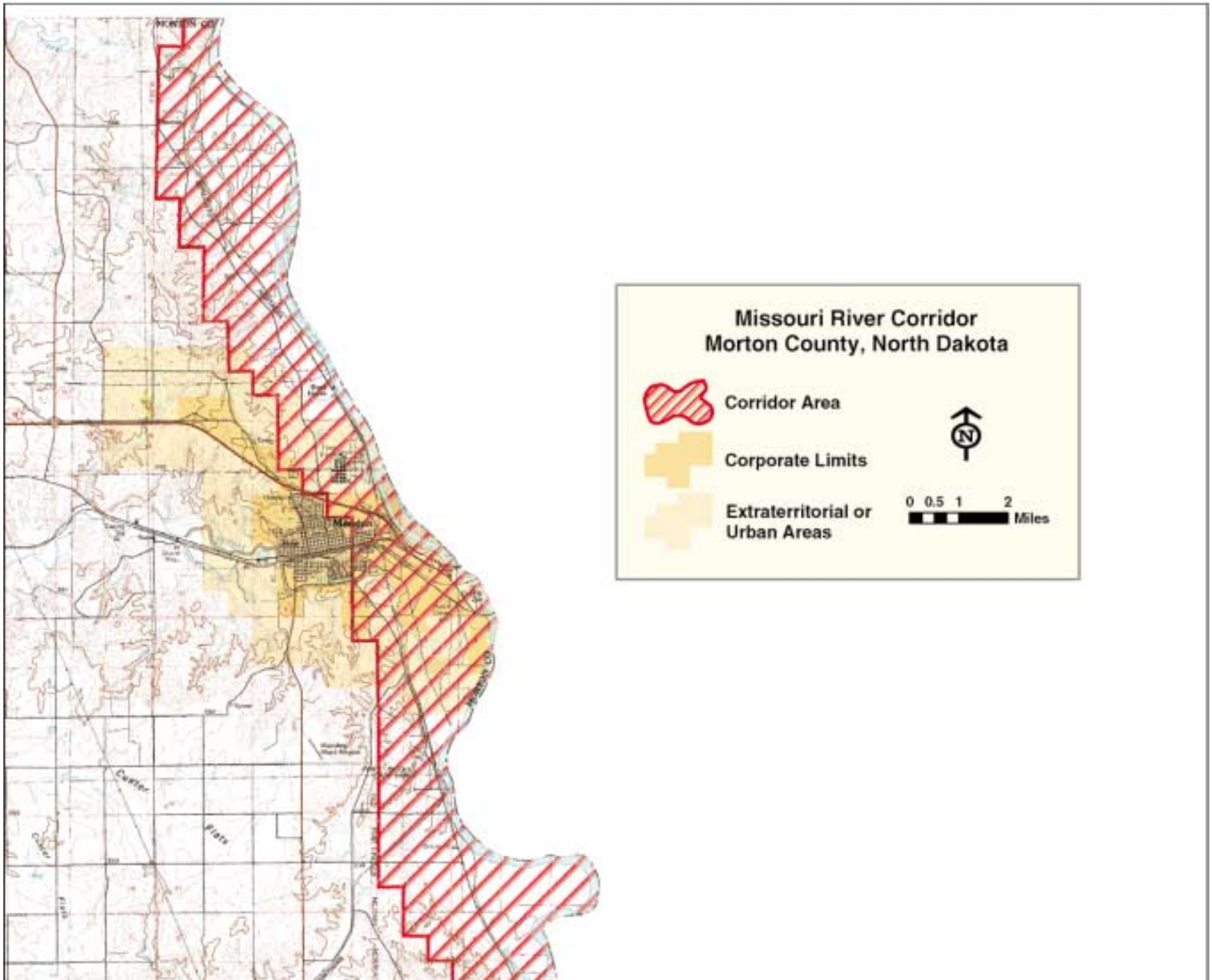
Missouri River Corridor
Morton County, North Dakota
Corridor Area
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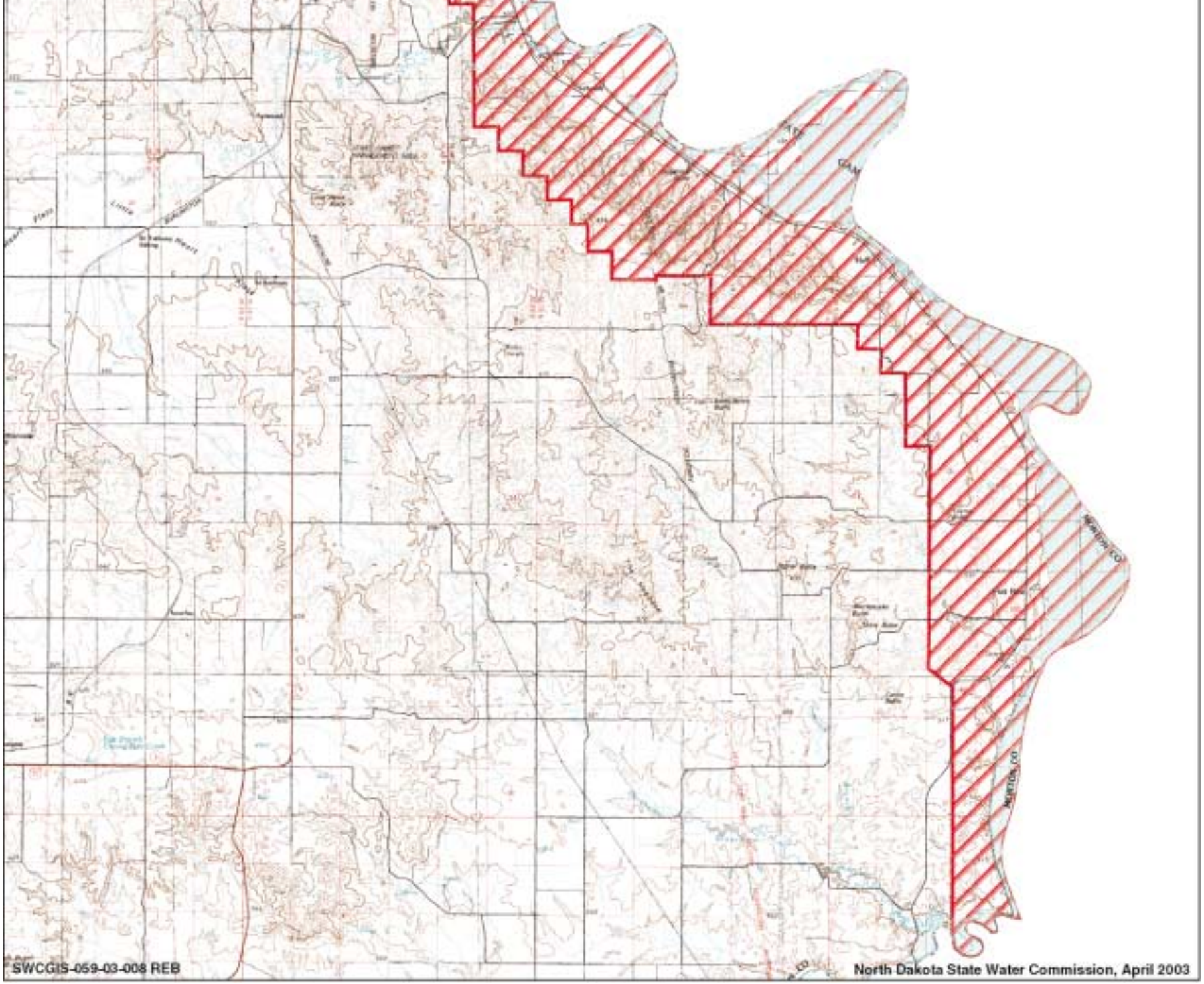
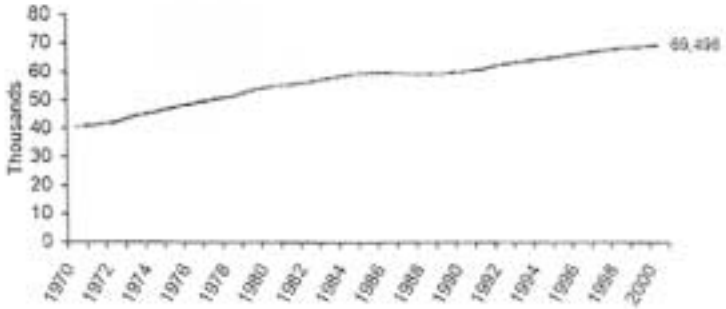

SAM
SWCGIS-059-03-008 REB
North Dakota State Water Commission, April 2003

Appendix VII.
Summary Economic and Demographic Finding - Burleigh County

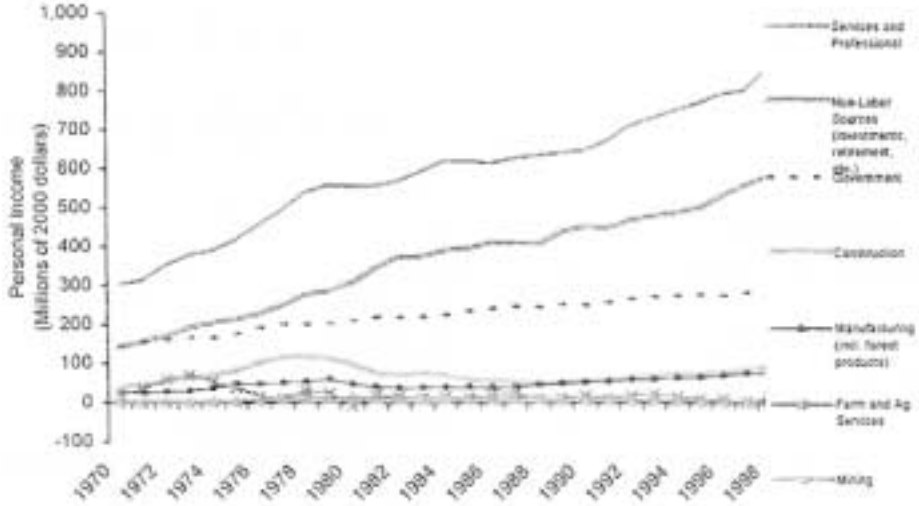
Population

- From 1970 to 2000 Burleigh County, ND grew by 28,731 people, a 70% increase in population.



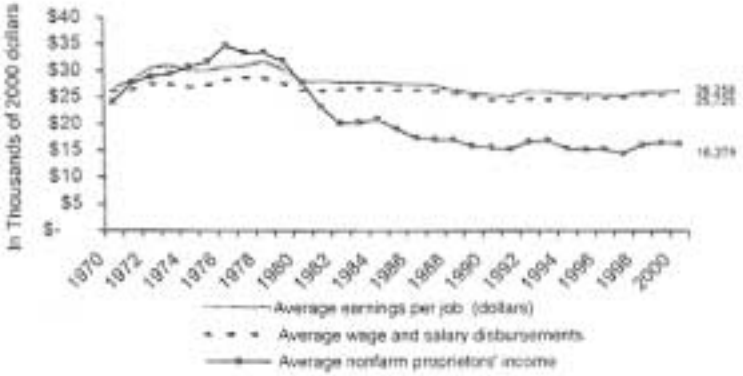
Income Growth or Decline by Major Category

- From 1970 to 2000 the fastest growing component of personal income, in real terms, was from Services and Professional.
- The second fastest component was Non-Labor Sources.



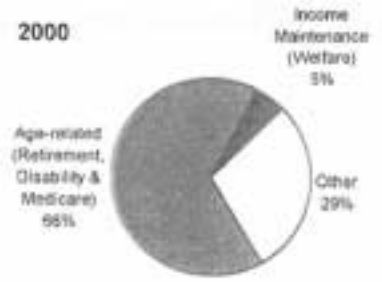
Average Earnings

- Average earnings per job, in real terms, have not changed much since



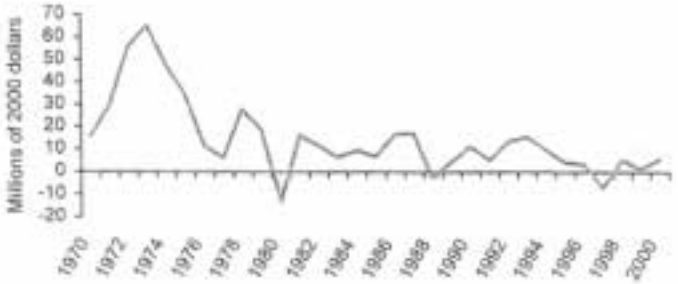
Components of Transfer Payments

- In 2000, 66% of Transfer Payments were from age-related sources (retirement, disability, insurance payments, and Medicare). 5% was from welfare.



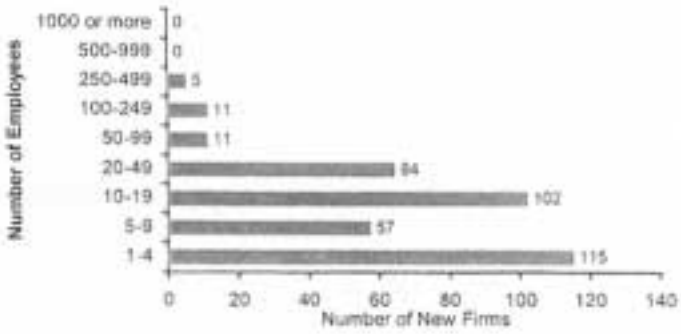
Net Farm Income

- Net income from farming and ranching dropped from $16 million in 1970 to $6 million in 2000.



New Firms by Employment Size

- From 1990 to 2000 the majority of new businesses established in Burleigh County, ND were small, with fewer than 20 employees.



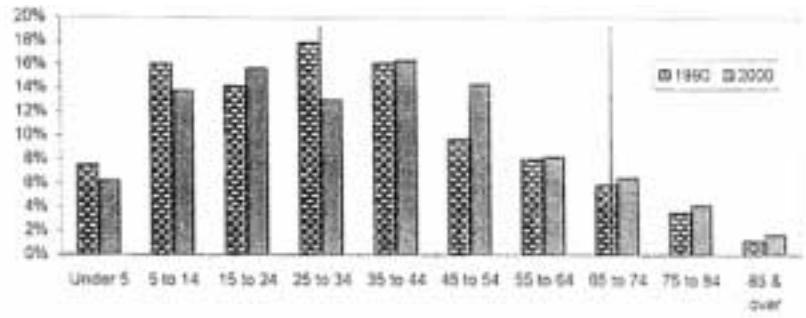
Annual Average Unemployment Rate Comparing County to State

- In 2001, the unemployment rate in Burleigh County, ND was 2.2% compared to 2.8% for the state and 4.8% for the nation.

Age Breakout in 2000

- The median age in Burleigh County, ND is 35.9 years old, compared to 36.2 in the state and 35.3 in the nation.

- In 2000, the baby boom was aged 40 - 55.



Trends

- Retirement age category has been growing.

Population by Category, 1990 & 2000

	1990	% of Total	2000	% of Total	% Chg 1990 2000	% Chg per Year 1990 - 2000
Population	60,131		69,416		15%	1.5%
Male	29,172	49%	33,918	49%	16%	1.6%
Female	30,959	51%	35,498	51%	15%	1.5%
Under 20 years	18,627	31%	19,646	28%	5%	0.5%
65 years and over	6,411	11%	8,640	12%	35%	3.5%
Median Age			35.9			

Race Breakout

- Race is broken out two ways. The Hispanic breakout is separate because Hispanics can be of any race.

Population by Race in 2000

	County	% of Total	State	% of Total
White	65,966	95.0%	593,181	92.4%
Black or African American	182	0.3%	3,916	0.6%
American Indian & Alaska Native	2,276	3.3%	31,329	4.9%
Asian	275	0.4%	3,606	0.6%
Native Hawaiian & Other Pacific Islander	19	0.0%	230	0.0%
Some other race	109	0.2%	2,540	0.4%
Two or more races	589	0.8%	7,398	1.2%
Hispanic or Latino (of any race)	468	0.7%	7,786	1.2%
Not Hispanic or Latino	68,948	99.3%	634,414	98.8%

Household Type

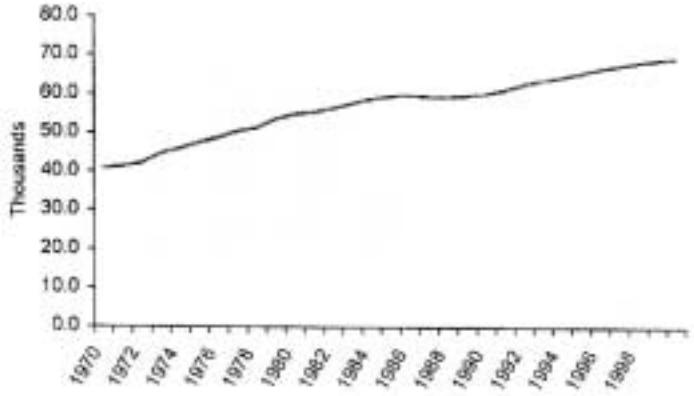
- Burleigh County, ND has a higher owner occupancy rate than the state.

Population by Household Type in 2000

	County	% of Total	State	% of Total
Total Housing Units	29,003		289,677	
Occupied Housing Units	27,670	95.4%	257,152	88.8%
Vacant Housing Units	1,333	4.6%	32,525	11.2%
For Seasonal, Recreational, or Occ. Use	159	0.5%	8,340	2.9%
Homeowner Vacancy Rate (%)	1.1%		2.7%	
Rental Vacancy Rate (%)	5.7%		8.2%	
Housing Tenure	**County**	**% of Occ.**	**State**	**% of Occ.**
Occupied Housing Units	27,670		257,152	
Owner-occupied Housing Units	18,828	68.0%	171,299	66.6%
Renter-occupied Housing Units	8,842	32.0%	85,853	33.4%
Avg Household Size - Owner Occupied	2.7		2.6	
Avg Household Size - Renter Occupied	1.9		2.0	

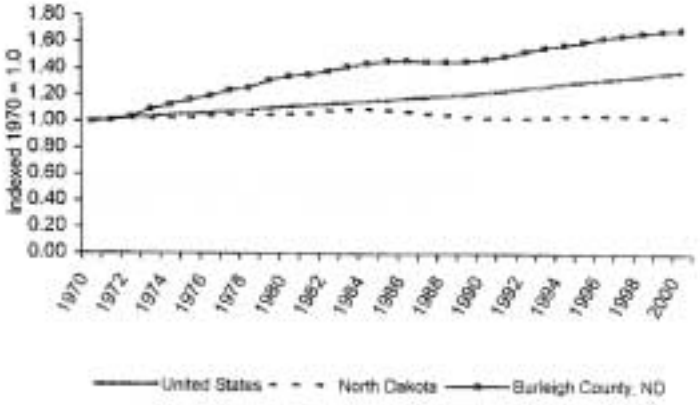
Population

- From 1970 to 2000, Burleigh County, ND grew by 26,731 people, a 70% increase in population.



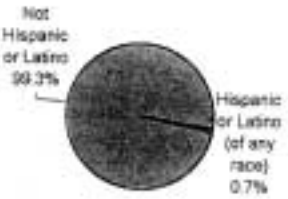
Compared to State and the Nation

- Since 1970, the population of Burleigh County, ND has grown faster than the state and faster than the nation.



2000 Race Breakout

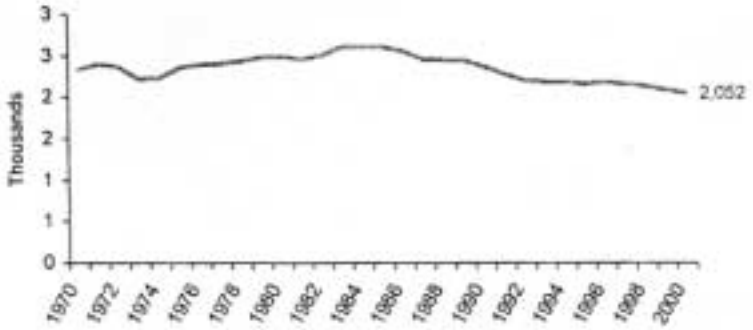
2000 Hispanic Breakout



Appendix VIII.
Summary Ecomonic and Demographic Findings - Oliver County

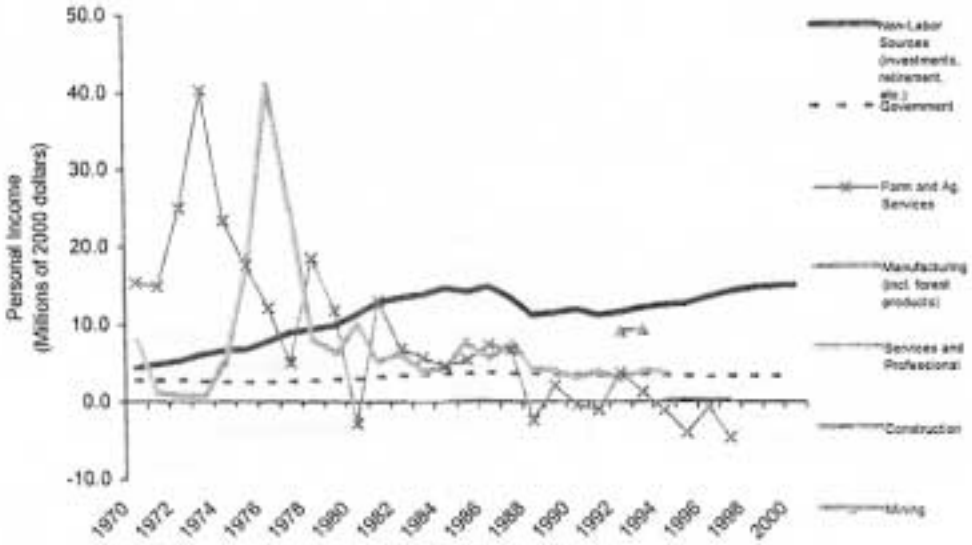
Population

- From 1970 to 2000 Oliver County, ND fell by 282 people, a 12% decline in population.



Income Growth or Decline by Major Category

- #N/A
- #N/A

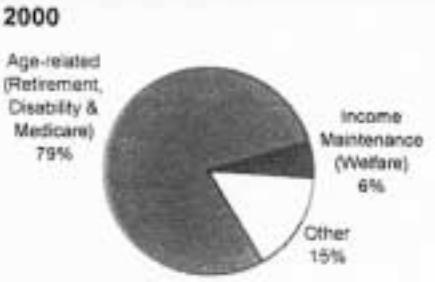


Average Earnings

- Average earnings per job, in real terms, dropped from $30,002 in 1970 to $26,821 in 2000.

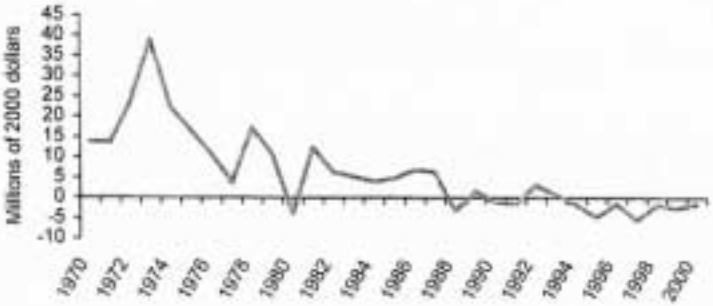
Components of Transfer Payments

- In 2000, 79% of Transfer Payments were from age-related sources (retirement, disability, insurance payments, and Medicare). 6 % was from welfare.



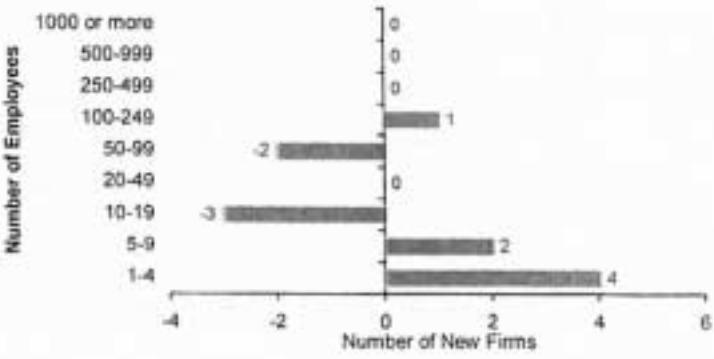
Net Farm Income

- Net income from farming and ranching dropped $14 million in 1970 to -$2 million in 2000.



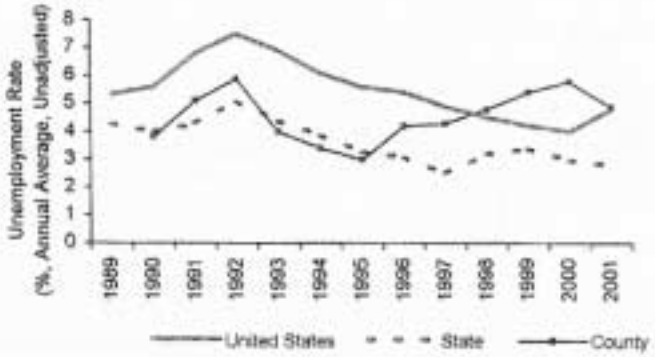
New Firms by Employment Size

- From 1990 to 2000 the majority of new businesses established in Oliver County, ND were small, with fewer than 20 employees.



Annual Average Unemployment Rate Comparing County to State

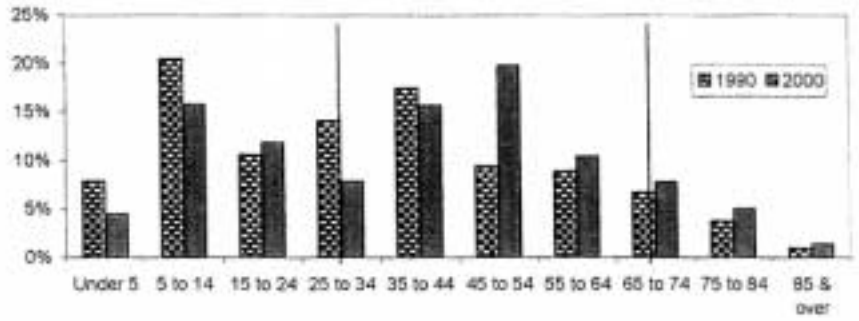
- In 2001, the unemployment rate in Oliver County was 4.9%, compared to 2.8% for the state and 4.8% for the nation.



Age Breakout in 2000

The median age in Oliver County, ND is 42.0 years old, compared to 36.2 in the state and 35.3 in the nation.

In 2000, the baby boom was aged 40 - 55.



Trends

Retirement age category has been growing.

Population by Category, 1990 & 2000

	1990	% of Total	2000	% of Total	% Chg 1990 2000	% Chg per Year 1990 - 2000
Population	2,381		2,065		-13%	-1.3%
Male	1,237	52%	1,070	52%	-14%	-1.4%
Female	1,144	48%	995	48%	-13%	-1.3%
Under 20 years	848	36%	615	30%	-27%	-2.7%
65 years and over	271	11%	293	14%	8%	0.8%
Median Age			42.0			

Race Breakout

Race is broken out two ways. The Hispanic breakout is separate because Hispanics can be of any race.

Population by Race in 2000

	County	% of Total	State	% of Total
White	2,015	97.6%	593,181	92.4%
Black or African American	3	1.0%	3,916	0.6%
American Indian & Alaska Native	26	1.3%	31,329	4.9%
Asian	2	0.1%	3,606	0.6%
Native Hawaiian & Other Pacific Islander	0	0.0%	230	0.0%
Some other race	0	0.0%	2,540	0.4%
Two or more races	19	0.9%	7,398	1.2%
Hispanic or Latino (of any race)	13	0.6%	7,786	1.2%
Not Hispanic or Latino	2,052	99.4%	634,414	98.8%

Household Type

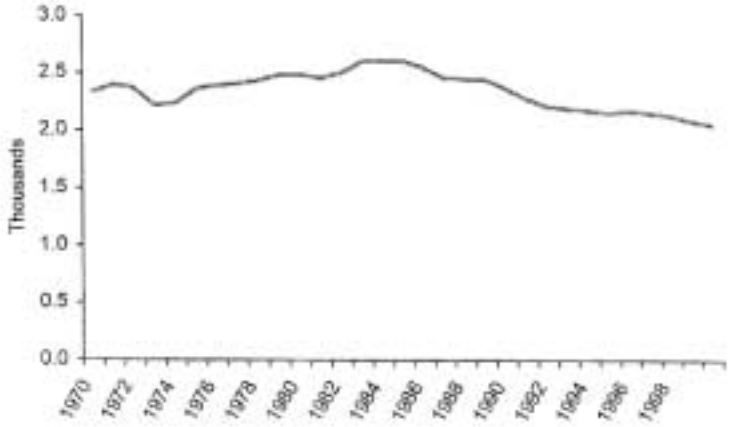
Oliver County, ND has a higher owner occupancy rate than the state.

Population by Household Type in 2000

	County	% of Total	State	% of Total
Total Housing Units	903		289,677	
Occupied Housing Units	791	87.6%	257,152	88.8%
Vacant Housing Units	112	12.4%	32,525	11.2%
For Seasonal, Recreational, or Occ. Use	11	1.2%	8,340	2.9%
Homeowner Vacancy Rate (%)	2.4%		2.7%	
Rental Vacancy Rate (%)	8.1%		8.2%	
Housing Tenure	**County**	**% of Occ.**	**State**	**% of Occ.**
Occupied Housing Units	791		257,152	
Owner-occupied Housing Units	678	85.7%	171,299	66.6%
Renter-occupied Housing Units	113	14.3%	85,853	33.4%
Avg Household Size - Owner Occupied	2.7		2.6	
Avg Household Size - Renter Occupied	2.1		2.0	

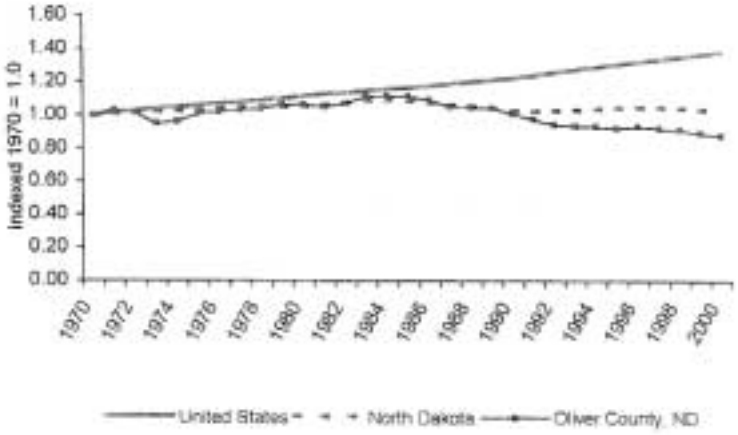
Population

- From 1970 to 2000, Oliver County, ND fell by 282 people, a 12% decline in population.



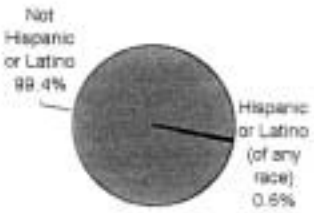
Compared to State and the Nation

- Since 1970, the population in Oliver County, ND has grown slower than the state and slower than the nation.



2000 Race Breakout

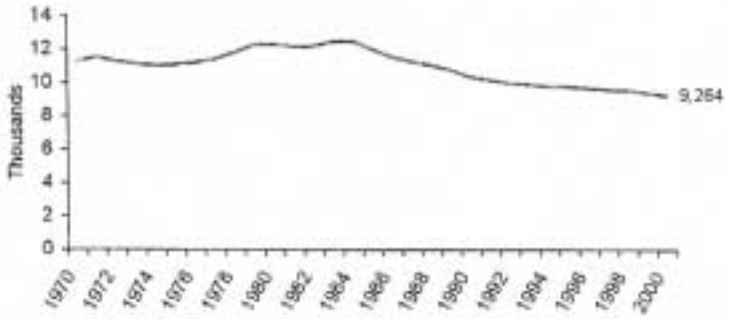
2000 Hispanic Breakout



Appendix IX.
Summary Economic and Demographic Findings - McLean County

Population

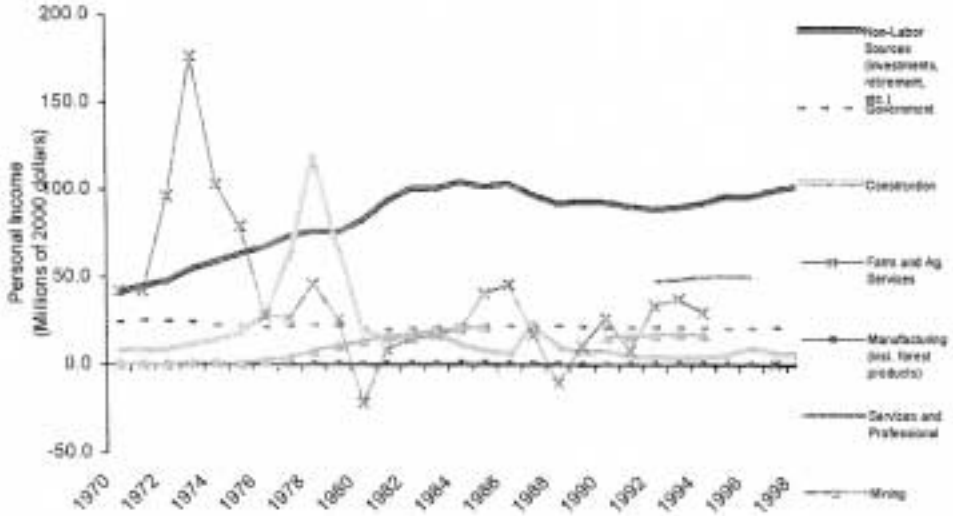
- From 1970 to 2000 McLean County, ND fell by 2,058 people, a 18% decline in population.



Income Growth or Decline by Major Category

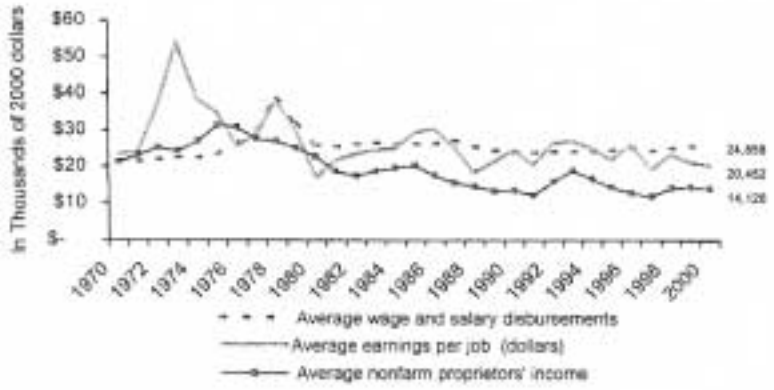
- #N/A

- #N/A



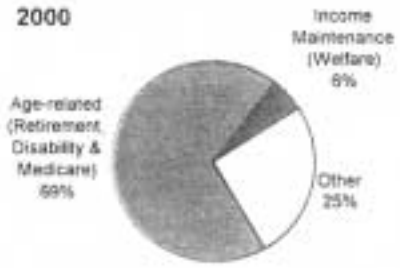
Average Earnings

- Average earnings per job, in real terms, dropped from $23,509 in 1970 to $20,452 in 2000



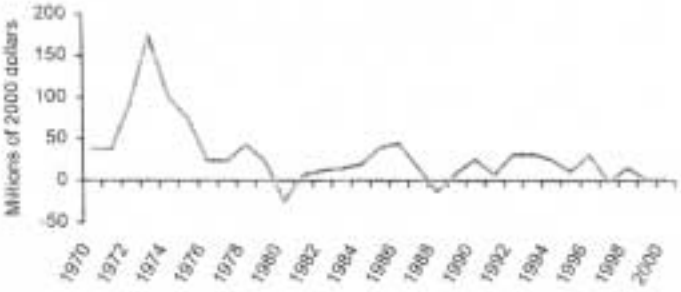
Components of Transfer Payments

- In 2000, 69% of Transfer Payments were from age-related sources (retirement, disability, insurance payments, and Medicare). 6% was from welfare.



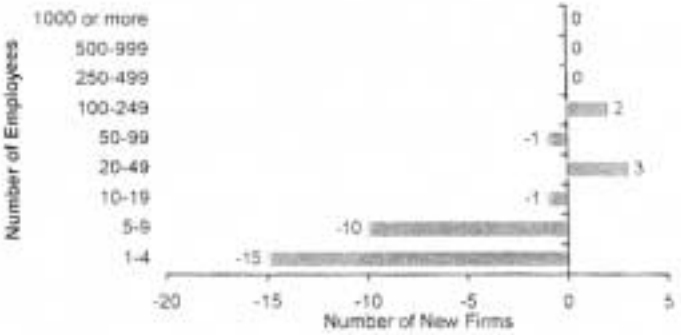
Net Farm Income

- Net income from farming and ranching dropped from $39 milion in 1970 to $1 million in 2000.



New Firms by Employment Size

- From 1990 to 2000 the majority of new businesses established in McLean County, ND were large, with 20 or more employees.

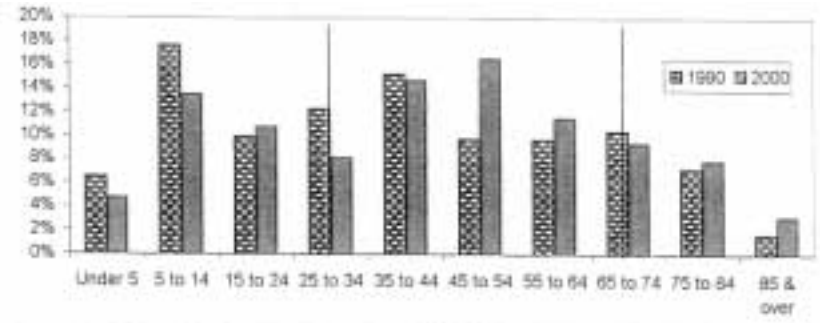


Annual Average Unemployment Rate Comparing County to State

- In 2001, the unemployment rate in McLean County, ND was 5.9%, compared to 2.8% for the state and 4.8% for the nation.

Age Breakout in 2000

- The median age in McLean County, ND is 44.1 years old, compared to 36.2 in the state and 35.3 in the nation.
- In 2000, the baby boom was aged 40 - 55



Trends

- Retirement age category has been stable.

Population by Category, 1990 & 2000

	1990	% of Total	2000	% of Total	% Chg 1990 - 2000	% Chg per Year 1990 - 2000
Population	10,457		9,311		-11%	-1.1%
Male	5,280	50%	4,614	50%	-13%	-1.3%
Female	5,177	50%	4,697	50%	-9%	-0.9%
Under 20 years	3,217	31%	2,420	26%	-25%	-2.5%
65 years and over	2,016	19%	1,900	20%	-6%	-0.6%
Median Age			44.1			

Race Breakout

- Race is broken out two ways. The Hispanic breakout is separate because Hispanics can be of any race.

Population by Race in 2000

	County	% of Total	State	% of Total
White	8,615	92.5%	593,181	92.4%
Black or African American	2	0.0%	3,916	0.6%
American Indian & Alaska Native	554	5.9%	31,329	4.9%
Asian	11	0.1%	3,606	0.6%
Native Hawaiian & Other Pacific Islander	1	0.0%	230	0.0%
Some other race	18	0.2%	2,540	0.4%
Two or more races	110	1.2%	7,398	1.2%
Hispanic or Latino (of any race)	81	0.9%	7,786	1.2%
Not Hispanic or Latino	9,230	99.1%	634,414	98.8%

Household Type

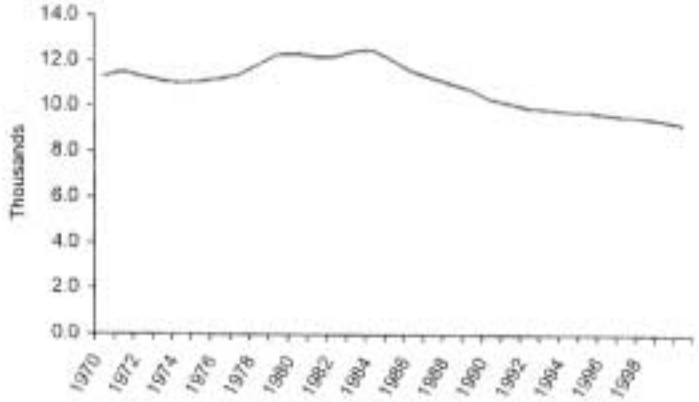
- McLean County, ND has a higher owner occupancy rate than the state

Population by Household Type in 2000

	County	% of Total	State	% of Total
Total Housing Units	5,264		289,677	
Occupied Housing Units	3,815	72.5%	257,152	88.8%
Vacant Housing Units	1,449	27.5%	32,525	11.2%
For Seasonal, Recreational, or Occ. Use	923	17.5%	8,340	2.9%
Homeowner Vacancy Rate (%)	3.2%		2.7%	
Rental Vacancy Rate (%)	12.4%		8.2%	
Housing Tenure	County	% of Occ.	State	% of Occ.
Occupied Housing Units	3,815		257,152	
Owner-occupied Housing Units	3,135	82.2%	171,299	66.6%
Renter-occupied Housing Units	680	17.8%	85,853	33.4%
Avg Household Size - Owner Occupied	2.4		2.6	
Avg Household Size - Renter Occupied	2.2		2.0	

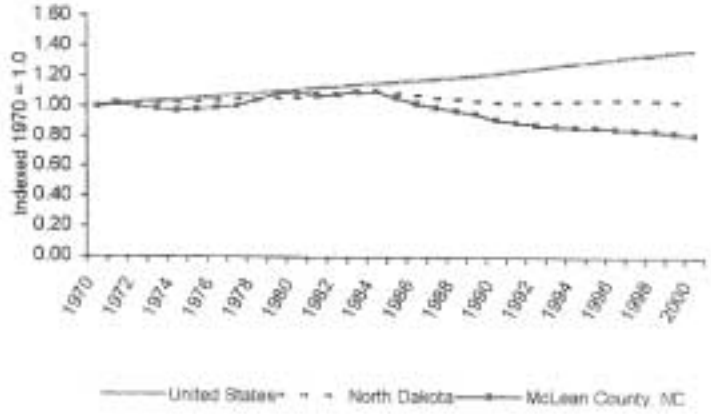
Population

- From 1970 to 2000 McLean County, ND fell by 2,058 people, a 18% decline in population.



Compared to State and the Nation

- Since 1970, the population in McLean County, ND has grown slower than the state and slower than the nation.



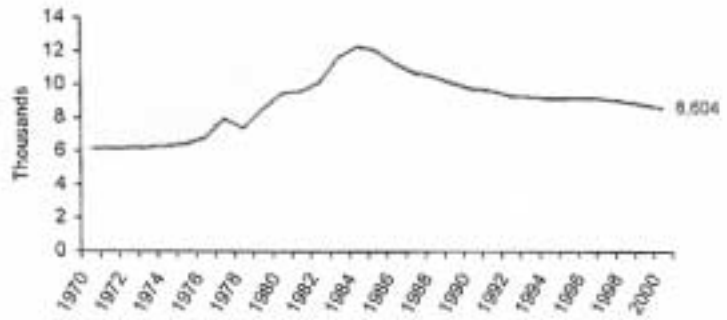
2000 Race Breakout

2000 Hispanic Breakout

Appendix X.
Summary Economics and Demographic Findings - Mercer County

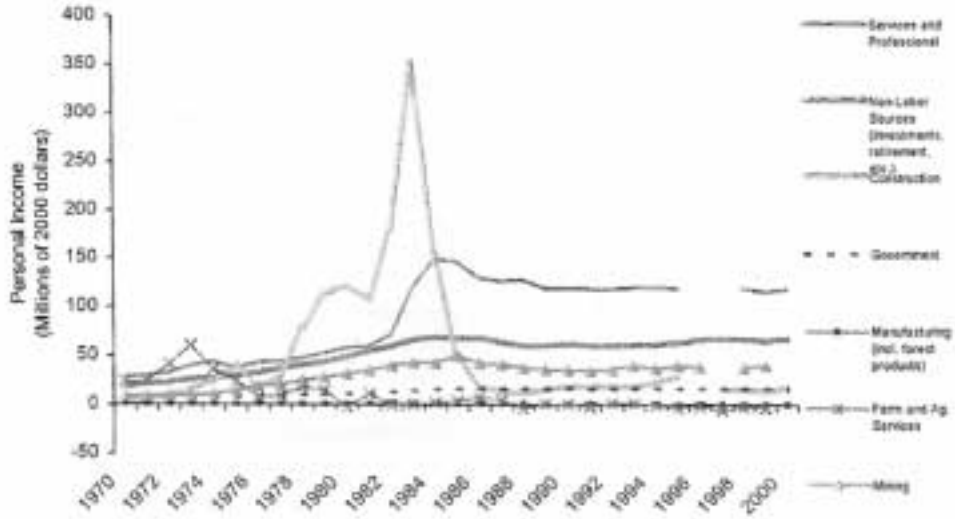
Population

- From 1970 to 2000 Mercer County, ND grew by 2,434 people, a 39% increase in population.



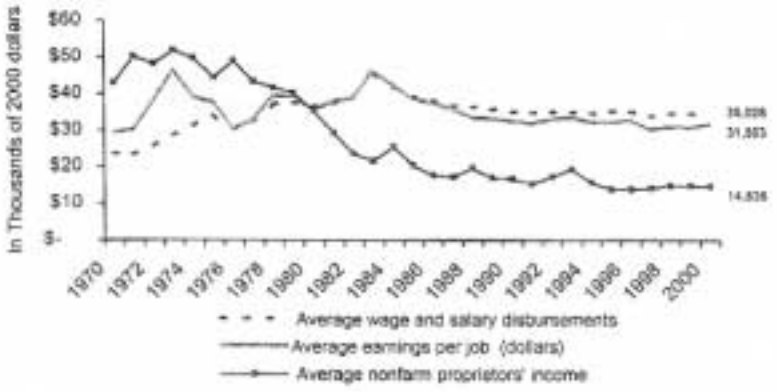
Income Growth or Decline by Major Category

- #N/A
- #N/A



Average Earnings

- Average earnings per job, in real terms, rose from $29,438 in to $31,803 in .

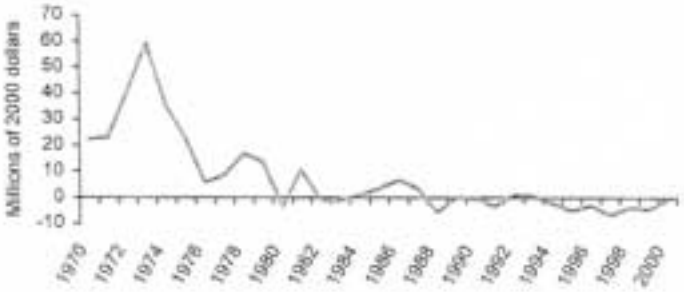


Components of Transfer Payments

- In 2000, 70% of Transfer Payments were from age-related sources (retirement, disability, insurance payments, and Medicare). 5% was from welfare.")

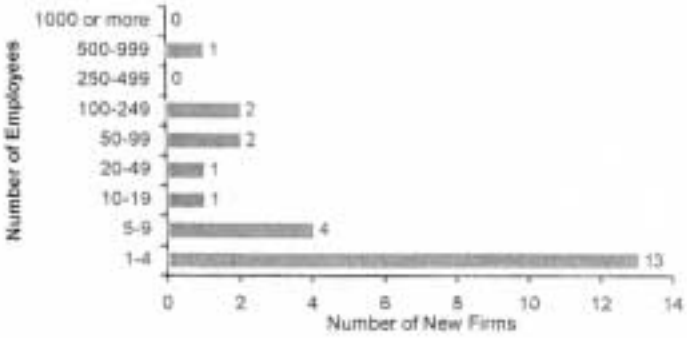
Net Farm Income

- Net income from farming and ranching dropped from $22 million in 1970 to -$1 million in 2000.



New Firms by Employment Size

- From 1970 to 2000 the majority of new businesses established in Mercer County, ND were small, with fewer than 20 employees.

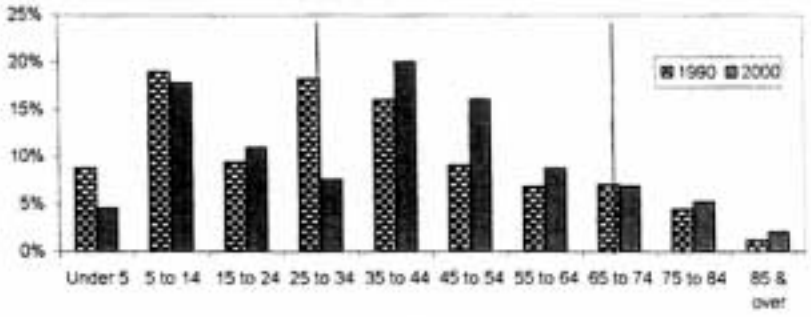


Annual Average Unemployment Rate Comparing County to State

- In 2001, the unemployment rate in Mercer County, ND was 5.1%, compared to 2.8% for the state and 4.8% for the nation.

Age Breakout in 2000

- The median age in Mercer County, ND is 40.1 years old, compared to 36.2 in the state and 35.3 in the nation.
- In 2000, the baby boom was aged 40 - 55.



Trends

- Retirement age category has been growing.

Population by Category, 1990 & 2000

	1990	% of Total	2000	% of Total	% Chg 1990 - 2000	% Chg per Year 1990 - 2000
Population	9,908		8,644		-12%	-1.2%
Male	4,948	50%	4,347	50%	-12%	-1.2%
Female	4,860	50%	4,297	50%	-12%	-1.2%
Under 20 years	3,345	34%	2,705	31%	-19%	-1.9%
65 years and over	1,245	13%	1,233	14%	-1%	-0.1%
Median Age			40.1			

Race Breakout

- Race is broken out two ways. The Hispanic breakout is separate because Hispanics can be of any race.

Population by Race in 2000

	County	% of Total	State	% of Total
White	8,302	96.0%	593,181	92.4%
Black or African American	4	0.0%	3,916	0.6%
American Indian & Alaska Native	173	2.0%	31,329	4.9%
Asian	22	0.3%	3,606	0.6%
Native Hawaiian & Other Pacific Islander	33	0.4%	230	0.0%
Some other race	10	0.1%	2,540	0.4%
Two or more races	100	1.2%	7,398	1.2%
Hispanic or Latino (of any race)	32	0.4%	7,786	1.2%
Not Hispanic or Latino	8,612	99.6%	634,414	98.8%

Household Type

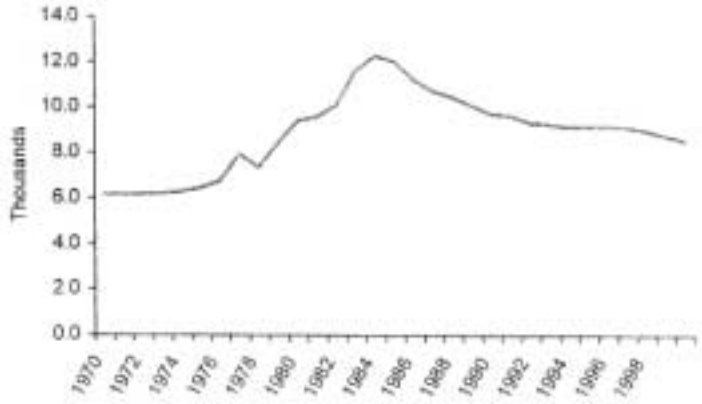
- Mercer County, ND has a higher owner occupancy rate than the state.

Population by Household Type in 2000

	County	% of Total	State	% of Total
Total Housing Units	4,402		289,677	
Occupied Housing Units	3,346	76.0%	257,152	88.8%
Vacant Housing Units	1,056	24.0%	32,525	11.2%
For Seasonal, Recreational, or Occ. Use	424	9.6%	8,340	2.9%
Homeowner Vacancy Rate (%)	3.5%		2.7%	
Rental Vacancy Rate (%)	29.8%		8.2%	
Housing Tenure	**County**	**% of Occ.**	**State**	**% of Occ.**
Occupied Housing Units	3,346		257,152	
Owner-occupied Housing Units	2,828	84.5%	171,299	66.6%
Renter-occupied Housing Units	518	15.5%	85,853	33.4%
Avg Household Size - Owner Occupied	2.7		2.6	
Avg Household Size - Renter Occupied	2.0		2.0	

Population

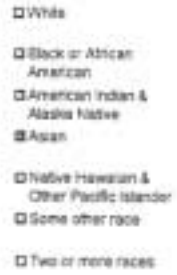
- From 1970 to 2000, Mercer County, ND grew by 2,434 people, a 39% increase in population.



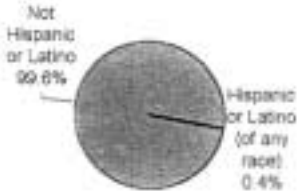
Compared to State and the Nation

- Since 1970, the population in Mercer County, ND has grown faster than the state and faster than the nation.

2000 Race Breakout



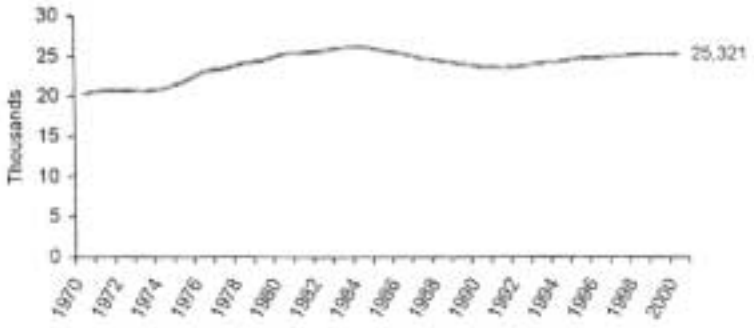
2000 Hispanic Breakout



Appendix XI.
Summary Economic and Demographic Findings - Morton County

Population

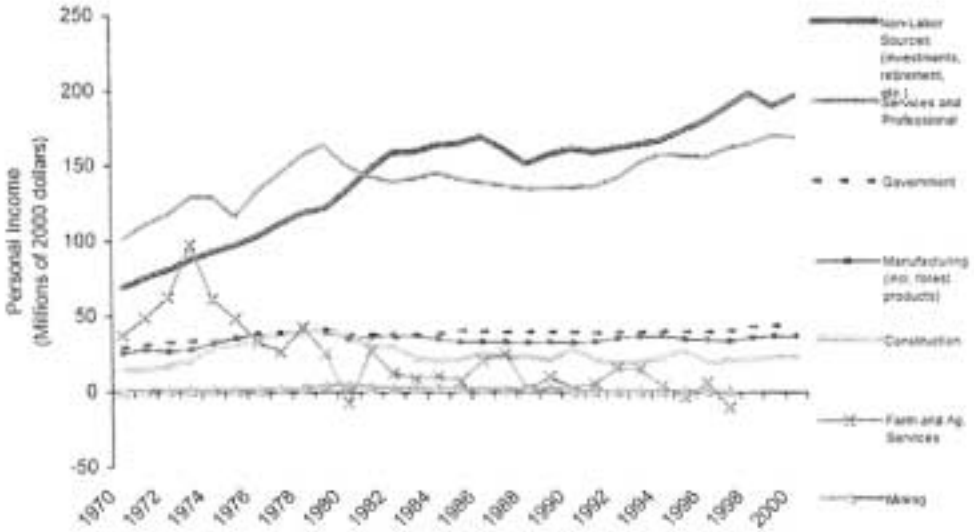
- From 1970 to 2000 Morton County, ND grew by 4,946 people, a 24% increase in population.



Income Growth or Decline by Major Category

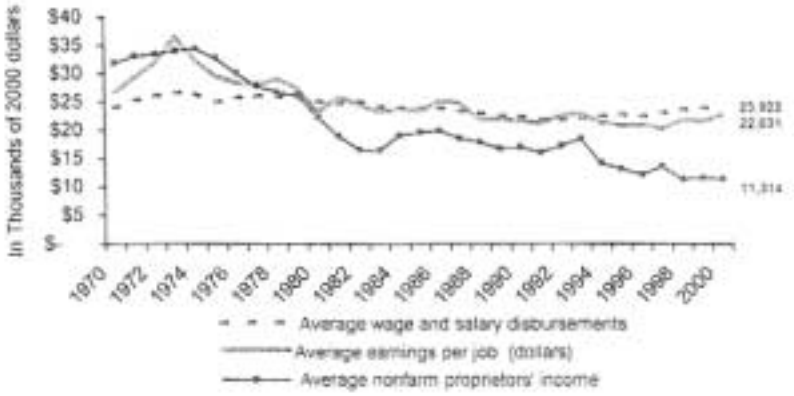
- #N/A

- #N/A



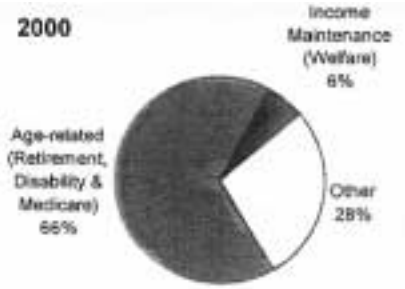
Average Earnings

- Average earnings per job, in real terms, dropped from $26,682 in 1970 to $22,631 in 2000.



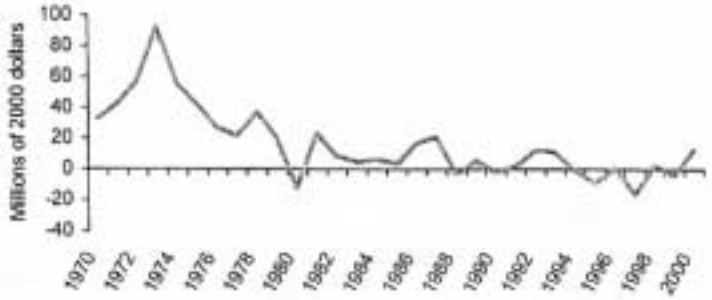
Components of Transfer Payments

- In 2000, 66% of Transfer Payments were from age-related sources (retirement, disability, insurance payments, and Medicare). 6% was from welfare.



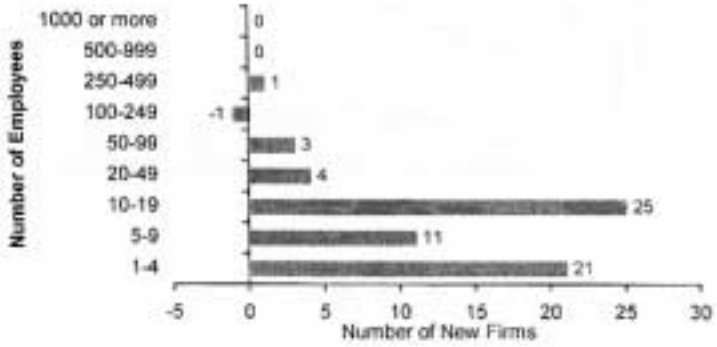
Net Farm Income

- Net income from farming and ranching dropped from $33 million in 1970 to $13 million in 2000.



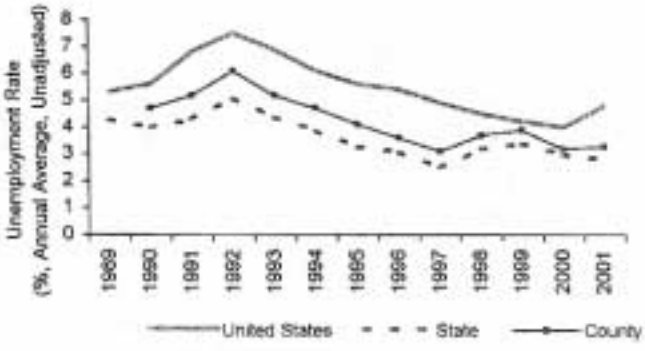
New Firms by Employment Size

- From 1990 to 2000 the majority of new businesses established in Morton County, ND were small, with fewer than 20 employees.



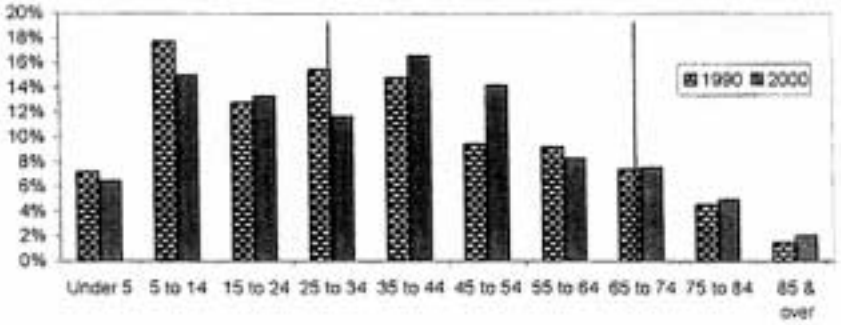
Annual Average Unemployment Rate Comparing County to State

- In 2001 the unemployment rate in Morton County, ND was 3.3% compared to 2.8% for the state and 4.8% for the nation.



Age Breakout in 2000

- The median age in Morton County, ND is 37.4 years old, compared to 36.2 in the state and 35.3 in the nation.
- In 2000, the baby boom was aged 40 - 55.



Trends

- Retirement age category has been stable.

Population by Category, 1990 & 2000

	1990	% of Total	2000	% of Total	% Chg 1990 - 2000	% Chg per Year 1990 - 2000
Population	23,700		25,303		7%	0.7%
Male	11,724	49%	12,606	50%	8%	0.8%
Female	11,976	51%	12,697	50%	6%	0.6%
Under 20 years	7,742	33%	7,520	30%	-3%	-0.3%
65 years and over	3,194	13%	3,693	15%	16%	1.6%
Median Age			37.4			

Race Breakout

- Race is broken out two ways. The Hispanic breakout is separate because Hispanics can be of any race.

Population by Race in 2000

	County	% of Total	State	% of Total
White	24,246	96.8%	593,181	92.4%
Black or African American	40	0.2%	3,916	0.6%
American Indian & Alaska Native	604	2.4%	31,329	4.9%
Asian	77	0.3%	3,606	0.6%
Native Hawaiian & Other Pacific Islander	2	0.0%	230	0.0%
Some other race	40	0.2%	2,540	0.4%
Two or more races	294	1.2%	7,398	1.2%
Hispanic or Latino (of any race)	164	0.6%	7,786	1.2%
Not Hispanic or Latino	25,139	99.4%	634,414	98.8%

Household Type

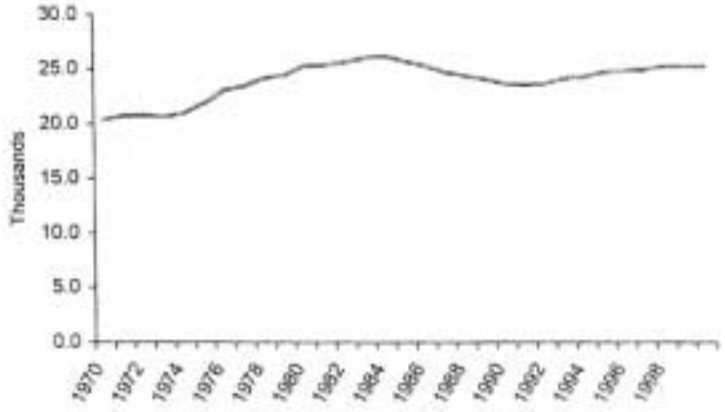
- Morton County, ND has a higher owner occupancy rate than the state.

Population by Household Type in 2000

	County	% of Total	State	% of Total
Total Housing Units	10,587		289,677	
Occupied Housing Units	9,889	93.4%	257,152	88.8%
Vacant Housing Units	698	6.6%	32,525	11.2%
For Seasonal, Recreational, or Occ. Use	88	0.8%	8,340	2.9%
Homeowner Vacancy Rate (%)	1.6%		2.7%	
Rental Vacancy Rate (%)	7.3%		8.2%	
Housing Tenure	**County**	**% of Occ.**	**State**	**% of Occ.**
Occupied Housing Units	9,889		257,152	
Owner-occupied Housing Units	7,464	75.5%	171,299	66.6%
Renter-occupied Housing Units	2,425	24.5%	85,853	33.4%
Avg Household Size - Owner Occupied	2.7		2.6	
Avg Household Size - Renter Occupied	2.1		2.0	

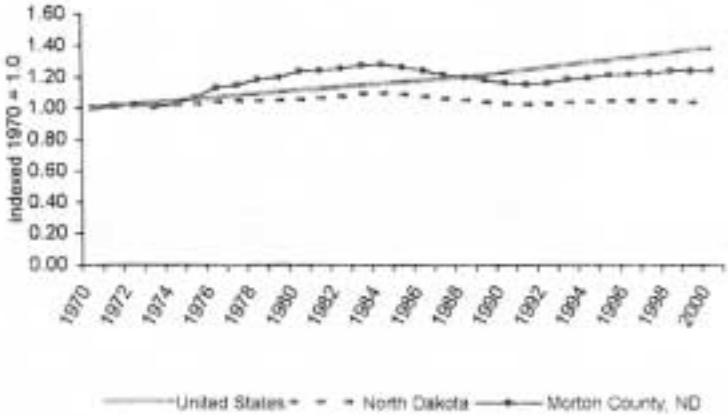
Population

- From 1970 to 2000 Morton County, ND grew by 4,946 people, a 24% increase in population.

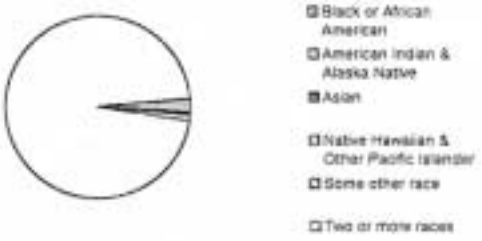


Compared to State and the Nation

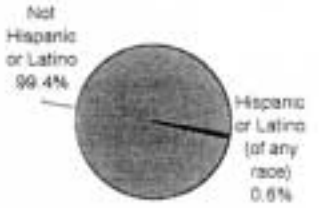
- Since 1970, the population in Morton County, ND has grown faster than the state and slower than the nation.



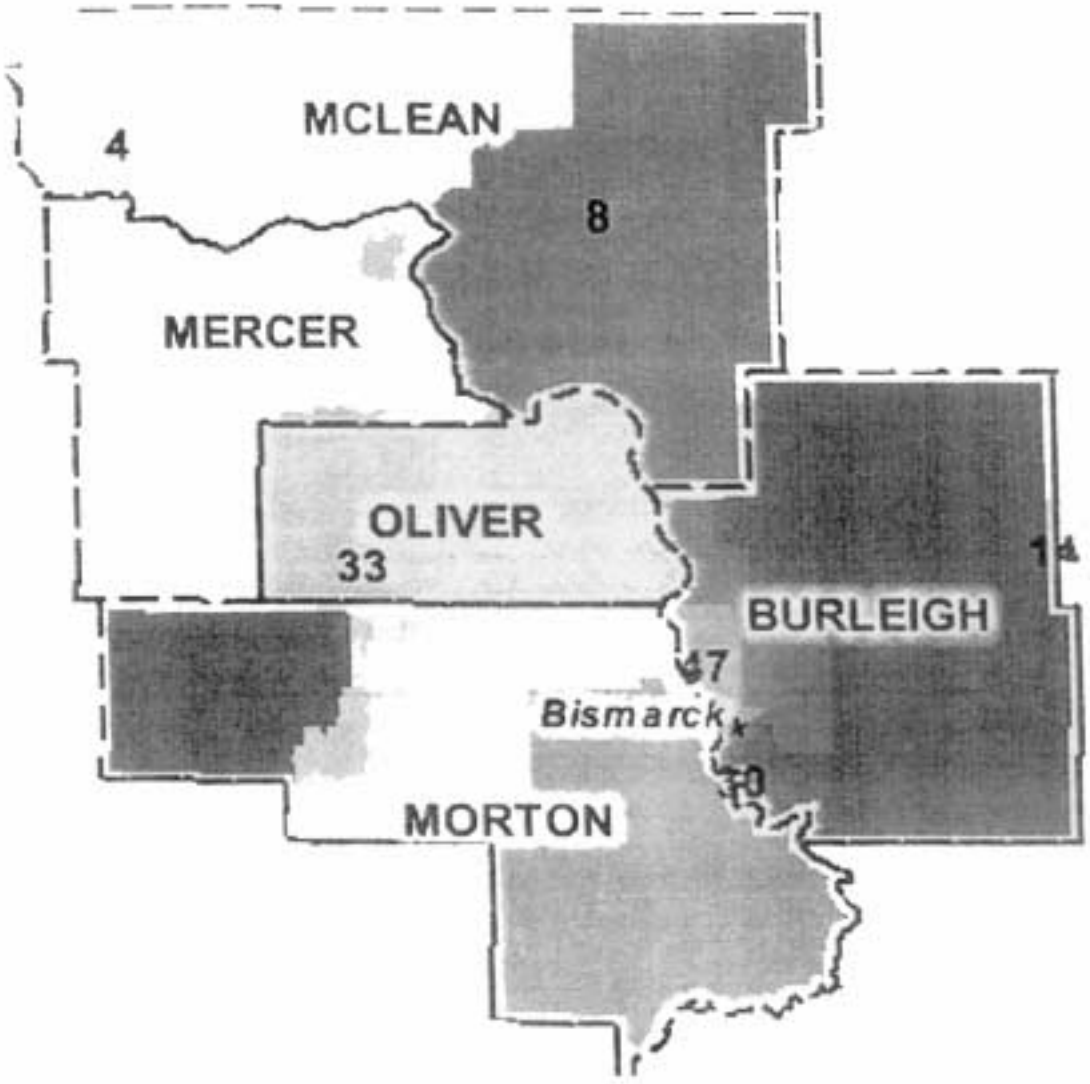
2000 Race Breakout



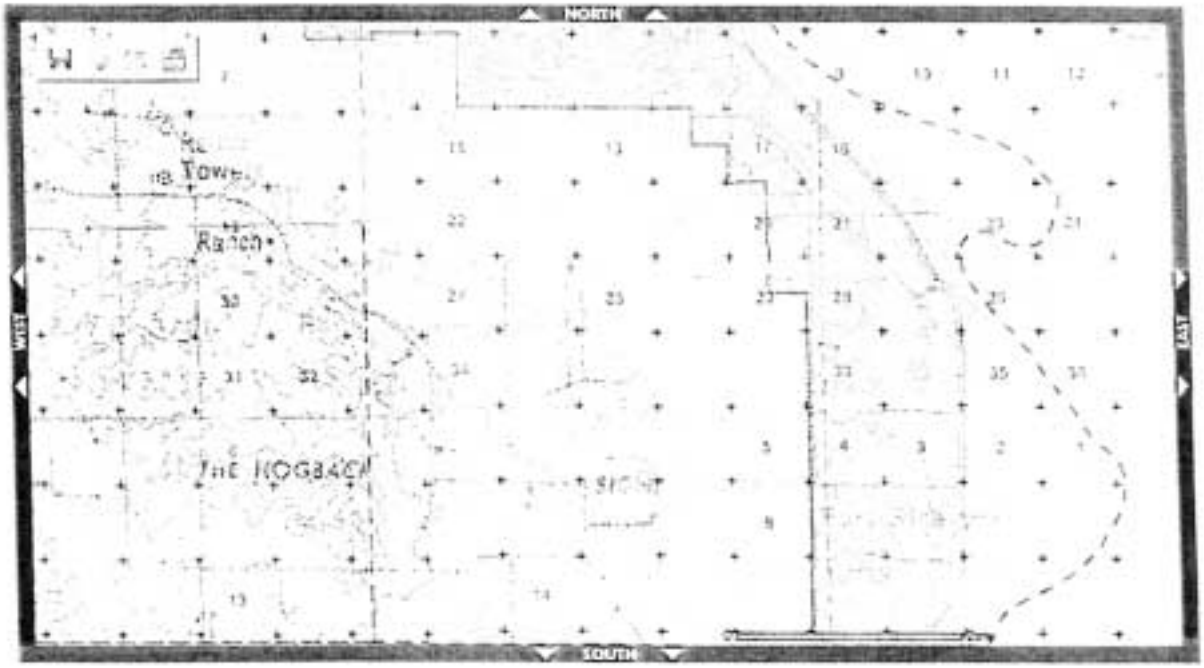
2000 Hispanic Breakout



BOMMM Counties
Legislative Districts



USGS Map - Portion of Huff/Ft. Rice Quads - Morton County



Legend
- PLSS Section Corners
- PLSS Sections
- County Boundaries
- Water Areal Features
- Missouri River Corridor Boundary
- Missouri River Corridor
- Corridor 2 Mile Buffer Zone

North Dakota Parks and Recreation Lands

Fort Abraham Lincoln State Park

Legend
Towns & Cities
Historical/Unincorporated
Existing
County & City Roads
Graded/Gravel
Paved
Trail/Unimproved
Other
State and Federal Roads
Business Loop
Freeway
State Road
Federal Road
On/Off Ramps
State Parks
Counties
Lakes,Ponds,Rivers

Cross Ranch State Park

Legend
Towns & Cities
Historical/Unincorporated
Existing
County & City Roads
Graded/Gravel
Paved
Trail/Unimproved
Other
State and Federal Roads
Business Loop
Freeway
State Road
Federal Road
On/Off Ramps
State Parks
Counties
Corporate Boundary
Lakes,Ponds,Rivers

BOMMM Counties Soils

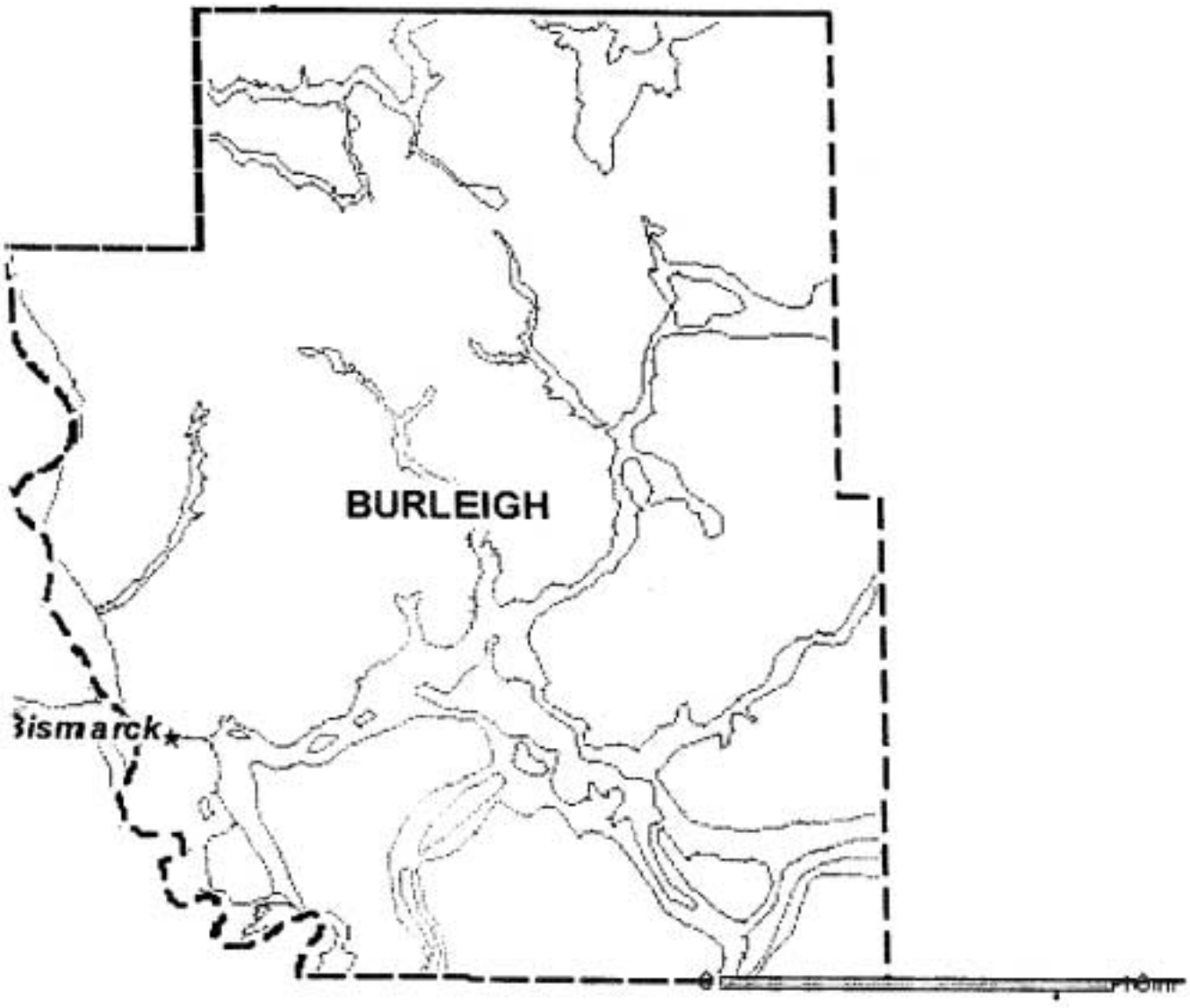
Legend

- Cities
- Counties

STATSGO-MUID

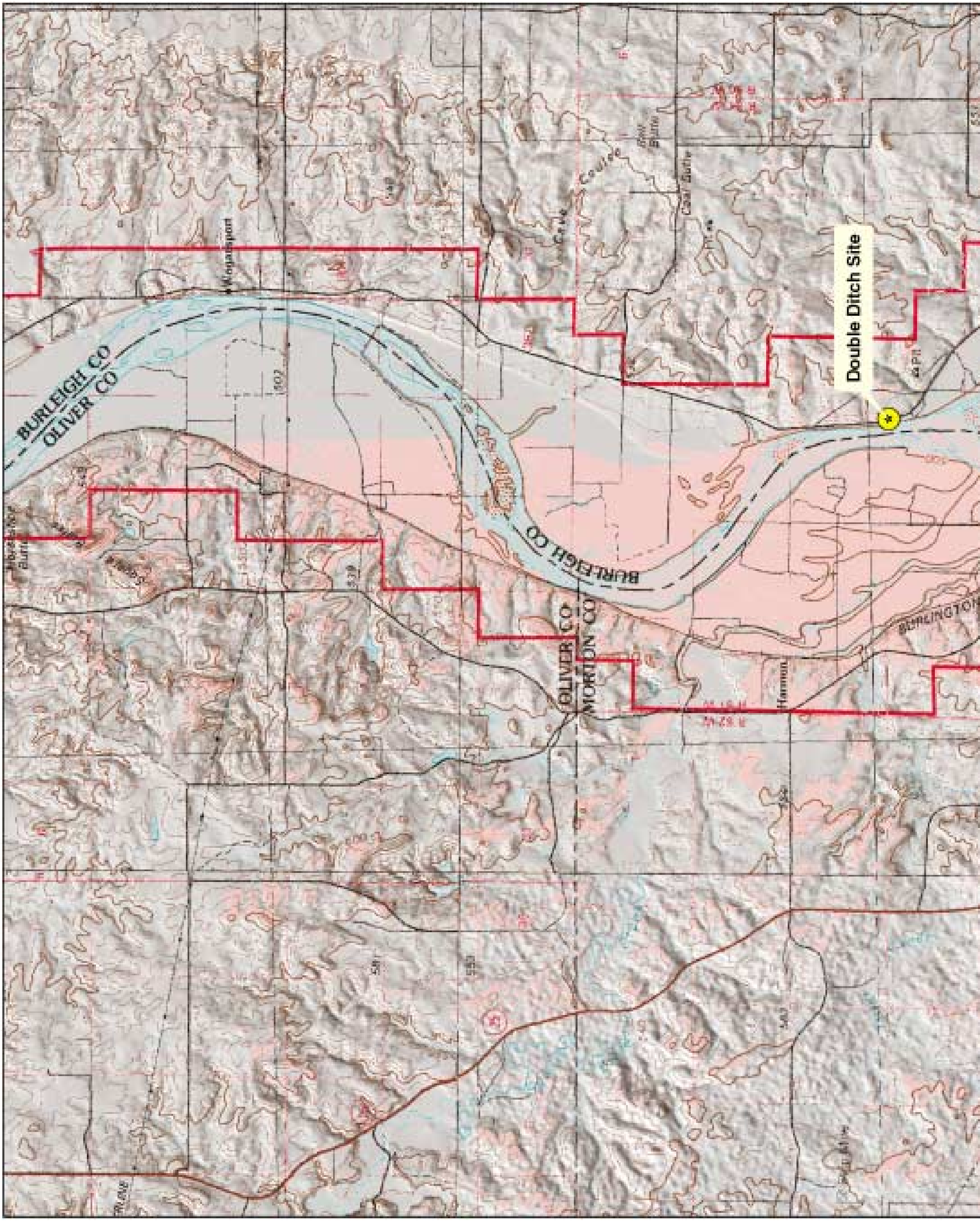
ND001	ND026	ND053	ND078	ND105	ND133	
ND002	ND027	ND054	ND079	ND106	ND134	
ND003	ND028	ND055	ND080	ND108	ND135	
ND004	ND030	ND056	ND081	ND109	ND136	
ND005	ND031	ND057	ND082	ND110	ND137	
ND006	ND032	ND058	ND083	ND111	ND138	
ND007	ND033	ND059	ND084	ND112	ND139	
ND008	ND034	ND060	ND085	ND113	ND140	
ND009	ND035	ND061	ND086	ND114	ND141	
ND010	ND036	ND062	ND088	ND115	ND142	
ND011	ND037	ND063	ND089	ND116	ND143	
ND012	ND038	ND064	ND090	ND117	ND144	
ND013	ND039	ND065	ND091	ND119	ND145	
ND014	ND040	ND066	ND092	ND120	ND146	
ND015	ND041	ND067	ND093	ND121	ND147	
ND016	ND043	ND068	ND094	ND122	ND148	
ND017	ND044	ND069	ND095	ND123	ND149	
ND018	ND045	ND070	ND096	ND124	ND150	
ND019	ND046	ND071	ND097	ND125	ND151	
ND020	ND047	ND072	ND098	ND127	ND152	
ND021	ND048	ND073	ND099	ND128	ND153	
ND022	ND049	ND074	ND100	ND129	ND154	
ND023	ND050	ND075	ND102	ND130	ND155	
ND024	ND051	ND076	ND103	ND131	ND156	
ND025	ND052	ND077	ND104	ND132		

Burleigh County Aquifers

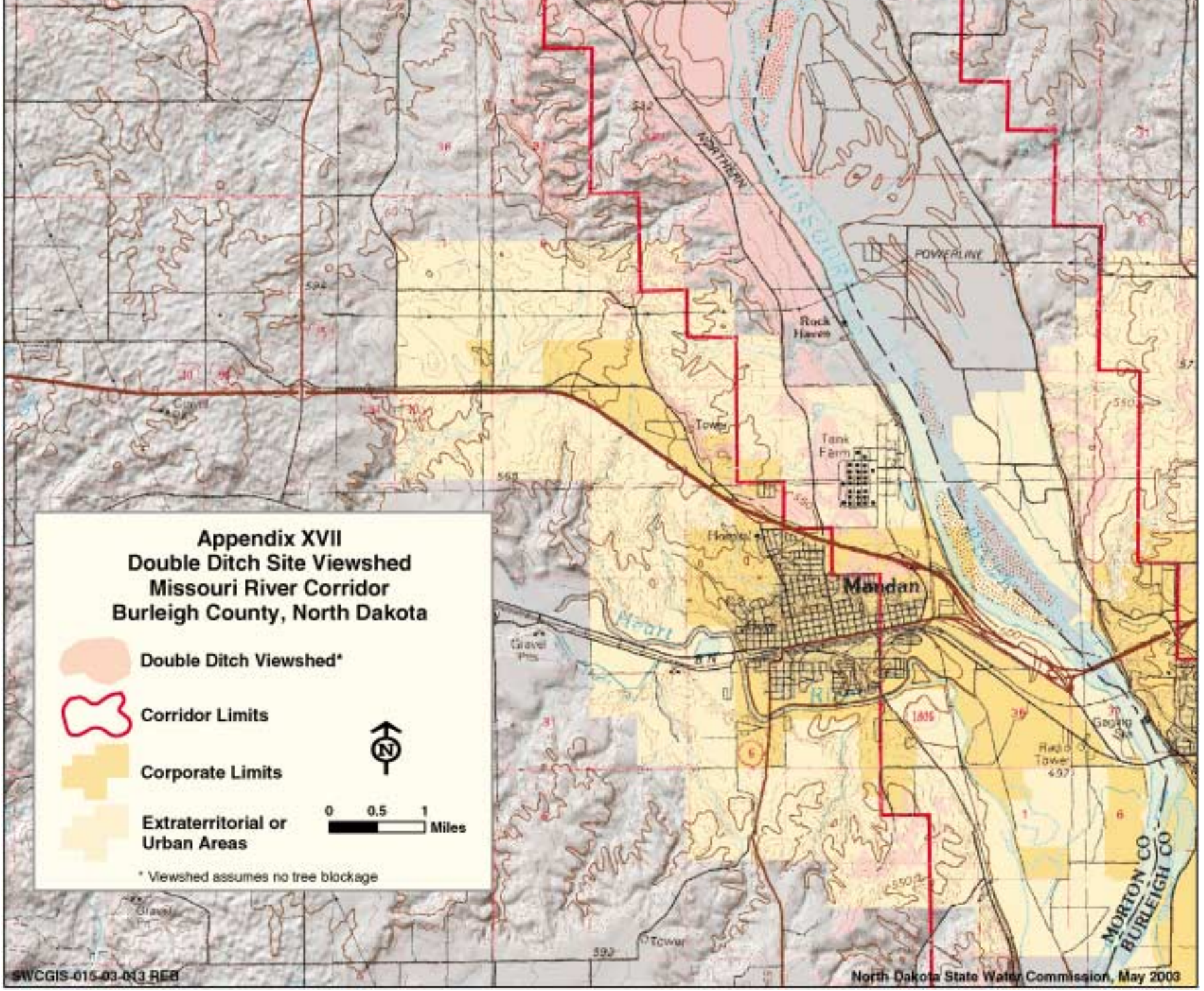


Legend
- Cities
- Counties

Surface Aquifers-Yield
- 50 to 500 GPM
- More Than 500 GPM



Double Ditch Site
BURLEIGH CO
OLIVER CO
BURLEIGH CO
OLIVER CO
MORTON CO


Appendix XVII
Double Ditch Site Viewshed
Missouri River Corridor
Burleigh County, North Dakota
Double Ditch Viewshed*
Corridor Limits
Corporate Limits
Extraterritorial or
Urban Areas
0 0.5 1
Miles
* Viewshed assumes no tree blockage
N
NORTHERN
POWERLINE
Rock
Haven
Tower
Tank
Farm
Mandan
Gravel
Pits
Tower
MORTON CO
BURLEIGH CO
SWCGIS-015-03-013 REB
North Dakota State Water Commission, May 2003

Appendices XVIII

"North Dakota Waterways: The Public's Right of Recreation and Questions of Title"

Prepared by Charles M. Carvell,
Assistant Attorney General
Published in
North Dakota Law Review

The Overview Committee requested a brief synopsis of this document to be included in the Concept Plan. Mr. Carvell indicated the Law Review is public information and gave permission to complete the summary. Two of the top three issues identified in the Concept Plan public input meetings were directly related to Mr. Carvell's summary: private property rights and the public's right of access. It's stated by Mr. Carvell, "The quarrel between users of North Dakota water ways and riparian landowners exists because neither the North Dakota Legislature nor North Dakota Supreme Court has adequately specified rights in regard to waterways, though this quarrel is more intense on smaller rivers where the bed and banks are in private ownership than it is on rivers such as the Missouri where the state owns the bed and has at least some degree of title to the banks."

The following are the key issues that relate to the Missouri River Corridor:

- As a sovereign state, North Dakota retains the absolute right and title to all its navigable waters and the soils under them. This state ownership extends to the high-water mark.

- Title to beds of navigable waters arises under the United States Constitution and its equal footing doctrine, and therefore, navigability for purposes of determining title to a river is a question of federal law.

- Under federal law, for a river to be considered navigable it had to be navigable in fact in 1889 when North Dakota entered the Union. A river is navigable in fact when it was used or was susceptible of being used, in its ordinary condition as highways for commerce were used around 1889.

- Navigability is used in another sense other than just for determining title. It is used to determine what rivers are subject to recreation use by the public even if the state doesn't own them, that is, if the banks and bed are in private ownership. For this kind of navigability, North Dakota has adopted a less strict test referred to as the "pleasure boat test." Although the law in North Dakota is not altogether clear, it appears that if a river has enough water to support a pleasure boat then the public may use that river for boating and perhaps even other recreational purposes.

- In a North Dakota title dispute the Missouri River and Painted Woods Lake were determined to be navigable for purposes of title and, therefore, the state owns the beds of these waterways.

- In a condemnation action and title dispute the Heart and Knife Rivers were assumed non-navigable, respectively. The state, however, doesn't recognize either decision as definitive and reserves the right to assert that both rivers are navigable for title as well as for purpose of public recreational use.

- The Corps of Engineers list the following North Dakota waterways navigable: Missouri River, Yellowstone River, Red River from Wahpeton to Canadian border, Bois de Sioux River from North Dakota/South Dakota border to Wahpeton, James River from North Dakota/South Dakota border to Jamestown, and the Upper Des Lacs Lake.

- Under NDCC Section 47-01-15, the Legislature granted riparian owners some control of the shore zone, that is, the area between the low watermark and high watermark. The N.D. Supreme Court has ruled that in the shore zone, riparian landowners and the state each have an interest. Unfortunately, the Court has not yet issued a decision clarifying these overlapping rights in the shore zone.

- Primary theories supporting public recreational rights in waterways overlying private property: (1) Public Navigational Easement in which the North Dakota Supreme Court rejects the federal title test, which requires capacity for commerce, the court adapted a recreational test of navigability (Roberts v. Taylor); (2) Public Trust Doctrine in which a North Dakota Court (United Plainsmen Association v. North Dakota Water Conservation Commission) supported the argument that the doctrine protects public recreation in all waters capable of recreational use, whether they flow over public or private property; (3) North Dakota Statutes in which NDCC 61-01-01 provides that all water in water courses and lakes belong to the public; NDCC 47-01-15 which provides that all navigable rivers shall remain and be deemed public highways.

- Questions of public use of private property to access an adjacent public trust resource or when such use is necessary for full enjoyment of the resource are unclear.

- NDCC 53-08 addresses most private landowners personal liability concerns caused by recreationist.

Appendix XIX

TITLE VII—MISSOURI RIVER RESTORATION, NORTH DAKOTA

SEC. 701. SHORT TITLE.

This title may be cited as the "Missouri River Protection and Improvement Act of 2000".

SEC. 702. FINDINGS AND PURPOSES.

(a) FINDINGS.—Congress finds that—

(1) the Missouri River is—

(A) an invaluable economic, environmental, recreational, and cultural resource to the people of the United States; and

(B) a critical source of water for drinking and irrigation;

(2) millions of people fish, hunt, and camp along the Missouri River each year;

(3) thousands of sites of spiritual importance to Native Americans line the shores of the Missouri River;

(4) the Missouri River provides critical wildlife habitat for threatened and endangered species;

(5) in 1944, Congress approved the Pick-Sloan program—

(A) to promote the general economic development of the United States;

(B) to provide for irrigation above Sioux City, Iowa;

(C) to protect urban and rural areas from devastating floods of the Missouri River; and

(D) for other purposes;

(6) the Garrison Dam was constructed on the Missouri River in North Dakota and the Oahe Dam was constructed in South Dakota under the Pick-Sloan program;

(7) the dams referred to in paragraph (6)—

(A) generate low-cost electricity for millions of people in the United States;

(B) provide revenue to the Treasury; and

(C) provide flood control that has prevented billions of dollars of damage;

(8) the Garrison and Oahe Dams have reduced the ability of the Missouri River to carry sediment downstream, resulting in the accumulation of sediment in the reservoirs known as Lake Sakakawea and Lake Oahe;

(9) the sediment depositions—

(A) cause shoreline flooding;

(B) destroy wildlife habitat;

(C) limit recreational opportunities;

(D) threaten the long-term ability of dams to provide hydropower and flood control under the Pick-Sloan program;

(E) reduce water quality; and

(F) threaten intakes for drinking water and irrigation; and

(10) to meet the objectives established by Congress for the Pick-Sloan program, it is necessary to establish a Missouri River Restoration Program—

(A) to improve conservation;

(B) to reduce the deposition of sediment; and

(C) to take other steps necessary for proper management of the Missouri River.

(b) PURPOSES.—The purposes of this title are—

(1) to reduce the siltation of the Missouri River in the State of North Dakota;

(2) to meet the objectives of the Pick-Sloan program by developing and implementing a long-term strategy—

(A) to improve conservation in the Missouri River watershed;

(B) to protect recreation on the Missouri River from sedimentation;

(C) to improve water quality in the Missouri River;

(D) to improve erosion control along the Missouri River; and

(E) to protect Indian and non-Indian historical and cultural sites along the Missouri River from erosion; and

(3) to meet the objectives described in paragraphs (1) and (2) by developing and financing new programs in accordance with the plan.

SEC. 703. DEFINITIONS.

In this title, the following definitions apply:

(1) PICK-SLOAN PROGRAM.—The term "Pick-Sloan program" means the Pick-Sloan Missouri River Basin Program authorized by section 9 of the Flood Control Act of December 22, 1944 (58 Stat. 891).

(2) PLAN.—The term "plan" means the plan for the use of funds made available by this title that is required to be prepared under section 705(e).

(3) STATE.—The term "State" means the State of North Dakota.

(4) TASK FORCE.—The term "Task Force" means the North Dakota Missouri River Task Force established by section 705(a).

(5) TRUST.—The term "Trust" means the North Dakota Missouri River Trust established by section 704(a).

SEC. 704. MISSOURI RIVER TRUST.

(a) ESTABLISHMENT.—There is established a committee to be known as the North Dakota Missouri River Trust.

(b) MEMBERSHIP.—The Trust shall be composed of 16 members to be appointed by the Secretary, including—

(1) 12 members recommended by the Governor of North Dakota that—

(A) represent equally the various interests of the public; and

(B) include representatives of—

(i) the North Dakota Department of Health;

(ii) the North Dakota Department of Parks and Recreation;

(iii) the North Dakota Department of Game and Fish;

(iv) the North Dakota State Water Commission;

(v) the North Dakota Indian Affairs Commission;

(vi) agriculture groups;

(vii) environmental or conservation organizations;

(viii) the hydroelectric power industry;

(ix) recreation user groups;

(x) local governments; and

(xi) other appropriate interests;

(2) 4 members representing each of the 4 Indian tribes in the State of North Dakota.

SEC. 705. MISSOURI RIVER TASK FORCE.

(a) ESTABLISHMENT.—There is established the Missouri River Task Force.

(b) MEMBERSHIP.—The Task Force shall be composed of—

(1) the Secretary (or a designee), who shall serve as Chairperson;

(2) the Secretary of Agriculture (or a designee);

(3) the Secretary of Energy (or a designee);

(4) the Secretary of the Interior (or a designee); and

(5) the Trust.

(c) DUTIES.—The Task Force shall—

(1) meet at least twice each year;

(2) vote on approval of the plan, with approval requiring votes in favor of the plan by a majority of the members;

(3) review projects to meet the goals of the plan; and

(4) recommend to the Secretary critical projects for implementation.

(d) ASSESSMENT.—

(1) IN GENERAL.—Not later than 18 months after the date on which funding authorized under this title becomes available, the Secretary shall transmit to the other members of the Task Force a report on—

(A) the impact of the siltation of the Missouri River in the State, including the impact on—

(i) the Federal, State, and regional economies;

(ii) recreation;

(iii) hydropower generation;

(iv) fish and wildlife; and

(v) flood control;

(B) the status of Indian and non-Indian historical and cultural sites along the Missouri River;

(C) the extent of erosion along the Missouri River (including tributaries of the Missouri River) in the State; and

(D) other issues, as requested by the Task Force.

(2) CONSULTATION.—In preparing the report under paragraph (1), the Secretary shall consult with—

(A) the Secretary of Energy;

(B) the Secretary of the Interior;

(C) the Secretary of Agriculture;

(D) the State; and

(E) Indian tribes in the State.

(e) PLAN FOR USE OF FUNDS MADE AVAILABLE BY THIS TITLE.—

(1) IN GENERAL.—Not later than 3 years after the date on which funding authorized under this title becomes available, the Task Force shall prepare a plan for the use of funds made available under this title.

(2) CONTENTS OF PLAN.—The plan shall provide for the manner in which the Task Force shall develop and recommend critical restoration projects to promote—

(A) conservation practices in the Missouri River watershed;

(B) the general control and removal of sediment from the Missouri River;

(C) the protection of recreation on the Missouri River from sedimentation;

(D) the protection of Indian and non-Indian historical and cultural sites along the Missouri River from erosion;

(E) erosion control along the Missouri River; or

(F) any combination of the activities described in subparagraphs (A) through (E).

(3) PLAN REVIEW AND REVISION.—

(A) IN GENERAL.—The Task Force shall make a copy of the plan available for public review and comment before the plan becomes final in accordance with procedures established by the Task Force.

(B) REVISION OF PLAN.—

(i) IN GENERAL.—The Task Force may, on an annual basis, revise the plan.

(ii) PUBLIC REVIEW AND COMMENT.—In revising the plan, the Task Force shall provide the public the opportunity to review and comment on any proposed revision to the plan.

(f) CRITICAL RESTORATION PROJECTS.—

(1) IN GENERAL.—After the plan is approved by the Task Force under subsection (c)(2), the Secretary, in coordination with the Task Force, shall identify critical restoration projects to carry out the plan.

(2) AGREEMENT.—The Secretary may carry out a critical restoration project after entering into an agreement with an appropriate non-Federal interest in accordance with section 221 of the Flood Control Act of 1970 (42 U.S.C. 1962d–5b) and this section.

(3) INDIAN PROJECTS.—To the maximum extent practicable, the Secretary shall ensure that not less than 30 percent of the funds made available for critical restoration projects under this title shall be used exclusively for projects that are—

(A) within the boundary of an Indian reservation; or

(B) administered by an Indian tribe.

(g) COST SHARING.—

(1) ASSESSMENT.—

(A) FEDERAL SHARE.—The Federal share of the cost of carrying out the assessment under subsection (d) shall be 75 percent.

(B) NON-FEDERAL SHARE.—The non-Federal share of the cost of carrying out the assessment may be provided in the form of services, materials, or other in-kind contributions.

(2) PLAN.—

(A) FEDERAL SHARE.—The Federal share of the cost of preparing the plan shall be 75 percent.

(B) NON-FEDERAL SHARE.—Not more than 50 percent of the non-Federal share of the cost of preparing the plan may be provided in the form of services, materials, or other in-kind contributions.

(3) CRITICAL RESTORATION PROJECTS.—

(A) IN GENERAL.—A non-Federal cost share shall be required to carry out any project under subsection (f) that does not primarily benefit the Federal Government, as determined by the Task Force.

(B) FEDERAL SHARE.—The Federal share of the cost of carrying out a project under subsection (f) for which the Task Force requires a non-Federal cost share under subparagraph (A) shall be 65 percent, not to exceed $5,000,000 for any project.

(C) NON-FEDERAL SHARE.—

(i) IN GENERAL.—Not more than 50 percent of the non-Federal share of the cost of carrying out a project described in subparagraph (B) may be provided in the form of services, materials, or other in-kind contributions.

(ii) REQUIRED NON-FEDERAL CONTRIBUTIONS.—For any project described in subparagraph (B), the non-Federal interest shall—

(I) provide all land, easements, rights-of-way, dredged material disposal areas, and relocations;

(II) pay all operation, maintenance, replacement, repair, and rehabilitation costs; and

(III) hold the United States harmless from all claims arising from the construction, operation, and maintenance of the project.

(iii) CREDIT.—The Secretary shall credit the non-Federal interest for all contributions provided under clause (ii)(I).

SEC. 706. ADMINISTRATION.

(a) IN GENERAL.—Nothing in this title diminishes or affects—

(1) any water right of an Indian tribe;

(2) any other right of an Indian tribe, except as specifically provided in another provision of this title;

(3) any treaty right that is in effect on the date of enactment of this Act;

(4) any external boundary of an Indian reservation of an Indian tribe;

(5) any authority of the State that relates to the protection, regulation, or management of fish, terrestrial wildlife, and cultural and archaeological resources, except as specifically provided in this title; or

(6) any authority of the Secretary, the Secretary of the Interior, or the head of any other Federal agency under a law in effect on the date of enactment of this Act, including—

(A) the National Historic Preservation Act (16 U.S.C. 470 et seq.);

(B) the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470aa et seq.);

(C) the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.);

(D) the Act entitled "An Act for the protection of the bald eagle", approved June 8, 1940 (16 U.S.C. 668 et seq.);

(E) the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.);

(F) the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.);

(G) the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 et seq.);

(H) the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.);

(I) the Safe Drinking Water Act (42 U.S.C. 300f et seq.); and

(J) the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.).

(b) FEDERAL LIABILITY FOR DAMAGE.—Nothing in this title relieves the Federal Government of liability for damage to private property caused by the operation of the Pick-Sloan program.

(c) FLOOD CONTROL.—Notwithstanding any other provision of this title, the Secretary shall retain the authority to operate the Pick-Sloan program for the purposes of meeting the requirements of the Flood Control Act of December 22, 1944 (33 U.S.C. 701–1 et seq.; 58 Stat. 887).

(d) USE OF FUNDS.—Funds transferred to the Trust may be used to pay the non-Federal share required under Federal programs.

SEC. 707. AUTHORIZATION OF APPROPRIATIONS.

(a) IN GENERAL.—There is authorized to be appropriated to the Secretary to carry out this title $5,000,000 for each of fiscal years 2001 through 2005. Such sums shall remain available until expended.

(b) EXISTING PROGRAMS.—The Secretary shall fund programs authorized under the Pick-Sloan program in existence on the date of enactment of this Act at levels that are not less than funding levels for those programs as of that date.

Appendix XX

CHAPTER 47-06
REAL ESTATE TITLE BY OCCUPANCY AND ACCESSION

47-06-05. Riparian accretions. Where from natural causes land forms by imperceptible degrees upon the bank of a river or stream, navigable or not navigable, either by accumulation of material or by the recession of the stream, such land belongs to the owner of the bank, subject to any existing right of way over the bank.

47-06-06. Avulsion - Title - Reclamation by original owner - Limitations. If a river or stream, navigable or not navigable, carries away by sudden violence a considerable and distinguishable part of a bank and bears it to the opposite bank or to another part of the same bank, the owner of the part carried away may reclaim it within a year after the owner of the land to which it has been united takes possession thereof.

47-06-07. Ancient streambed taken by owners of new course as indemnity. If a stream, navigable or not navigable, forms a new course abandoning its ancient bed, the owners of the land newly occupied take by way of indemnity the ancient bed abandoned, each in proportion to the land of which the owner has been deprived.

47-06-08. Islands and relicted lands in navigable streams belong to state. Islands and accumulations of land formed in the beds of streams which are navigable belong to the state, if there is no title or prescription to the contrary. The control and management, including the power to execute surface and mineral leases, of islands, relictions, and accumulations of land owned by the state of North Dakota in navigable streams and waters and the beds thereof, must be governed by chapter 61-33.

47-06-09. Islands and relicted land in nonnavigable streams. An island or accumulation of land formed in a stream which is not navigable belongs to the owner of the shore on that side where the island or accumulation is formed, or if not formed on one side only, to the owners of the shore on the two sides, divided by an imaginary line drawn through the middle of the river.

47-06-10. Island formed by dividing stream - Title. If a stream, navigable or not navigable, in forming itself a new arm divides itself and surrounds land belonging to the owner of the shore and thereby forms an island, the island belongs to such owner.

CHAPTER 61-33
SOVEREIGN LAND MANAGEMENT

61-33-01. Definitions. As used in this chapter, unless the context otherwise requires:

1. "Board" means the sovereign lands advisory board.
2. "Board of university and school lands" means that entity created by section 15-01-01.
3. "Sovereign lands" means those areas, including beds and islands, lying within the ordinary high watermark of navigable lakes and streams. Lands established to be riparian accretion or reliction lands pursuant to section 47-06-05 are considered to be above the ordinary high watermark and are not sovereign lands.
4. "State engineer" means the person appointed by the state water commission pursuant to section 61-03-01.

61-33-02. Administration of sovereign lands. All sovereign lands of the state must be administered by the state engineer and the board of university and school lands subject to the provisions of this chapter. Lands managed pursuant to this chapter are not subject to leasing provisions found elsewhere in this code.

61-33-03. Transfer of possessory interests in real property. All possessory interests now owned or that may be acquired except oil, gas, and related hydrocarbons, in the sovereign lands of the state owned or controlled by the state or any of its officers, departments, or the Bank of North Dakota, together with any future increments, are transferred to the state of North Dakota, acting by and through the state engineer. All such possessory interests in oil, gas, and related hydrocarbons in the sovereign lands of the state are transferred to the state of North Dakota, acting by and through the board of university and school lands. These transfers are self-executing. No evidence other than the provisions of this chapter is required to establish the fact of transfer of title to the state of North Dakota, acting by and through the state engineer and board of university and school lands. Proper and sufficient delivery of all title documents is conclusively presumed.

61-33-04. Existing contracts and encumbrances recognized. The transfers made by this chapter are subject to all existing contracts, rights, easements, and encumbrances made or sanctioned by the state or any of its officers or departments.

61-33-05. Duties and powers of the state engineer. The state engineer shall manage, operate, and supervise all properties transferred to it by this chapter; may enter into any agreements regarding such property; may enforce all rights of the owner in its own name; may issue and enforce administrative orders and recover the cost of the enforcement from the party against which enforcement is sought; and may make and execute all instruments of release or conveyance as may be required pursuant to agreements made with respect to such assets, whether such agreements were made heretofore, or are made hereafter.

61-33-06. Duties and powers of the board of university and school lands. The board of university and school lands shall manage, operate, and supervise all properties transferred to it by this chapter; may enter into any agreements regarding such property; may enforce all subsurface rights of the owner in its own name; and may make and execute all instruments of release or conveyance as may be required pursuant to agreements made with respect to such assets, whether such agreements were made heretofore, or are made hereafter.