

Doc.  
I 29.  
2:  
K 74/3/986

86-377

# ENVIRONMENTAL ASSESSMENT revised GENERAL MANAGEMENT PLAN

March 1986



KNIFE RIVER INDIAN VILLAGES  
NATIONAL HISTORIC SITE  
NORTH DAKOTA

National Park Service • Rocky Mountain Region

DEPOSITED DOCUMENT

ENVIRONMENTAL ASSESSMENT/REVISED GENERAL  
MANAGEMENT PLAN

For

KNIFE RIVER INDIAN VILLAGES NATIONAL HISTORIC SITE  
Mercer County  
North Dakota

National Park Service  
United States Department of the Interior

RESPONSIBLE OFFICIAL:

L. Lorraine Mintzmyer  
Regional Director  
Rocky Mountain Region  
655 Parfet Street  
P.O. Box 25287  
Denver, Colorado 80225

FOR FURTHER INFORMATION CONTACT:

Harvey D. Wickware,  
Superintendent  
Theodore Roosevelt National Park  
P.O. Box 7  
Medora, North Dakota 58645  
(701) 623-4466

Michael O. Holm, Area Manager  
Knife River Indian Villages National  
Historic Site  
Rural Route 1  
Stanton, North Dakota 58571  
(701) 745-3300

TABLE OF CONTENTS

CHAPTER I

Purpose and Need for the Plan . . . . .	1
A. Introduction. . . . .	1
B. Legislative and Planning History. . . . .	1
C. Influences on Management. . . . .	4
D. Park Purpose and Management Objectives. . . . .	5
E. Issues. . . . .	7

CHAPTER II

The Proposal and Alternatives Addressing the Issues . .	11
A. Introduction. . . . .	11
B. Proposed Plan . . . . .	11
1. Land Use and Management . . . . .	11
2. Land Protection . . . . .	13
3. Cultural and Natural Resources Management . . .	14
4. Visitor Use and Interpretation. . . . .	21
5. Park Operations . . . . .	25
6. General Developments/Development Concepts . . .	26
a. Visitor/Administrative Facility . . . . .	26
b. Maintenance Facilities. . . . .	27
c. Roads . . . . .	30
d. Trails. . . . .	30
7. Plan Implementation (phasing and cost estimates). . . . .	30
C. Alternatives Considered . . . . .	32
1. Alternative A . . . . .	32
2. Alternative B . . . . .	36
D. Summary Comparison of Alternatives. . . . .	41

CHAPTER III

The Affected Environment. . . . .	45
A. Introduction. . . . .	45
B. Natural Resources . . . . .	49
a. Hydrology . . . . .	49
b. Geology and Soils . . . . .	49
c. Wildlife and Vegetation . . . . .	52
d. Air Quality . . . . .	53
C. Cultural Resources. . . . .	54
a. Historical. . . . .	54
b. Archeological . . . . .	54
D. Visitor Use Data. . . . .	57
E. Regional Land Use and Regional Visitor Facilities and Services . . . . .	59

F. Facility Analysis and Staffing. . . . .	65
G. Status of Rights-of-Way, Landownership, and Jurisdictional Authorities. . . . .	65

CHAPTER IV

Environmental Consequences of the Proposal and Alternatives. . . . .	69
A. Introduction. . . . .	69
B. Natural Resource Environmental Consequences . . . . .	69
a. Hydrology . . . . .	69
b. Geology and Soils . . . . .	70
c. Wildlife and Vegetation . . . . .	70
d. Air . . . . .	71
C. Cultural Resource Environmental Consequences. . . . .	72
D. Effects on Visitor Use. . . . .	74
E. Effects on Facilities . . . . .	75
F. Summary Comparison of Environmental Consequences. . . . .	76
G. Land Use Effects. . . . .	79
H. Any Irreversible and Irretrievable Commitment of Resources. . . . .	79
I. The Relationship Between Short-Term Uses of Man's Environment and the Maintenance and Enhancement of the Long-term Productivity. . . . .	79

CHAPTER V

List of Preparers . . . . .	80
-----------------------------	----

CHAPTER VI

Consultation. . . . .	81
-----------------------	----

APPENDICES

Appendix A - Legislation. . . . .	84
Appendix B - Easement Restrictions. . . . .	87
Appendix C - Memorandum of Agreement, National Park Service and State of North Dakota. . . . .	88

LIST OF MAPS

Map I.1	-	Rocky Mountain Region . . . . .	2
Map I.2	-	Vicinity Map. . . . .	3
Map II.1	-	Management Zoning Proposal. . . . .	12
Map II.2	-	Proposed General Management Plan. . . . .	28
Map II.3	-	Visitor/Administrative Facility - Development Concept . . . . .	29
Map II.4	-	Alternative A : . . . . .	35
Map II.5	-	Alternative B . . . . .	40
Map III.1	-	Landownership . . . . .	46
Map III.2	-	Boundary Map. . . . .	47
Map III.3	-	General Development Plan. . . . .	48
Map III.4	-	Floodplain. . . . .	50
Map III.5	-	Geological Terraces . . . . .	51
Map III.6	-	Cultural Resources. . . . .	56
Map III.7	-	Regional Setting. . . . .	62
Map III.8	-	Existing Conditions . . . . .	66

LIST OF FIGURES

Figure III.1	-	Monthly Visitation - 1984. . . . .	58
Figure III.2	-	Annual Visitation. . . . .	58
Figure III.3	-	Projected Visitation Trends. . . . .	60

## SUMMARY OF PROPOSED PLAN

The National Park Service Proposal responds to resource protection, visitor use needs, and improved management efficiency. Improved cultural and natural resource management programs will provide a means for resource protection. Visitor use needs will be provided with development of a visitor/administrative facility, improved and expanded interpretive programs, and expanded parking capacity.

The Running Deer Site will be protected in the remote possibility that it is determined to be a winter village or if activities at this site are significantly related to occupation of the Big Hidatsa Site. Earthlodge reconstruction is not provided; however, an interpretive earthlodge near the proposed visitor/administrative facility could be provided to aid interpretation efforts. Storage of artifact categories with research and exhibit interest will be included in the visitor/administrative facility.

Other elements contained in the proposed plan are:

Revised management zones that recognize all known archeological sites and areas

Potential use of riverbank erosion control projects to protect significant archeological sites threatened by river erosion

Use of prescribed burning to manage vegetation and development of a fire management plan

Intensified management of fishing at the Sakakawea Village cutbank

Coordinating air quality monitoring with the State of North Dakota

Coordinating management of noxious weeds with State and local governments

Relocation of the Big Hidatsa Site trailhead to the east of the maintenance area.

## CHAPTER I

### PURPOSE AND NEED FOR THE PLAN

#### INTRODUCTION

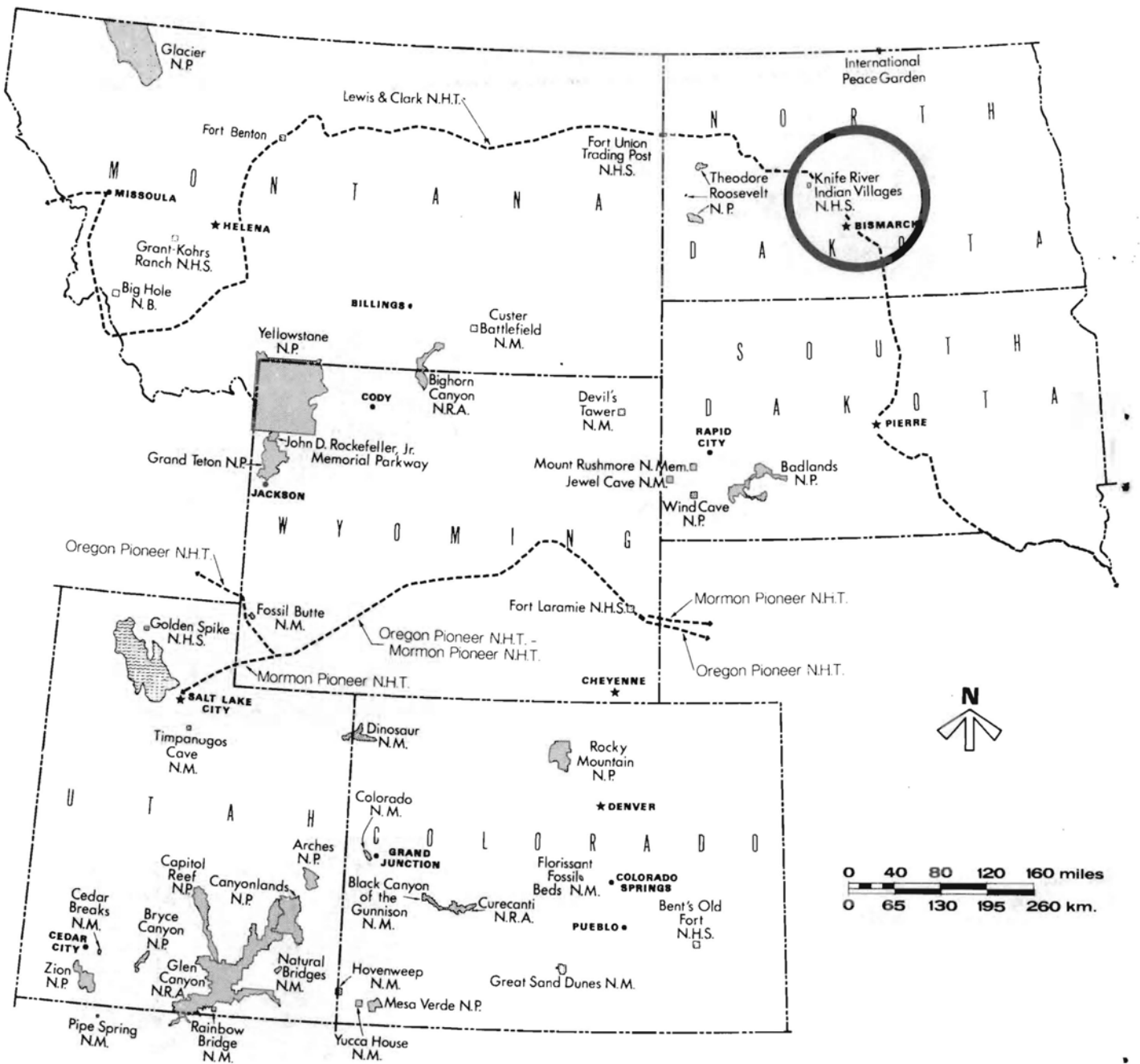
This plan sets forth the basic management philosophy for Knife River Indian Villages National Historic Site (KNRI) and provides strategies for addressing issues and achieving identified management objectives. This document also discloses the potential environmental consequences that may result from implementation of various management alternatives. It documents the steps used by the National Park Service (NPS) in the process of revising a general management plan (GMP) including issue identification. Chapter II of this document illustrates the NPS proposed plan.

A Master Plan was issued for Knife River Indian Villages in January 1977. This revision is necessary because the current master plan is out of date and does not provide direction for management and development. The current master plan is a revision of the new area's study and does not consider new information regarding cultural resources, changes in local and regional economics and land uses, and changes in visitation and use patterns.

The national historic site is in central North Dakota (see Map I.1), Congressional District at large, Mercer County. Bismarck, North Dakota, is some 63 miles southeast of the national historic site (see Map I.2). The closest commercial air-passenger service is in Bismarck. Principal east-west highway access to the area is State Highway 200. U.S. Highway 83 provides a north-south artery connecting with Interstate 94 and U.S. 2. State Highway 31 connects Interstate 94 with State Highway 200 between Stanton and Hazen.

#### LEGISLATIVE AND PLANNING HISTORY

Provisions for establishment of the national historic site are authorized under Public Law 93-486, October 26, 1974. Included is a maximum development ceiling of \$2,268,000. A Master Plan was approved for the national historic site in 1977, Natural Resource Management Plan in 1984, Cultural Resource Management Plan in 1983, Scope of Collections in 1982, Interpretive Prospectus in 1983, and Statement for



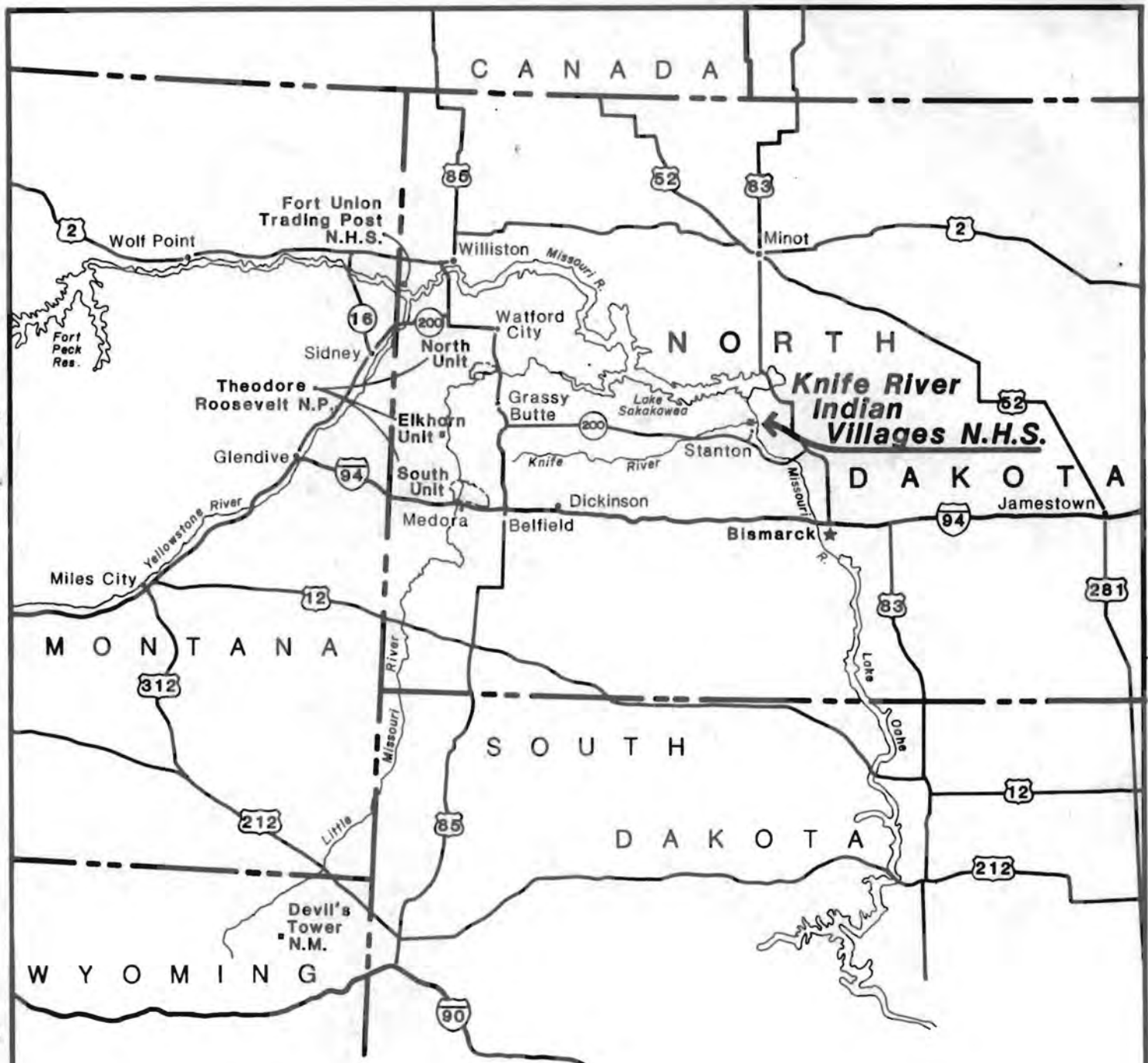
### Legend

- Locations of Major Cities
- \* Locations of State Capitals
- State Boundary Lines
- National Park Service Areas
- - - National Park Service Historical Trails

## ROCKY MOUNTAIN REGION

National Park Service  
United States Department  
of the Interior





Map I.2  
**Vicinity Map**  
 Knife River Indian Villages National Historic Site

U.S. Dept. of the Interior - National Park Service

468 | 80,021  
 July '83 | RMRO

Management in 1982. In 1984, an Environmental Assessment and Finding of No Significant Impact for the Visitor /Administrative Facility was issued for site selection.

#### INFLUENCES ON MANAGEMENT

On April 26, 1985, Legislative Support Data were submitted to the National Park Service Washington Office for purpose of increasing the current development ceiling. In the event funding for development of the national historic site is not received within 1986 or 1987, it would be necessary to seek an increase in the authorized development ceiling. The current balance of unobligated funding is \$1,992,000.

The national historic site has not been officially established. This condition exists because permanent facilities have not been constructed. Also, the park resources are not totally available to the visitor.

Included within the authorized park boundary are 1,066.00 acres of non-Federal mineral rights.

The 49th Assembly of North Dakota has addressed a concurrent Senate/House resolution. This resolution urges the Secretary of the Interior, the Director of the National Park Service, and the Regional Director of the Rocky Mountain Region to take all steps necessary to secure funding for the development of Knife River Indian Villages National Historic Site.

Existing agreements include:

<u>Party</u>	<u>Purpose</u>
Three Affiliated Tribes New Town, North Dakota	Procedures for reinternment of disturbed human burials and consultation on any major developments.
Stanton Rural Fire Depart- ment, Stanton, North Dakota	Mutual Fire Protection Aid
State Historical Society of North Dakota, Bismarck, North Dakota	Mutual Protection of histor- ical and archeological resources.

State of North Dakota  
Bismarck, North Dakota

Concurrent jurisdiction over  
land within the park  
boundaries

Proposed agreements include:

City of Stanton  
Stanton, North Dakota

Provide KNRI facilities with  
water and sewer services

#### PARK PURPOSE AND MANAGEMENT OBJECTIVES

". . .for establishment as the Knife River Indian Villages National Historic Site, North Dakota. . .," from HR 13157: ". . .to preserve certain historic and archeological remnants of the culture and agricultural lifestyles of the Plains Indians."

Significant in the documented legislative history are two excerpts from verbal and written testimony:

1. "The third component of H.R. 13137 is the Knife River Indian Villages National Historic Site, located in the State of North Dakota. The new unit will add to the National Park System several important archeological sites where the life of the Plains Indians can be studied and interpreted. At one time, it was a hub of trading between tribes, as well as with white fur traders. In addition, it is important as a place where Indian culture and agricultural adaption developed. Protection of the archeological site in this area is needed, but equally important is the need to properly study, develop, and interpret the area for the visiting public."

2. The Office of the Secretary's letter to the Chairman of the House and Senate Committees of Interior and Insular Affairs signed by Nathaniel Reed on November 6, 1973, emphasizes:

a. The archeological value of Knife River Indian Villages National Historic Site.

b. The historical associations with Lewis and Clark, Bodmer, Lisa, Catlin, Maximilian, Henry, Bradbury, and Audubon.

c. The importance of the agricultural phase of Plains Indian development.

d. The trade regime and its effect on the spread of horses.

Management objectives currently being considered in the park's updated statement for management are as follows:

1. Management, Administration, and Support

To provide necessary staff and facilities to protect all park resources 24 hours a day, 7 days per week

To cooperate with the Three Affiliated Tribes, State, county, and local governments in the management of the park area and protection of the historic scene outside of the national historic site.

2. Interpretation/Visitor Services

Provide visitor information and interpretation on the Mandan/Hidatsa culture, their lifestyle during occupation at Knife River, and the influence of Euro-American contact

To serve the visitor by providing necessary facilities and exhibits to accommodate year-round day-use activities

Promote a cultural and natural resources conservation ethic to park visitors through programs, personal contact, and literature.

3. Cultural Resource

To protect the cultural and historical resources and still provide adequate public access for the desired visitor experience

Develop a program for the handling, preservation, storage, and research of archeological museum collections

Develop and implement a program for examining the archeological and historical resources of the park consistent with the principles of historic preservation

Protect those cultural resources threatened by removal or destruction from natural processes.

#### 4. Natural Resources

Create historic, natural vegetative patterns that closely resemble the time period of major village occupation

Implement a program of total natural resource management to include fire management and Integrated Pest Management.

#### ISSUES

The following issues were identified by the public, the National Park Service, and other government agencies during a scoping and public involvement program begun in July 1985. They represent the concerns or problems that individuals or groups have expressed to date regarding the future of Knife River Indian Villages National Historic Site. This planning effort responds to those concerns.

ISSUE A: CONDITIONS, DATA, AND PROJECTIONS USED FOR PREPARATION OF THE MASTER PLAN ARE NO LONGER VALID AND NEW INFORMATION HAS BEEN OBTAINED.

The master plan is a revision of the original new areas study, the new areas study was completed prior to the sites enabling legislation. Current master plan orientation is towards four major archeological areas (Big Hidatsa, Lower Hidatsa, Sakakawea Village, and Buchfink Site) dating to the 1500's. Phase I archeological surveys have identified over 50 additional sites, some of which contain components that may be several thousand years old. The scope of management has been increased with identification of these sites.

Actual use has fallen short of visitation projections in the master plan. Surrounding land uses and regional economy has changed from an agricultural orientation to one more dependent on coal mining and electrical power generation.

Phase I data-base research is nearing completion. Development subzones illustrated in the master plan do not account for the newly recorded archeological sites

and therefore encroach upon them. General developments in the master plan are inconsistent with land classification needs. Landscape restoration (removal of old buildings and agricultural improvements) direction in the master plan has been implemented and completed negating the need for continuing this program. However, revegetation of these disturbed areas to native grasses has not begun. The unique significance of the park's archeological resources and their relevance to new interpretation of northern plains prehistory has come into sharper focus aiding in the understanding of the culture and history of the Knife River Indian Villages in particular and Plains Indians in general.

Issues affecting management of Knife River Indian Villages have changed. Issues in the master plan are not consistent with those outlined in the sites interpretive prospectus, natural resources management plan, and cultural resource management plan.

ISSUE B: DECISIONS ON THE VISITOR/ADMINISTRATIVE FACILITY SITE SELECTION HAVE BEEN MADE. THERE IS A NEED TO IDENTIFY SPECIFIC DEVELOPMENT PRIORITIES.

An environmental assessment was prepared and a finding of no significant impact (FONSI) was issued in November 1984. These actions documented a decision as to the location, size, and cost of the areas visitor/administrative facility. As illustrated in the environmental assessment and FONSI, this decision would not adversely affect cultural resources. This decision is a departure from the master plan. It maintains the current maintenance area and converts the present headquarters to a National Park Service residence. The relationship of this decision to vehicular and pedestrian circulation patterns and management of Knife River Indian Villages needs to be determined.

Knife River Indian Villages is still classified as a developing area. To reach the National Park Service goal of official establishment, there is a need to more specifically identify development and improvement priorities.

ISSUE C: THERE IS A NEED TO EVALUATE MANAGEABILITY AND CULTURAL RESOURCE PROTECTION AFFORDED BY CURRENT BOUNDARIES.

A majority of boundaries have been surveyed and posted with fencing or boundary markers. Exceptions are

boundaries along the scenic easement west of County Road 37 and the Missouri River in the southeast portion of the national historic site. In these areas, enforcement of regulations is difficult.

The scenic easement provides for continuance of agricultural activities without impediments from the National Park Service. The scenic easements do not grant any right to go on the property for building fences. Knife River is closed to game hunting; enforcement of this regulation along the scenic easement without boundary markings is not practicable at the present time. The State of North Dakota does not have a prohibition on game species road hunting on county or State-owned rights-of-ways. Because a return to natural ecological processes has enhanced deer habitat, deer populations have increased. This has resulted in an increase of hunting along County Road 37 within the national historic site. This hunting may create a danger to the lives and safety of the visitor.

Phase I archeological surveys identified the Running Deer Site. This site is partially located outside the national historic site. The significance of this site and protection strategies need to be determined.

ISSUE D: THERE IS A NEED TO MORE CLEARLY IDENTIFY NATURAL AND CULTURAL RESOURCE MANAGEMENT STRATEGIES.

Natural resource and cultural resource management plans have been prepared. There is a need to update strategies within these plans to provide management that responds to current and anticipated problems.

Since the site is no longer subject to livestock grazing and other agricultural practices, exotic grasses and shrubs have invaded and grown. This results in excessive fuel buildups and the subsequent fire danger. There is a need to analyze management practices, such as prescribed burning and mechanical and biological methods that could be employed to reduce and maintain prescribed fuel levels. The impacts of these practices to cultural resource values also require evaluation.

There is confusion regarding earthlodge reconstruction and questions have been raised. Management of earthlodges needs to be determined and clearly defined and illustrated.

ISSUE E: THERE IS A NEED TO COORDINATE MANAGEMENT WITH ADJACENT INFLUENCES AND LAND USES.

The site's access road, while within the national historic site boundary, is within a county rights-of-way. Administration, maintenance, and improvement of this road is the responsibility of Mercer County, plans for paving and other improvements are currently being contemplated. The effects of improvement to wildlife and visitor use needs to be determined to develop a national park service position for future coordination actions. Regulation of speed seems to be the major concern at this time.

Stanton City Park is adjacent to the park's southern boundary, near the confluence of the Knife and Missouri Rivers. Recreation activities and opportunities at the city park need to be coordinated with management of Knife River to avoid duplication of efforts and to maximize visitor services in the area.

ISSUE F: THERE IS A NEED TO DETERMINE RELATIONSHIPS OF ACTIVITIES, VISITOR USE PATTERNS, CIRCULATION, AND INTERPRETATION WITHIN THE NATIONAL HISTORIC SITE.

The river access road originally constructed for the riverbank stabilization project along Sakakawea Village is now being used to support picnicking and fishing activities. With construction of the proposed visitor/administrative facility, the river access road, parking, and riverbank trail may no longer be needed.

Recreation use along the Sakakawea Village river cutbank has led to degradation of artifact profiles exposed by river erosion. Measures that provide protection (such as patrolling, information, educational programs, and closure to public use) of the river bank profile require evaluation.

Direction provided by the current interpretive prospectus is outdated. It does not consider site selection of the proposed visitor/administration facility. This document should be evaluated and management strategies developed that reflect the National Park Service Proposal.



## CHAPTER II

### THE PROPOSAL AND ALTERNATIVES ADDRESSING THE ISSUES

#### INTRODUCTION

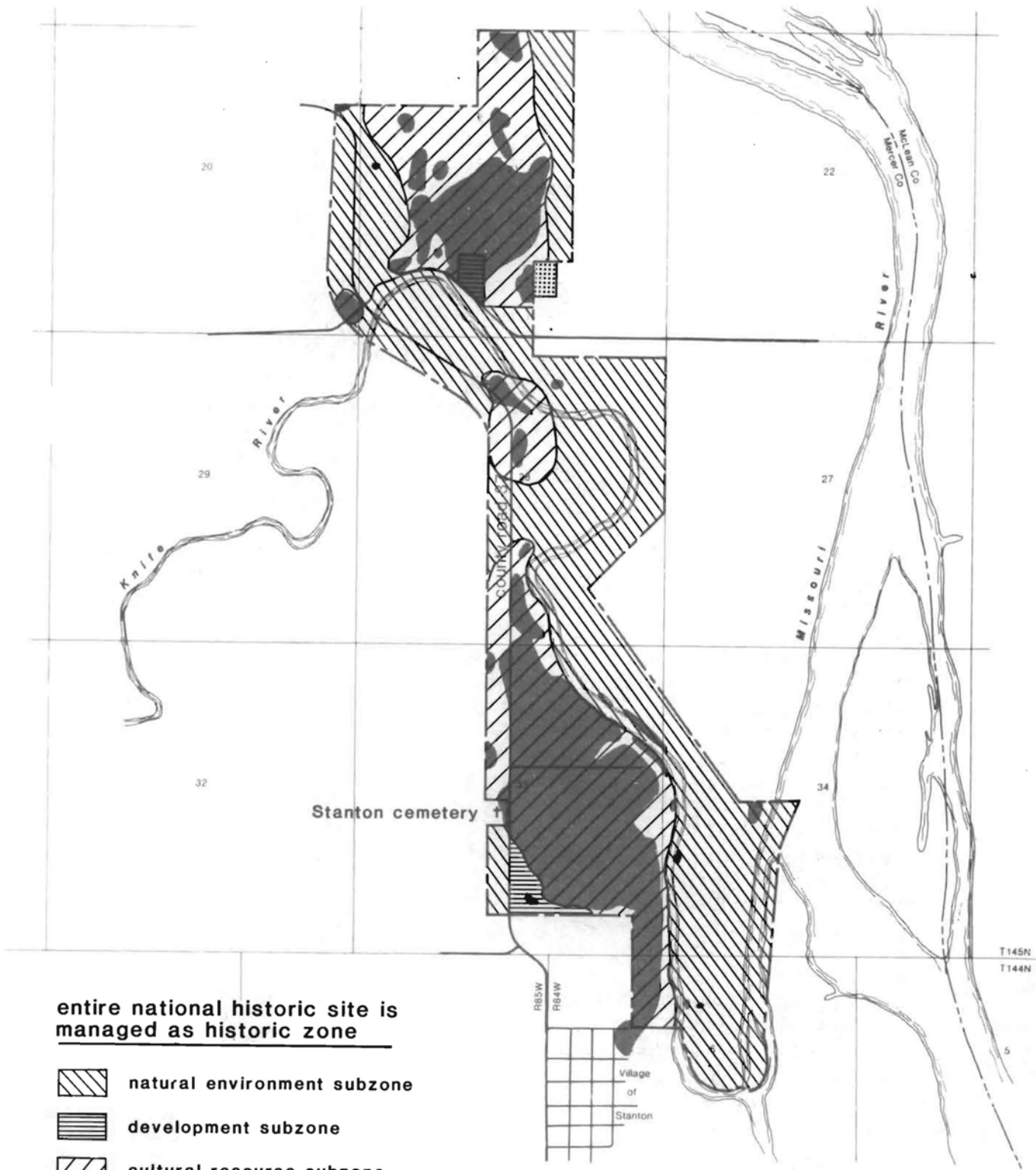
The proposal presented in this chapter constitutes the National Park Service's proposed general management plan for Knife River Indian Villages National Historic Site. Other alternatives were developed to address the issues in various ways, they are also displayed in this chapter. The alternatives have different emphasis. Consequently, each provides a different response to the issues. In addition to the National Park Service Proposal, two alternatives were developed for Knife River Indian Villages National Historic Site. They are the minimum management and continue current management alternatives.

The proposal was selected over other alternatives analyzed because it provides a balanced response to resource protection, park management, and visitor-use issues. Included are various protection strategies for all known archeological sites and strategies to protect unknown archeological sites if they are encountered. Also included are facilities necessary for the management and protection of archeological collections. Adoption of the 1984 decision regarding location of the proposed visitor/administration facility enhances park management and visitor-use needs. Park management and cultural resource protection is further enhanced with relocation of the Big Hidatsa trailhead and provisions to expand maintenance and storage facilities outside the park (perhaps in the City of Stanton). Visitor-use needs are recognized by providing for dispersed recreation use (particularly fishing) along the Knife River. Monitoring and measures to reduce effects of this use on archeological sites will also be provided.

#### THE PROPOSED PLAN

##### Land Use and Management

This management zoning proposal (see Map II.1) specifies long-term allocation of the land resources within Knife River Indian Villages National Historic Site. The entire national historic site would be within the Historic Zone with three subzones. The development subzone would comprise about 9 acres or 1 percent of the site, about 641 acres or 49 percent



**entire national historic site is managed as historic zone**


 natural environment subzone

 development subzone

 cultural resource subzone

 national historic site boundary

 Running Deer Site

 known archeological sites



0 1000 2000 3000 feet

**Map II.1  
Management Zoning Proposal  
Knife River Indian Villages  
National Historic Site**

United States Department of the Interior  
National Park Service

468 | 80,027-A  
Jan 86 | RMRO

would be within the natural environment subzone, and 643 acres or 50 percent of the site would be classified as a cultural resource subzone.

The development subzone includes the visitor/administrative facility, maintenance area, and residence. Within the natural environment subzone are natural resources including the Knife River, prairie grasses, riparian vegetation, cottonwood terraces, and other various wildlife habitats.

Encompassed within the cultural resource subzone are the archeological sites and immediately adjacent areas.

Management within the development subzone includes strategy necessary to provide and maintain developments that serve the needs of the visitor and park management. Conservation of natural resources and processes is emphasized in the natural environment subzone while management within the cultural resource subzone pursues the preservation and protection of archeological sites and values. Because the entire park would be within the Historic Zone, all activities are tempered by the preservation, protection, and interpretation of cultural resources and their settings.

A majority of Knife River Indian Villages National Historic Site is surrounded by private lands. These lands have been developed with roads, residences, and extensive agricultural improvements. Viewsheds within natural zones of the historic site include these private lands. Because of the evidence of man's culturally modified environment and the small size of the natural zones, there is no potential for the visitor to experience primitive, unconfined recreation and solitude. Needs will continue to exist for management of vegetation, fire, and noxious weeds. For these reasons, the natural zones of the national historic site do not qualify for wilderness designation.

#### Land Protection

The current park size of 1,293.35 acres will be maintained. In the remote possibility that the Running Deer Site is determined to be a winter village or if activities at this site are significantly related to occupation of Big Hidatsa, the site would be protected.

The national historic site includes 1,066.00 acres of non-Federal mineral rights including tract number 01-115 where the proposed visitor/administrative facility would be constructed. There is a need to research mineral potential and environmental threats that may be posed by mineral developments prior to making decisions on land protection strategies which address this condition.

#### Cultural and Natural Resource Management

River Erosion - 3-1/2 miles of channel and mouth of the Knife River are located within the park. Spring runoffs and flash floods, typical of meandering prairie streams, frequently result in riverbank erosion. These processes damage cultural resource sites and threaten to damage roads within the park.

Use of structural improvements (such as rip-rap or other constructed controls) to control riverbank erosion will be limited to areas containing cultural resource sites that should be protected "in-place." Initiation of a study to evaluate riverbank sites that should be protected "in-place" is required. This study may be conducted in conjunction with the Water Resource Management Plan. Structural improvements can also be used where erosion threatens roads or facilities within the park. Maintenance of the park's historic integrity should be used as the primary factor when designing river bank erosion control features. Concrete masses or other controls which do not repeat the surrounding landscapes' characteristics should be avoided. Material that allows revegetation to give appearance of a natural landscape should be used.

Vegetation Management - Knife River Indian Villages National Historic Site is comprised of upland mid-grass areas and riparian bottom-land woods. All areas of the park have been intensively impacted by man. During early development of the park, emphasis was placed on managing the vegetation to aid cultural resource interpretation. However, sufficient insight was not present at the time to realize that returning the area to the "natural scene" typical of the 1804-1805 period, as called for in the master plan, would mean clear cutting the entire areas' timber and creating a barren, dusty scene around the village areas.

The goal of vegetation management in the natural zone is to restore native vegetative communities, in as far as possible, and the processes that maintain those

ecosystems. In the cultural zone, goal of vegetation management is to provide natural vegetative patterns that closely resemble the time period of major village occupation.

To implement these goals, research should be conducted in conjunction with mechanical, biological, and prescribed burning programs. Research should monitor the effects of vegetative treatment on cultural and natural resources. As information is collected, vegetative management programs should be modified to meet desired objectives.

### Fire Management

Since park establishment, there has been an accumulation of grassland and riparian fuel buildup. This has increased the risk of wildfire threatening both park and private properties. At the present time all fires are suppressed in cooperation with the Stanton Rural Fire Department. The effects of fire on surface and subsurface archeological resources is unknown; however, it is known that fire has occurred in the past and has played a historic role in the maintenance of ecosystems.

An interim fire management plan should be developed and executed. This plan should include prescriptions that reduce fuel buildup through prescribed burning. In the event of wildfire, suppression will occur unless the fire is needed to meet vegetation management goals. All wildfire that constitutes a threat to life, health, safety, or property will be suppressed. Research on the fire ecology of the park and its effects on cultural resources should occur in conjunction with the interim fire management plan. As information is collected and findings reached, the fire management plan should be amended accordingly. The goal of fire management is to take immediate on-the-ground action while providing provisions for research to modify actions as new data are collected.

Boundary Controls - Knife River Indian Villages National Historic Site has 5 miles of boundary which are either unfenced or inadequately fenced and marked. The current scenic easement does not grant the right to fence this area. Lack of boundary controls result in livestock trespass from adjacent farms and ranches, trespassing, and hunting.

Under this proposal, all boundaries would be fenced and posted except for the 400-foot scenic easement. Signs

along Mercer County Road 37 will indicate to visitors when they have entered and left the national historic site. Park staff will monitor the effects of game-hunting activities along all county maintained roads lying within the park boundary. Should it be determined that hunting activities threaten the safety of park visitors, management will pursue a solution through cooperative efforts with local, county, and State Agencies.

Fishing Management - Fishing of the Knife River from banks of the Sakakawea archeological site is a popular sport with local residents. The area is easily accessible, and it is presumed the area is popular because it is the best "fishing hole" along the river in the park. It is known that the lower Knife River provides a sport-fish catch of 1.02 which is considerably higher than the statewide average of .37 fish per angler hour. It is also known that the mouth of the Knife River is an important feeding and breeding ground for many aquatic species.

Fishing from banks of the Sakakawea archeological site will continue with close surveillance by park staff to insure protection of the cultural resources. Visitor conflicts would be reduced by providing main interpretive access to Sakakawea Village from the relocated visitor/administrative facility. Fisherman access to the site would continue from the existing parking area. Inventories would also be collected to determine "fishing holes" which might be available in less sensitive areas. If they exist, fishermen would be encouraged to use these areas.

Poison Ivy Control - Poison ivy has invaded a large portion of the riparian woodlands. These dense stands pose a degree of hazard to visitors and park staff making the areas unusable.

A combination of mowing or cutting, prescribed burning, chemical control, and biological control should be used to control poison ivy populations in the short-term. In the long-term, the ecological situation should be evaluated and a systematic program developed to maintain poison ivy control.

Threatened and Endangered Species - The only endangered species known to use the park is the Bald Eagle (*Haliaeetus leucocephalus*). This species winters along the Missouri River and there are frequent documented

sightings within Knife River Indian Villages National Historic Site. There are no known rare, threatened, or endangered plants within the park.

Inventories should be collected to determine the presence of any additional rare, threatened, or endangered species. If these resources are identified, management plans should be developed and implemented in cooperation with the U.S. Fish and Wildlife Service.

Air Quality - Knife River Indian Villages National Historic Site is located in the heart of an energy corridor that provides gas, coal, oil, and hydroelectric power for the United States and Canada. The cumulative effects of existing and proposed energy developments are unknown. The North Dakota State Department of Health monitors air quality in the State and is the Agency responsible for issuing permits related to air quality. At present, the Agency has several air quality monitoring stations in the vicinity of Knife River Indian Villages National Historic Site.

The national historic site is classified as a Class II airshed; data from monitoring stations in nearby communities indicate no present National Ambient Air Quality Standard violations. There are 10 incumbent consuming resources within 150 miles of the historic site, 6 of these sources are located within 30 miles. The concern at Knife River is the potential for future degradation of air quality as a result of energy related developments in the area.

Under this proposal, the Knife River staff will consult with the Regional Air Quality Coordinator and the Air Quality Division in Denver regarding working with the State of North Dakota to periodically monitor air within the park when monitoring stations in the vicinity indicate potential problems.

Noxious Weed Control - Leafy spurge, Canadian thistle, and other weed species occur in scattered locations in the park. Mercer County has a noxious weed control program as dictated by State law. Cooperation between the park and county has occurred. A 1982 State law granted authority to weed boards to control weeds on all lands and assess the appropriate landowners for these costs. State and local entities believe that this law encompasses Federally-owned and -managed properties.

The park will continue to coordinate programs with State and local entities. Areas of infestation will be clearly defined and mapped and a systematic control program implemented. The program includes provisions for more efficient control of noxious weeds and monitoring to determine environmental side effects.

Water Resources - The park contains two major rivers, the Knife and Missouri, that are environmentally and historically significant.

A Water Resource Management Plan needs to be developed that identifies the resources, threats, and best management practices. It should also identify data base voids and inventory needs.

Control of Rodent Burrowing Activities - Each of the three major villages in the park (Big Hidatsa, Lower Hidatsa, and Sakakawea Village) have large resident populations of burrowing rodents. The overall ongoing effect of burrowing activities is to destroy intact archeological deposits and redeposit displaced artifacts in new contexts not related to original human inhabitants of the villages. In 1977 a controlled surface artifact collection study was conducted. The results of this project suggest the rodent burrows visible on the surface represent about 0.84 percent of the estimated total volume of cultural deposits at Sakakawea Village; the figure for Lower Hidatsa was 0.31 percent.

To effectively control rodent populations, there is a need to develop an integrated pest management plan. The plan should consider use of vegetation management, chemical agents, and/or mechanical measures to reduce rodent populations in key archeological areas.

Management and Protection of Archeological Collection - As a result of the 5-year Phase I archeological research program, there are approximately 800,000 artifacts, or 764 cubic feet of museum material. This material needs to be catalogued, properly stored, and made available to bona fide researchers. Because additional phases of archeological investigation may occur in the future, it is expected this collection could grow.

The bulk of the 800,000 artifacts are presently at the University of North Dakota, this material is scheduled to be returned to Knife River Indian Villages National Historic Site in 1986.



Under this proposal, facilities to store artifacts with expected research and exhibit interest will be constructed in the proposed visitor/administrative facility following comprehensive review by park management and the Rocky Mountain Region cultural resource staff. Artifacts will be classified in exhibit, research, and storage categories. Those items classified in the storage category will be stored in retrievable, sealed containers. All work shall be in conformance with NPS-28. Also included in the proposed visitor/ administrative facility is a museum lab for use by both private researchers and National Park Service archeologists.

If necessary, arrangements to store artifacts at the Midwest Archeological Center will be pursued until completion of the proposed visitor/administration facility.

Evaluation and Protection of Running Deer Site - Since park authorization, the Running Deer Site has been identified. In the remote possibility that Running Deer is determined to be a winter village site, it would constitute a major and highly significant cultural resource. Phase I, archeological survey data, suggests the Running Deer Site is contemporaneous to Big Hidatsa. It is unlikely that it is a winter village because of its immediate proximity to Big Hidatsa where wood supplies are likely to have been decimated. However, the site is important because it may be a special activity location related to Big Hidatsa.

This proposal includes provisions for the National Park Service to fund research to determine whether Running Deer was a winter village or a site significantly related to Big Hidatsa. If it proves to be a winter village or if activities at this site are significantly related to the occupation of Big Hidatsa, it would be protected.

Document National Register of Historic Places Status - As a historical unit of the National Park System, Knife River was automatically included in the National Register of Historic Places on the date of its authorization, October 26, 1974. The Big Hidatsa Village Site was placed on the National Register on October 15, 1966. No followup documentation in the form of National Register of Historic Places nomination forms was ever prepared and submitted.

A single multiple resource nomination is currently being prepared for the entire park addressing all archeological and historical resources presently known in the park.

Impacts of the River Access Road on the Elbee Site - The river access road intrudes upon the Elbee Site and the cumulative effects of continued vehicle access across this site are not totally known.

In this proposal, the access road and parking would be retained. Use of the road and parking will be monitored to determine effects to the Elbee Site, and, if necessary, mitigation measures will be employed as necessary to reduce adverse effects. Consultations with the Advisory Council on Historic Preservation and the State Historic Preservation Officer will be pursued at the time mitigation measures are necessary.

Management of Sakakawea Site - Sakakawea Village is a major site and is a principle attraction for park visitors. Several issues are affecting long-term preservation of the site.

Continued erosion by the Knife River on lower reaches of the site

Overland water flow that is causing site "sloughing"

Inadvertent destruction of exposed artifacts by recreational users

Need to provide interpretation of this unique and popular resource.

In this proposal, a task force will be used to develop a site management plan that includes measures to (1) reduce vandalism, (2) improve interpretation, and (3) reduce or eliminate erosion of the site.

Reconstruction of Earthlodge - The current master plan includes provisions for earthlodge reconstruction in the Sakakawea Village Site. Reconstructed earthlodges currently exist at Fort Abraham Lincoln State Park in the Slant Indian Village located about 60 miles from Knife River Indian Villages National Historic Site.

Under this proposal, earthlodge reconstruction or replicas will not be provided at Knife River Indian

Villages National Historic Site; however, an interpretive earthlodge could be constructed to aid interpretation efforts.

#### Visitor Use and Interpretation

The major thrust of visitor use will be oriented towards the proposed visitor/administrative facility, Sakakawea Village, Lower Hidatsa Site, and Big Hidatsa Site.

Capacity of the visitor/administrative facility will be about 125 persons at one time. Interpretation, information distribution, and orientation are the major visitor services provided by this facility. The exhibit area, audiovisual area, sales outlet, and lobby are included. From this location, an interpretive trail system providing access to the Lower Hidatsa Site and terminating at Sakakawea Village will be provided for visitors wishing to experience the nature of Indian life along the Knife and Missouri Rivers. To enhance interpretive activities, an interpretive earthlodge would be constructed near the visitor/administrative facility. It is intended to provide a focus for interpretation, the scale and feeling of an earthlodge should be provided. However, it is not the intent to reconstruct or replicate an earthlodge.

Parking to accommodate 15 to 20 vehicles will be provided at a relocated trailhead for the Big Hidatsa Trail. This area will be used as a major interpretive focal point.

River access near the Sakakawea Village cutbank will be continued; however, this access will be primarily oriented to fishermen. Those visitors who desire interpretation of this area would use the trail system which begins at the proposed visitor/administrative facility. Fishing at this site would continue; however, the park will evaluate other areas with potential "fishing holes" and encourage fishermen to use these less archeologically sensitive areas.

Hunting is prohibited within boundaries of the national historic site. The entire park is closed to all means of public motorized travel except on designated roads. Segments of the Knife River within the park are closed to all public motorized craft. Park staff will enforce this closure as provided for in an agreement between the National Park Service and State of North Dakota, dated May 23, 1977.

Dispersed recreation use for visitors desiring a more natural setting will be provided along riparian woodlands of the Missouri River peninsula.

Some overnight facilities are provided at Stanton City Park, these efforts will not be duplicated by the National Park Service. Campgrounds and other overnight accommodations are not provided within the national historic site.

Interpretive objectives for the park are

To preserve the irreplaceable archeological resources of the park and restore the natural setting to a period in history that will permit interpretation of a vast array of interpretive themes.

To provide a visitor contact facility and interpretive programs to accommodate year-round day-use activities.

To cooperate with other Federal and State Agencies to improve access and vehicular circulation to and through the park.

To work with other governmental Agencies, educational institutions, and private interests toward protection of the historic scene outside the national historic site.

Interpretation will be provided through a variety of methods and practices. Interpretation is guided by the following themes and subthemes:

Natural Environment

a. The confluence of the Knife and Missouri Rivers afforded favorable conditions for establishing settlements of human populations. Today, the Missouri River floodplain is a dwindling resource, one that is being closely monitored by the State of North Dakota.

b. The flora and fauna that exist in this area are here primarily because of the riparian habitat conducive to their concentration.

## Village Life

a. An occupational sequence that covered a period of several thousand years is reflected in the variety of archeological resources present in the park and the surrounding region.

b. The semisedentary lifestyle of the Mandan and Hidatsa contrasts markedly with the culture of their nomadic neighbors including the Assiniboin, Crow, Cree, Cheyenne, various groups of Dakota, and other tribal groups. The economic practices of the Mandan and Hidatsa also contrast with different ways in which the resources of the region were utilized by Woodland and Archaic Tradition predecessors.

c. Similarities and contrasts can be found in comparisons of Mandan/Hidatsa horticultural practices and modern agricultural methods and products. Crop production in this northern region attests to their unique ability to develop a successful system to cope with the harsh climate.

d. Mandan/Hidatsa settlement patterning, economic practices, and architectural forms reflect a successful adaptation to a rigorous environment and can be compared/contrasted with the way Euro-Americans have adapted to the same environment.

## Inter-Tribal Trade and Conflict

a. The Mandan/Hidatsa, and perhaps other earlier occupants of the area, bartered with other tribes outside the area for surplus foodstuffs, pelts, and other local products for the necessities of life not readily available. Horses played a vital link in the trade network between nomadic tribes and semisedentary village people of this area. Trading activities continued into the historic period, with the villages continuing to serve as center of the trade network. Inhabitants of the villages often played a middleman role in intertribal trade and became very affluent because of this role.

b. Calumet ceremonies involving the establishment of fictive-kinship ties between members of different tribes played an important role in intertribal trade. These ceremonies not only facilitated actual trade between groups--even groups who were at war with each

other at the time--but also expedited the exchange of ceremonial and other cultural traits between Plains tribes, thus contributing to a relatively rapid spread of certain cultural characteristics between Plains Indians.

#### Euro-American Contact Period

a. As an established area of trade, the villages were "naturals" when the fur trade from Canada and the eastern United States expanded into the plains and the Missouri Valley.

b. Early exploration and westward expansion by the Euro-Americans brought visits by Henry, Bradbury, Catlin, Bodmer, Prince Maximilian, Audubon, Lewis and Clark, and other prominent travelers who recorded their impressions for posterity.

c. It is thought Toussaint Charbonneau was living in the Sakakawea Village when he was engaged by Lewis and Clark to serve as an interpreter for their journey of exploration (1804-1806) to the Pacific Ocean. Charbonneau was accompanied by his Indian wife, Sakakawea, who rendered valuable service to the expedition during the journey.

The visitor/administrative facility will include exhibits that emphasize sensitivity to the value and fragility of the archeological resources; the sociocultural systems of the Mandan and Hidatsa villages; the extent and significance of trade in prehistoric and historic times in the Middle Missouri River Valley region; historic European-American contact with the villages; early occupancy of the area covering a continuum of perhaps 8,000 years; natural history and new-man's dependency on nature for food and shelter; and the art and science of archeological investigations. Exhibits within the visitor facility will be directed towards the focal point of an interpretive earthlodge.

Wayside exhibits are proposed for a number of areas throughout the park. These should be developed with a common design element to make them easily recognizable as belonging to the park. Wayside exhibits are proposed at the park entrance, Sakakawea Cutbank, Sakakawea Village, Big Hidatsa Site, Lower Hidatsa Site, and the Missouri River's natural peninsula.

In addition to exhibits, interpretation will be provided by a series of pamphlets. These pamphlets could include

The villages - earthlodge architecture

The people - farmers, hunters and traders

Sociocultural evaluation - more than 6,000 years on the Knife River

How do we know - an archeologists' view

The land - then and now

A heritage - the ceremonies, dances, arts, crafts.

#### Park Operations

Maintenance facilities will be retained in their present location. The current visitor/administrative facility will be converted to a National Park Service employee residence.

Office space will be provided in the proposed visitor/administrative facility. Included are six offices, library, storage area for daily maintenance equipment, and conference room. Management of the area upon full implementation of this proposal requires the following staffing levels:

<u>Position</u>	<u>Person Years</u>
Area Manager	1.0
Park Ranger, Resource Management, Visitor Protection	1.0
Park Ranger, Interpretation	1.0
Museum Specialist/Archeologist	1.0
Maintenance Worker	1.0
Clerk Typist	1.0
Park Technician-Interpretation (seasonal)	.6
Park Technician-Interpretation (seasonal)	.3
Maintenance Worker (part-time)	.8
Clerk Typist (part-time)	.6
Total	<u>8.3</u>

Annual operations and maintenance budget required for the park upon full implementation of this proposal is approximately \$315,000.

## General Developments/Development Concepts

Map II.2, Proposed General Management Plan, illustrates overall concepts for Knife River Indian Villages National Historic Site. The following discussions provide more specific guidance for each area within the park.

Visitor/Administrative Facility - This structure will include provisions for interpretive, administrative, daily maintenance, and artifact management needs. It will be designed to minimize energy consumption and be accessible to and usable by the physically disabled. Pursuant to the November 1984 Finding of No Significant Impact, this structure will be located in the southwest portion of the park. The visitor/administrative facility will include an audiovisual area, exhibit space, lobby, rest rooms, offices, museum, and museum laboratory. Total size of the structure is approximately 4,200 square feet on the main floor.

Provisions to store artifacts with research and exhibit value will be provided within the visitor/administrative facility. Remaining artifacts will be stored in retrievable, sealed containers (consistent with NPS-28 standards).

Support facilities within the visitor/administrative complex will include:

Parking for 25 cars and 2 buses designed with flexibility to accommodate recreation vehicles

22-foot entrance road with 3-foot shoulders, entrance gate, and sign

Six-stall administrative parking lot

Trails that provide access to archeological sites

Utilities (1) electricity obtained from Oliver-Mercer Rural Electric via underground cable buried along the entrance road, (2) water and sewer obtained from City of Stanton requiring line extension along the county and entrance roads, and (3) telephone lines buried along the entrance road

Interpretive earthlodge oriented towards interpretive exhibits.



As illustrated on Map II.3, Visitor/Administrative Facility, Development Concepts, major elements of development concepts are as follows:

The visitor contact/administrative facility should be located to provide unobstructed visual and pedestrian access to those archeological sites determined to be most significant.

Parking should be located between the visitor contact/administrative facility and the county road and should be hidden as much as possible from the archeological sites.

The vehicular approach to the visitor contact/administrative facility should provide for an attractive view of the building and visitor entrance. Ideally, this view should not be across the parking area.

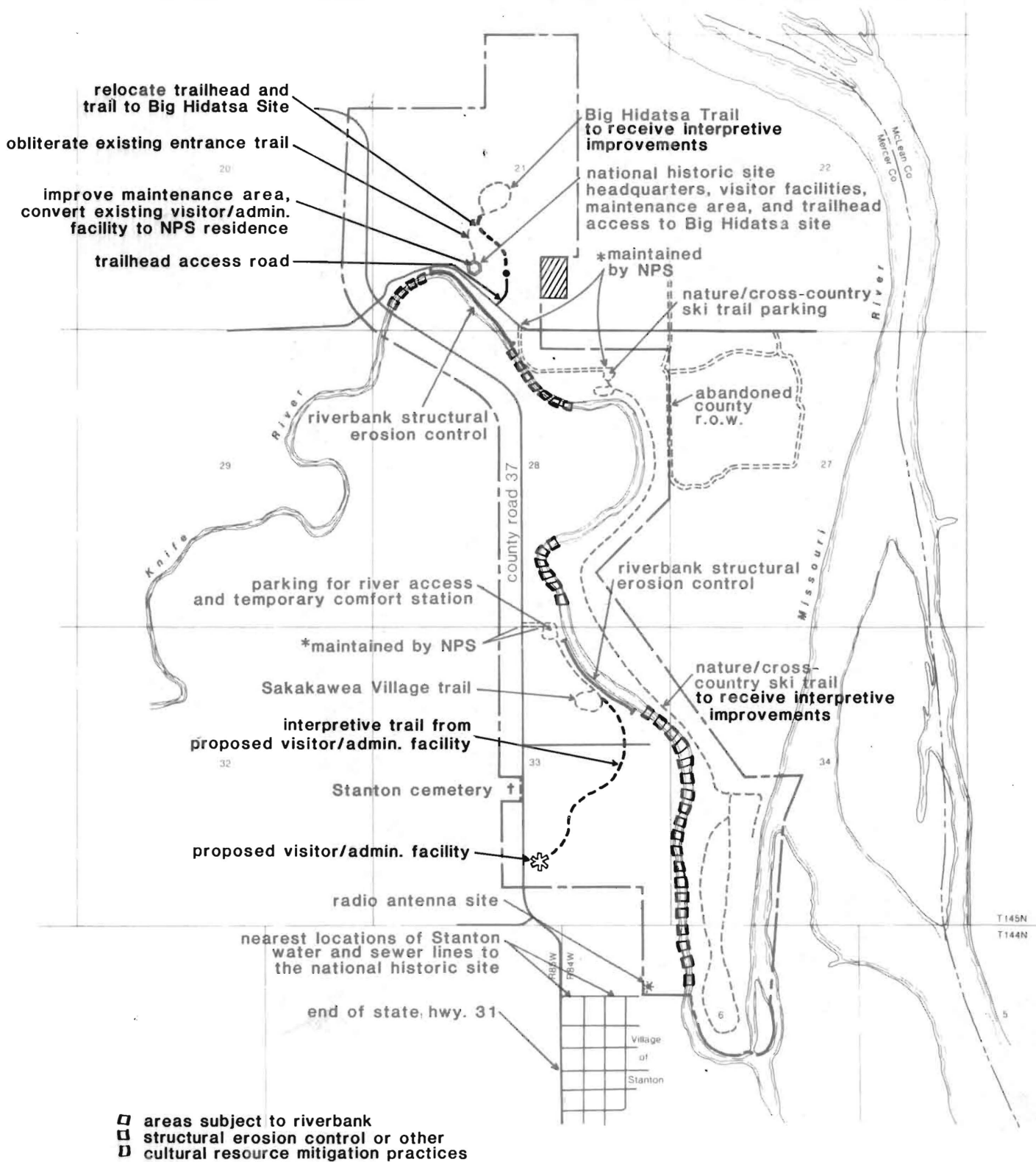
Circulation within the parking area should be counter clockwise, allowing for drop-offs at the visitor contact/administrative facility entrance for vehicles entering the parking area.

The primary visitor contact entrance should face south away from prevailing cold winter winds, and toward the winter sun.

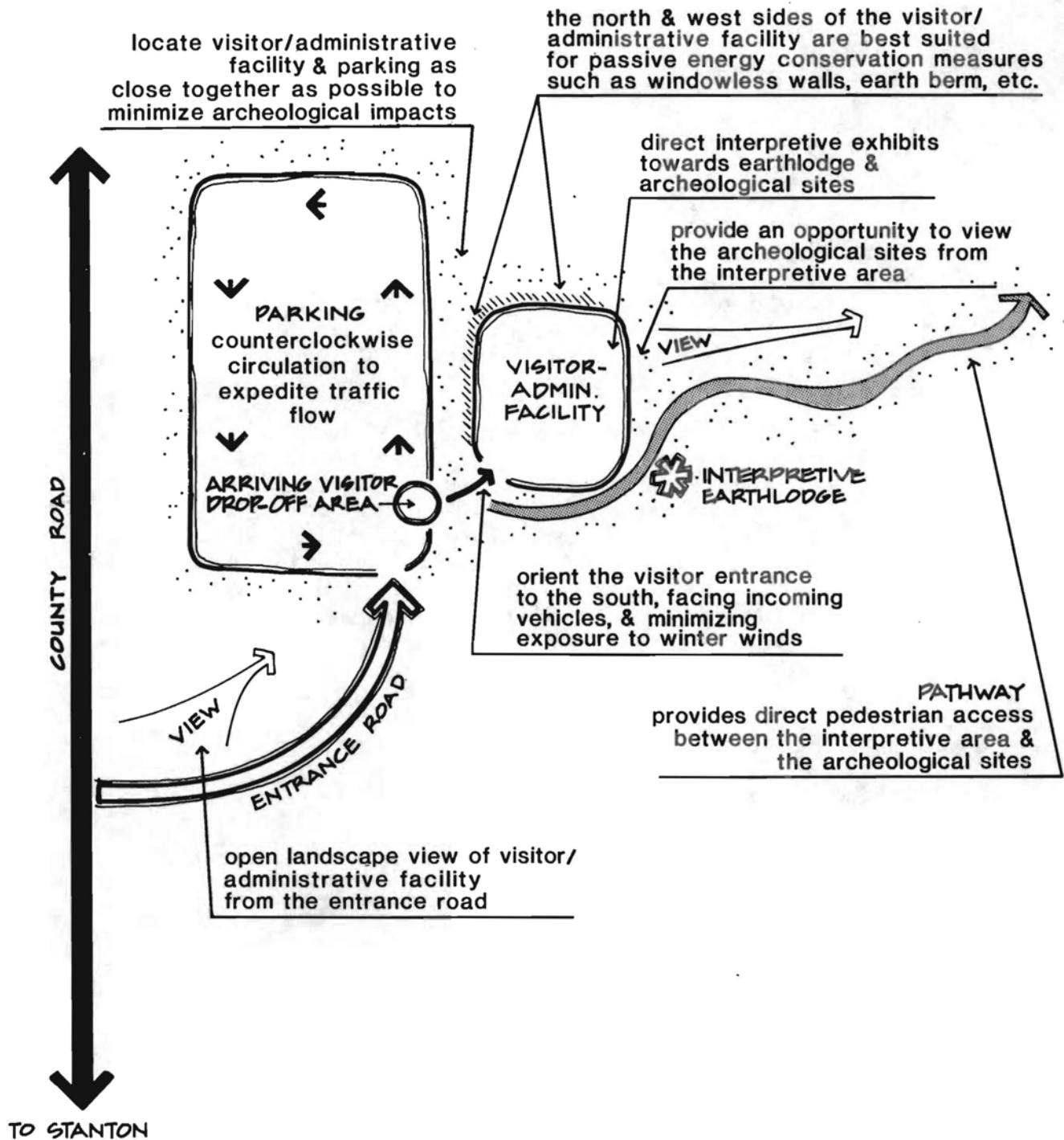
Since the north and west sides of the visitor contact/administrative facility will be most exposed to cold winter winds, these building edges are most appropriate for special energy conservation treatment such as berming and blank walls.

Construction of an interpretive earthlodge should have a location orientation towards exhibits within the visitor/administrative facility as well as the interpretive trail to outlying archeological site.

Maintenance Facilities - The maintenance area will be retained in its current location. Existing facilities are retained; they include a 1,500-square-foot maintenance building and fuel tanks. If additional maintenance facilities, covered storage, and fenced maintenance yards are required in the future, the park



Map II.2  
**Proposed General Management Plan**  
**Knife River Indian Villages National Historic Site**  
 United States Department of the Interior  
 National Park Service



Map II.3

Visitor/Administrative Facility – Development Concept  
 Knife River Indian Villages National Historic Site

will seek arrangements for these facilities outside the national historic site (such as in the City of Stanton).

Located south of the maintenance yard is the existing visitor/administrative facility. The structure will be converted to a National Park Service residence.

Roads - About 1.5 miles of gravel road would be maintained by the National Park Service. Four miles of unmaintained dirt road are within the national historic site. The Sakakawea Village river access road and parking would be maintained in its current location and standard. Because this access road crosses the Elbee Site, a program to monitor effects to the Elbee Site will be employed.

Responsibility for improvement and maintenance of all county roads within and adjacent to the national historic site will remain with Mercer County.

Trails - Interpretive improvements would be provided along the .5-mile Big Hidatsa Trail, 2-mile Sakakawea Village Trail, and 6 miles of hiking and nature trail. A crossing of the Knife River could also be provided. A new trail of 1.5 miles would be constructed from the proposed visitor/administrative facility to Sakakawea Village and the Lower Hidatsa Site. A trailhead will be constructed east of the maintenance area to serve the Big Hidatsa Site.

#### Plan Implementation

Following is the conceptual development phasing program and gross construction cost estimates for this proposal.

Phase I

Visitor/Administrative Facility (4,200 square feet); visitor parking (25 cars, 2 buses); administrative parking (6 stalls); access road (22 <sup>1</sup> / <sub>2</sub> -feet wide, 500-feet long); site utilities <sup>1</sup>	\$2,143,000
Trail Expansion (1.5 miles)	\$ 92,000
	<hr/>
	\$2,235,000

Phase II

Construct interpretive earthlodge adjacent to Visitor/Administration Facility	\$ 50,000
Interpretive Wayside Exhibits	\$ 169,000
Maintenance Area Landscaping	\$ 12,000
Convert Existing visitor/administrative facility to National Park Service residence	\$ 29,000
Relocate Big Hidatsa Trailhead and Parking	<u>\$ 45,000</u>
	\$ 305,000
Total Development Costs	\$2,540,000

1] - Construction of these facilities has been previously programmed.

## ALTERNATIVES CONSIDERED

Following are descriptions of the other alternatives analyzed in this environmental assessment.

### ALTERNATIVE A - MINIMUM MANAGEMENT

This alternative provides the minimum conditions necessary to maintain park operations in a way that visitor use, park management, and resource protection are consistent with the purpose of Knife River Indian Villages National Historic Site.

### LAND PROTECTION

Under this alternative gross park acreage will be maintained at 1,293.35 acres.

### MANAGEMENT ZONING

All acreage within the boundary of the national historic site will be classified as a Historic Zone with emphasis towards preservation, protection, and interpretation of cultural resources and their settings. Within the Historic Zone would be three subzones: Development subzone consisting of approximately 9 acres, cultural subzone of about 643 acres, and natural environment subzone consisting of 641.35 acres.

### CULTURAL AND NATURAL RESOURCE MANAGEMENT

Existing rip-rap and other river erosion improvements near the Taylor Bluff Site and Sakakawea Village will be maintained. Other areas containing cultural resource sites that could be damaged or lost to erosion would be protected through archeological research and the subsequent excavation and evaluation of artifacts. On areas without cultural resource sites, riverbank erosion will be allowed to continue without mitigation.

Vegetation will be managed to allow continuance of present processes. Fire reduction practices would not be employed and all wildfire would be suppressed. Poison ivy would not be controlled in the hope that natural succession will suppress this species. Noxious weeds would be managed with spot controls in cooperation with State and local governments.

Except for occasional monitoring, bald eagle maintenance and recovery programs will not be actively pursued. Although rodent burrowing activities effect buried artifacts, this activity will be allowed to continue unabated.

Air quality monitoring will not be provided, the National Park Service will rely on State regulatory agencies to conduct these activities. To insure proper water use and quality, a Water Resource Management Plan will be developed.

Fishing of the Knife River would continue as it currently exists. Boundary fencing would be constructed on an emergency basis as outside influences dictate.

To protect the Elbee Site, the river access parking road would be closed to public, motorized use. The Sakakawea Village Site would be managed as it currently exists. Reconstruction of earthlodges will not be provided.

The National Park Service will seek agreement with the University of North Dakota to maintain storage of archeological collections beyond the current 1986 deadline. Portions of the Running Deer Site, which are located outside the park's boundary, will not be researched or protected using National Park Service funds.

#### VISITOR USE AND INTERPRETATION

A majority of visitor use would be oriented to the existing headquarters in the northern portion of the park. Exhibits and a short sound/slide orientation are available at this structure. Exhibits briefly interpret the parks three major villages and the part they played in the trade network of the region.

Two trails will be provided--one at the Big Hidatsa Site and one at Sakakawea Village. Trail guides would be available to interpret features along the trail. Wayside exhibits would also be provided to interpret village life. Occasional, conducted tours could be provided at the Big Hidatsa Site and along the Knife River cutbank at Sakakawea Village.

Existing fishing use patterns along the Knife River would continue; however, the river access road and parking area would be closed to public motorized use to protect the Elbee Site. This road could be used as a trail by visitors parking along County Road 37.

PARK OPERATIONS

Maintenance and administrative offices will be maintained in their current location. A 1,500-square-foot maintenance building, constructed in 1985, is located just north of the visitor contact/administrative building.

To continue management of the area, the following staff are required:

<u>Position</u>	<u>FTE</u>
Area Manager	1.0
Park Ranger; Interpretation, Resource Management, and Visitor Protection	1.0
Park Technician; Interpretation and Visitor Protection	.8
Maintenance Worker (part-time)	.8
Maintenance Worker (seasonal)	.3
Clerk Typist (part-time)	.6
Park Technician, Interpretation (seasonal)	.3
TOTAL FTE's	4.8

GENERAL DEVELOPMENT

Developments in the park are minimized to reduce maintenance and operational costs, they include:

Visitor Contact/Administrative Facility - The existing 1,650-square-foot building would be maintained with current uses.

Maintenance Functions would continue in the existing 1,500-square-foot building constructed in 1985.

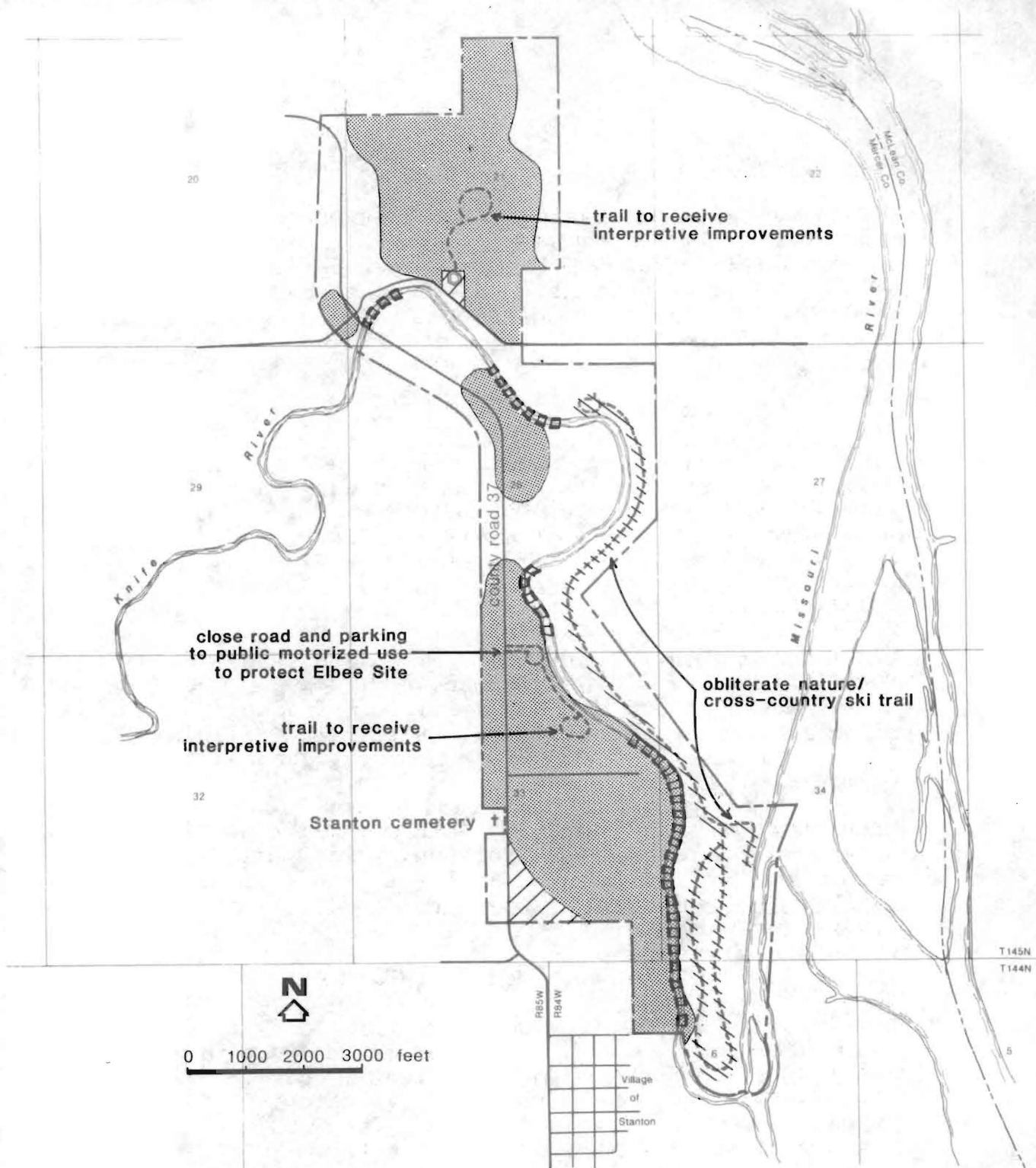
All trails would be eliminated except for the 1/2-mile Big Hidatsa Trail and the 1-mile Sakakawea Trail. All roads would be closed to public use except for those roads used by adjacent landowners for their ingress and egress.





Cost Estimates <sup>1]</sup>

Trail Obliteration (4.5 miles)	\$19,000
Road Gates (4)	<u>8,000</u>
TOTAL	\$27,000

<sup>1]</sup> Gross construction cost estimates.





- national historic site boundary
- entire historic site is managed as historic zone
-  development subzone
-  natural environment subzone
-  cultural resource subzone
-  area subject to archeological investigations and possible excavation of artifacts to protect them from river erosion

**Map II.4**  
**Alternative A**  
**General Management Plan**  
**Knife River Indian Villages**  
**National Historic Site**

United States Department of the Interior  
 National Park Service

468 | 80,032  
 NOV 85 | RMRO

## ALTERNATIVE B - CONTINUE CURRENT MANAGEMENT

This alternative provides for continuance of management outlined in the 1977 master plan as amended in 1984 to relocate the proposed visitor/administrative facility. It also continues management contained in the 1984 Natural Resource Management Plan, 1983 Cultural Resource Management Plan, and 1983 Interpretive Prospectus.

### LAND PROTECTION

This alternative would provide for the maintenance of the park's current 1,293.35 gross acres. In the remote possibility that the Running Deer Site is determined to be a winter village, National Park Service acquisition will be explored.

### MANAGEMENT ZONING

All acreage within the national historic sites would be classified as a Historic Zone with emphasis towards preservation, protection, and interpretation of cultural resources and their settings. Within the Historic Zone would be three subzones: (1) approximately 237 acres of cultural subzones concentrated around the Big and Lower Hidatsa Sites, Sakakawea Village Site, and Buckfink Site; (2) 163 acres of development subzones for maintenance, residential, administrative, and visitor use facilities; and (3) about 893 acres of natural environment subzone.

### CULTURAL AND NATURAL RESOURCE MANAGEMENT

Existing river erosion improvements near the Taylor Bluff and Sakakawea Village Site would be maintained. Remaining riverbank segments with cultural resource sites would be researched and evaluated. Following this evaluation, a prioritized list of significant areas would be developed and a program for riverbank stabilization initiated in conjunction with the Water Resource Management Plan.

To manage vegetation, fire, and poison ivy, research would be conducted to determine existing conditions and possible management practices. Following this effort, a detailed vegetation and fire management plan would be developed. The fire management plan should present a systematic process for suppression activities through a fire prescription. Management of noxious weeds is

dependent on development of an Integrated Pest Management Program. This program would define areas of infestation, specify corrective action, provide a monitoring plan, and continue coordination with State and local governments.

Rodent burrowing activities would be controlled by development of a plan that addresses vegetation, chemical, and mechanical means that could be used to control rodent populations. Threatened and endangered species management would be enhanced by establishment of a program to identify threatened and endangered plants and animals. Following this identification, a plan to manage each species would be developed.

An air quality monitoring program and water management plan would be developed to identify effects and manage these resources.

An inventory would be implemented to gather information on fishing success and opportunities along the Knife River. This information will be used to determine if fishing can be curtailed or eliminated at the Sakakawea Village cutbank by relocating fishing activities to a less-sensitive area. All boundaries of the national historic site would be fenced and boundaries posted, except along the 400-foot scenic easement.

To protect the Elbee Site, the access road and parking would be relocated to an area where archeological resources are less sensitive. A trail would provide access to the "fishing hole" and Sakakawea Village cutbank. A site management plan will be developed to fully address all problems associated with the Sakakawea Village. Until plan completion, the park will work with regional experts to resolve issues on an interim basis. Reconstruction of earthlodges are not provided; however, historic vegetative patterns would be identified and a plan completed to develop facsimile.

To manage and protect the archeological collection, storage and staffing expertise would be provided at the park. A museum lab and storage space would be included in the proposed visitor contact/administrative facility. The Running Deer Site will be investigated and significance identified. If this site is determined to be a winter village, acquisition will be pursued.

## GENERAL DEVELOPMENT

Visitor Contact/Administrative Facility - Pursuant to the November 1984 Finding of No Significant Impact, this structure would be located in the southwest portion of the park. There would be about 1,200 square feet of exhibit space within this structure--audiovisual room seating about 50 to 60 visitors, archeological collection storage for about 800 cubic feet of museum material, museum laboratory, lobby, information and sales area, rest rooms, and about 600 square feet of office space.

Maintenance Facilities - The maintenance area would be retained in its current location using the existing 1,500 square-foot maintenance building and fuel storage tanks.

Roads - About 1.5 miles of gravel road would be maintained by the National Park Service. Four miles of unmaintained dirt road are within the national historic site. The river access road and parking would be relocated to avoid the Elbee Site and other areas with archeological sites. Responsibility for improvement and maintenance of all county roads remain with Mercer County.

Trails - Interpretive improvements and activities would be provided along the .5-mile Big Hidatsa Trail and 1-mile Sakakawea Village Trail. Six miles of hiking and nature trail, with a Knife River crossing, would also be provided.

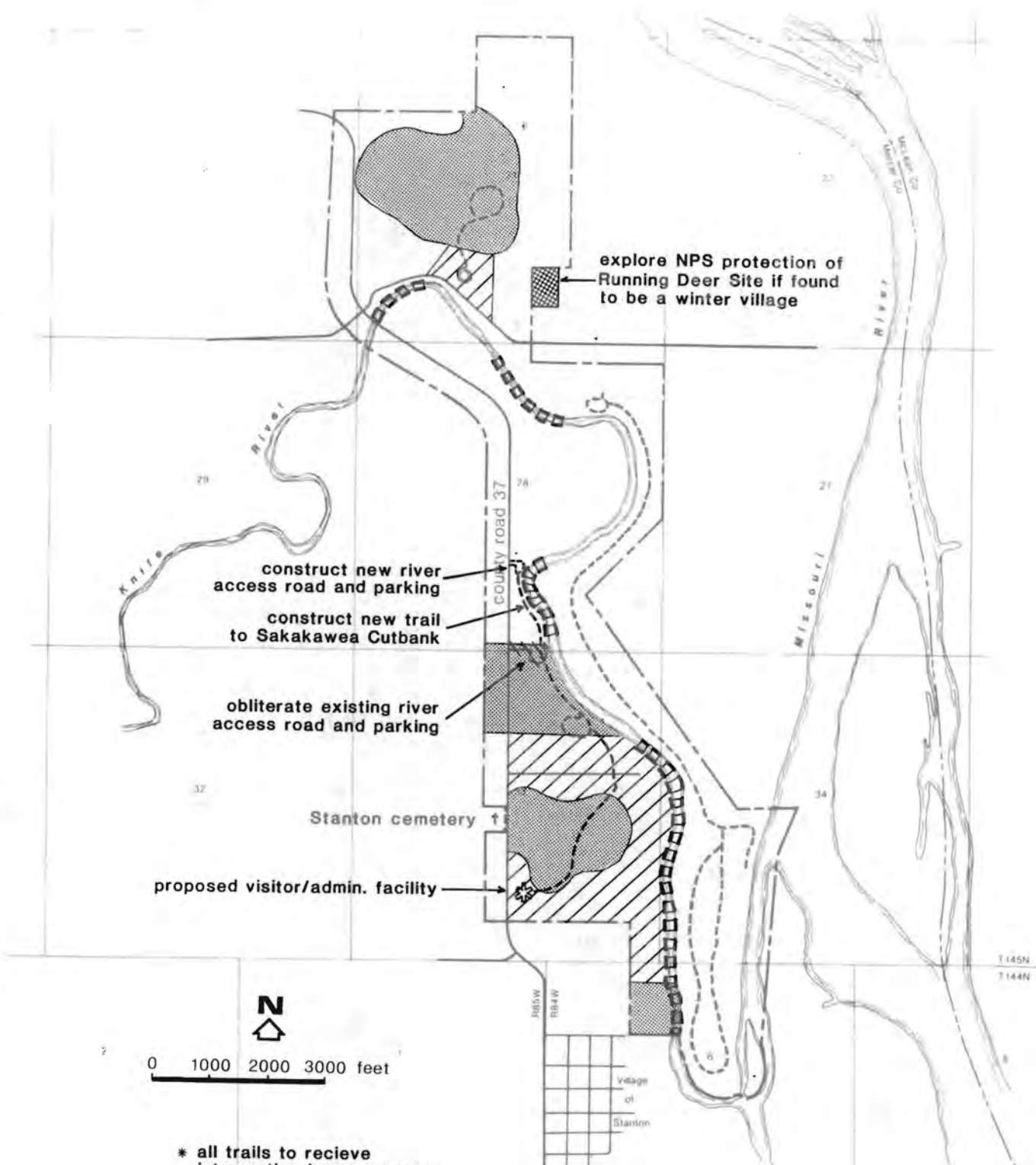
To enhance management and law enforcement activities, boundary fencing would be completed and maintained by the National Park Service.





### Cost Estimates <sup>1]</sup>

Visitor/Administrative Facility; visitor parking; administrative parking; access road, utilities <sup>2]</sup>	\$2,143,000
Wayside exhibits	\$ 169,000
Trail Expansion (1.5 miles)	\$ 92,000
Relocate river access road, parking, and trail	\$ 350,000
Convert existing visitor/administrative facility to National Park Service residence	\$ 29,000
TOTAL	\$2,783,000

1] Gross construction cost estimates.

2] Construction of these facilities has been previously programmed.



- \* all trails to receive interpretive improvements
- national historic site boundary
- entire historic site is managed as historic zone
-  development subzone
-  natural environment subzone
-  cultural resource subzone
-  areas subject to riverbank structural erosion control or other cultural resource mitigation practices

**Map II.5**  
**Alternative B**  
**General Management Plan**  
**Knife River Indian Villages**  
**National Historic Site**  
 United States Department of the Interior  
 National Park Service

SUMMARY COMPARISON OF ALTERNATIVES

ELEMENT	ALTERNATIVE A	ALTERNATIVE B	NATIONAL PARK SERVICE PROPOSAL
Management Zoning	All lands classified as historic zone with: - development subzone, 1% - cultural subzone, 50% - natural subzone, 49%	All lands classified as historic zone with: - development subzone, 13% - cultural subzone, 18% - natural subzone, 69%	Same as "A"
Cultural and Natural Resource Management	Maintain existing riverbank structural erosion controls. Protect cultural resources subject to damage by erosion through research and excavation.  Current vegetative processes continued. No fuel reduction practices, all fire suppressed. Noxious weeds managed with spot controls.	Program to identify areas requiring riverbank stabilization or research and excavation.	Study to determine importance of cultural resource sites subject to damage by river erosion. Structural erosion control or site mitigation employed as needed.
	Current vegetative processes continued. No fuel reduction practices, all fire suppressed. Noxious weeds managed with spot controls.	Research completed and plans developed to manage fire, vegetation, and noxious weeds.	Vegetation managed with mechanical and biological methods and prescribed burning. Research as to effects conducted and management revised accordingly.  Interim fire management plan developed to reduce fuel loads. Wildfire suppressed when not needed for vegetation management. All wildfire which constitutes a safety threat will be suppressed. Research conducted and final fire management plan developed.  Noxious weed management program developed in cooperation with state and local entities.
		Program for identification and management of threatened and endangered plants and animals developed.	Program for identification and management of threatened and endangered plants and animals.
	No earthlodge reconstruction, some historic vegetative patterns restored.		No earthlodge reconstruction, however, an interpretive earthlodge may be constructed.
			Historic vegetative patterns restored in cultural subzones.

Rodent burrowing activities in cultural resource sites continues unabated.

No air quality monitoring. Water resource management plan developed.

Current fishing use patterns continues.

Pursue agreement with University of North Dakota to continue artifact storage.

River access road and parking closed to public motorized use to protect Elbee Site.

No practices for possible National Park Service protection of Running Deer Site.

Rodent burrowing activities in cultural resource sites controlled.

Air quality monitoring program and water resource management plan developed.

Sakakawea cutbank closed to fishing if other "fishing holes" exist.

Site management plan developed for Sakakawea Village.

Museum and lab constructed, museum specialist added to staff.

River access road and parking relocated to avoid Elbee Site.

Acquisition of Running Deer Site if determined to be a winter village.

Rodent burrowing activities controlled in cultural resource sites.

Air quality monitoring coordinated with state.

Water resource management plan developed.

Fishing continues at Sakakawea cutbank. Visitors encouraged to use other "fishing holes."

Site management plan developed for Sakakawea Village.

Museum and lab constructed within visitor/administration facility for storage of exhibit and research artifact categories (as determined by park and region). Artifacts in the storage category stored in retrievable, sealed containers.

Sakakawea Village river access road across Elbee Site maintained in current location and standard. Program implemented to monitor effects to Elbee Site.

Acquisition of Running Deer Site if determined to be a winter village or if significantly related to the Big Hidatsa Site.

ELEMENT

ALTERNATIVE A

ALTERNATIVE B

NATIONAL PARK SERVICE PROPOSAL

<p>Visitor Use and Interpretation</p>	<p>Majority of use oriented to park headquarters and visitor contact at north end of park. Interpretive trails provided at Big Hidatsa and Sakakawea Village.</p>	<p>Majority of visitor use oriented to proposed visitor/administration facility in southwest portion of park. Interpretive programs, exhibits, and audiovisual programs available.</p>	<p>Major thrust of visitor use oriented towards proposed visitor/administrative facility, Sakakawea Village, and Big and Lower Hidatsa Sites. Trail systems developed to connect outlying areas with proposed visitor/administrative facility.</p>
<p>Interpret the Park's three major villages.</p>	<p>Interpretive themes date back 8,000 years to present-day archeological techniques.</p>	<p>Interpretive earthlodge provided near visitor/administrative facility to provide major focus of interpretive efforts. Audiovisual programs are available.</p>	<p>Interpretive themes date back 8,000 years to present-day archeological techniques.</p>
<p>Use of Sakakawea cutbank curtailed through river access road and parking closure.</p>	<p>Site management plan developed for Sakakawea Village.</p>	<p>Site management plan developed for Sakakawea Village.</p>	<p>Site management plan developed for Sakakawea Village.</p>
<p>Wayside exhibits provided at park headquarters and along Big Hidatsa and Sakakawea Village trails. Occasional conducted tours provided.</p>	<p>Wayside exhibits provided at entrance, Sakakawea Village, Big Hidatsa Site, and Missouri River peninsula.</p>	<p>Wayside exhibits provided at entrance, Sakakawea Village, Big Hidatsa, Lower Hidatsa, and Missouri River peninsula.</p>	<p>Wayside exhibits provided at entrance, Sakakawea Village, Big Hidatsa, Lower Hidatsa, and Missouri River peninsula.</p>
<p>Written guides and occasional conducted tours on trails provided.</p>	<p>Written guides and occasional conducted tours on trails provided.</p>	<p>Trails have guides and occasional conducted tours.</p>	<p>Trails have guides and occasional conducted tours.</p>



PARK U & L  
OPERATIONS

TOTAL FTE's - 4.8  
ANNUAL O & M - \$156,000

TOTAL FTE's - 6.7  
ANNUAL O & M - \$254,000

TOTAL FTE's - 8.3  
ANNUAL O & M - \$315,000

General  
Development

Current facilities and  
developments maintained,  
except:

- eliminate 7 miles of trail.
- roads closed except those  
needed by landowners for  
access.

Includes provisions for the  
following improvements:

- 4,200-square-foot visitor/  
administration facility,  
cost previously program-  
med - \$2,143,000.
- Trail expansion - \$92,000.
- Convert headquarters to  
residence - \$29,000.
- Relocate river access  
road, parking, and  
trail - \$350,000.
- Wayside exhibits -  
\$169,000.

Includes provisions for the  
following improvements:

- 4,200-square-foot visitor/  
administrative facility with  
provisions for minor maintenance  
storage (dollars previously  
programmed) - \$2,143,000.
- Trail expansion - \$92,000.
- Convert headquarters to  
residence - \$29,000.
- Relocate Big Hidatsa trail-  
head and parking - \$45,000.
- Maintenance area landscape -  
\$12,000.
- Reconstructed earthlodge -  
\$50,000.
- Wayside exhibits - \$169,000.

TOTAL COST \$27,000

TOTAL COST \$2,783,000

TOTAL COST \$2,540,000

## CHAPTER III

### THE AFFECTED ENVIRONMENT

#### INTRODUCTION

This chapter summarizes the significant physical and biological characteristics of Knife River Indian Villages National Historic Site. Also, it summarizes visitor-use data as well as local and regional land uses and facilities. This chapter describes those aspects of the environment likely to be affected by either the proposed plan or the alternatives to the proposed plan including major areas of concern identified by the public.

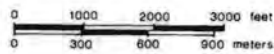
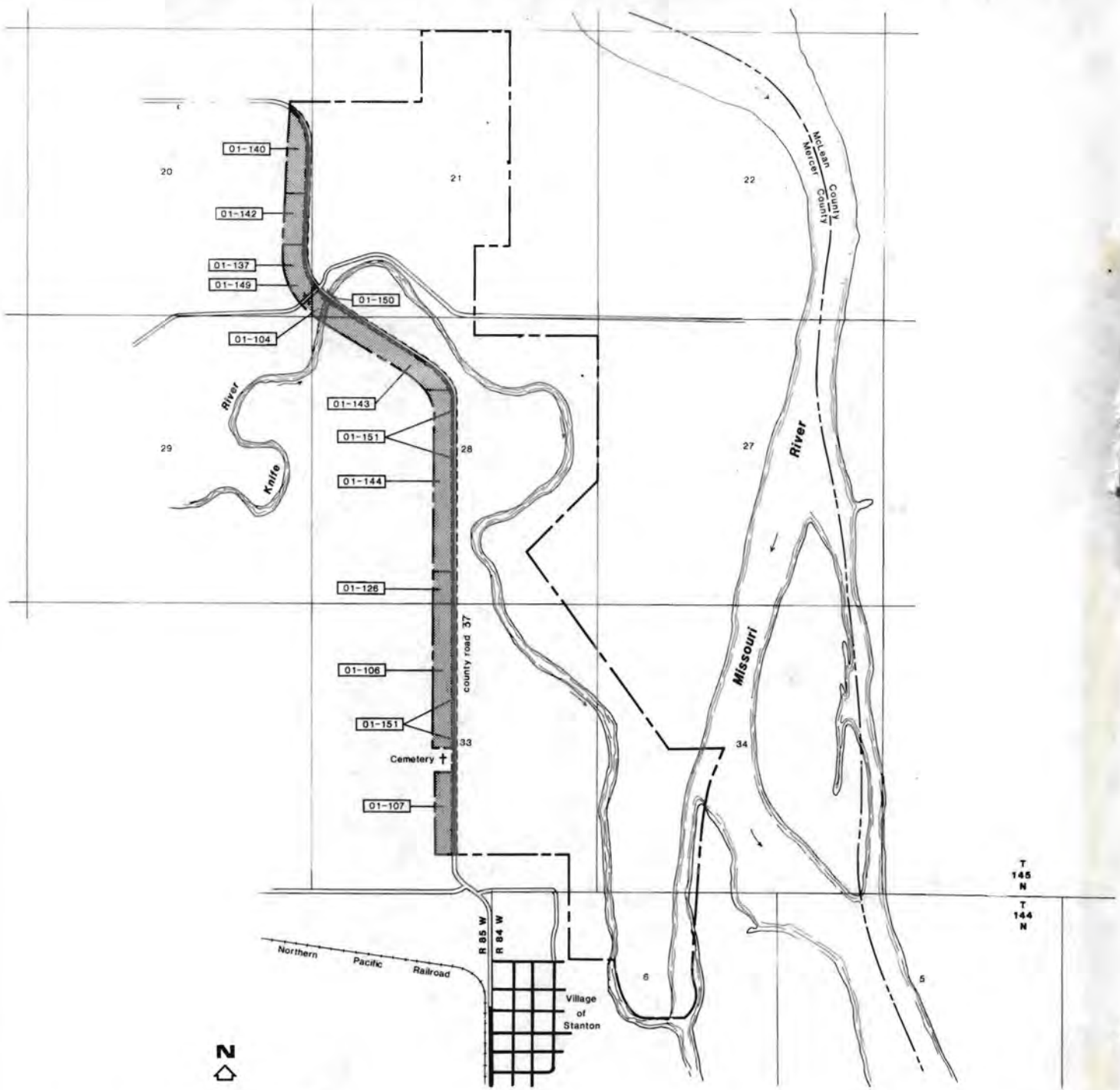
#### THE PARK

Knife River is administered by the Superintendent, Theodore Roosevelt National Park in Medora, North Dakota.

Knife River contains 1,293.35 gross acres of which 1,156.94 acres are under Federal ownership. The 400-foot easement west of County Road 37 contains 76.01 acres and the county road rights-of-way contains 60.40 acres. Included within the park are 1,066.00 acres of non-Federal minerals rights. Details of landownership are illustrated on the Landownership Map, Map III.1.

The Knife River runs through a majority of the national historic site including its confluence with the Missouri River. The State of North Dakota retains control of the Knife River channel between the normal high-water marks along the river banks. The National Park Service retains certain authority and control over this State-controlled channel within the boundaries of the national historic site as specified in the Memorandum of Agreement executed on May 23, 1977 (see Appendix C).

Map III.2 illustrates current boundaries of Knife River Indian Villages National Historic Site while Map III.3 illustrates current approved general development for the national historic site.



**legend**

- national historic site boundary
- right-of-way
- tract line
- road
- federal land (less than fee)

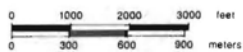
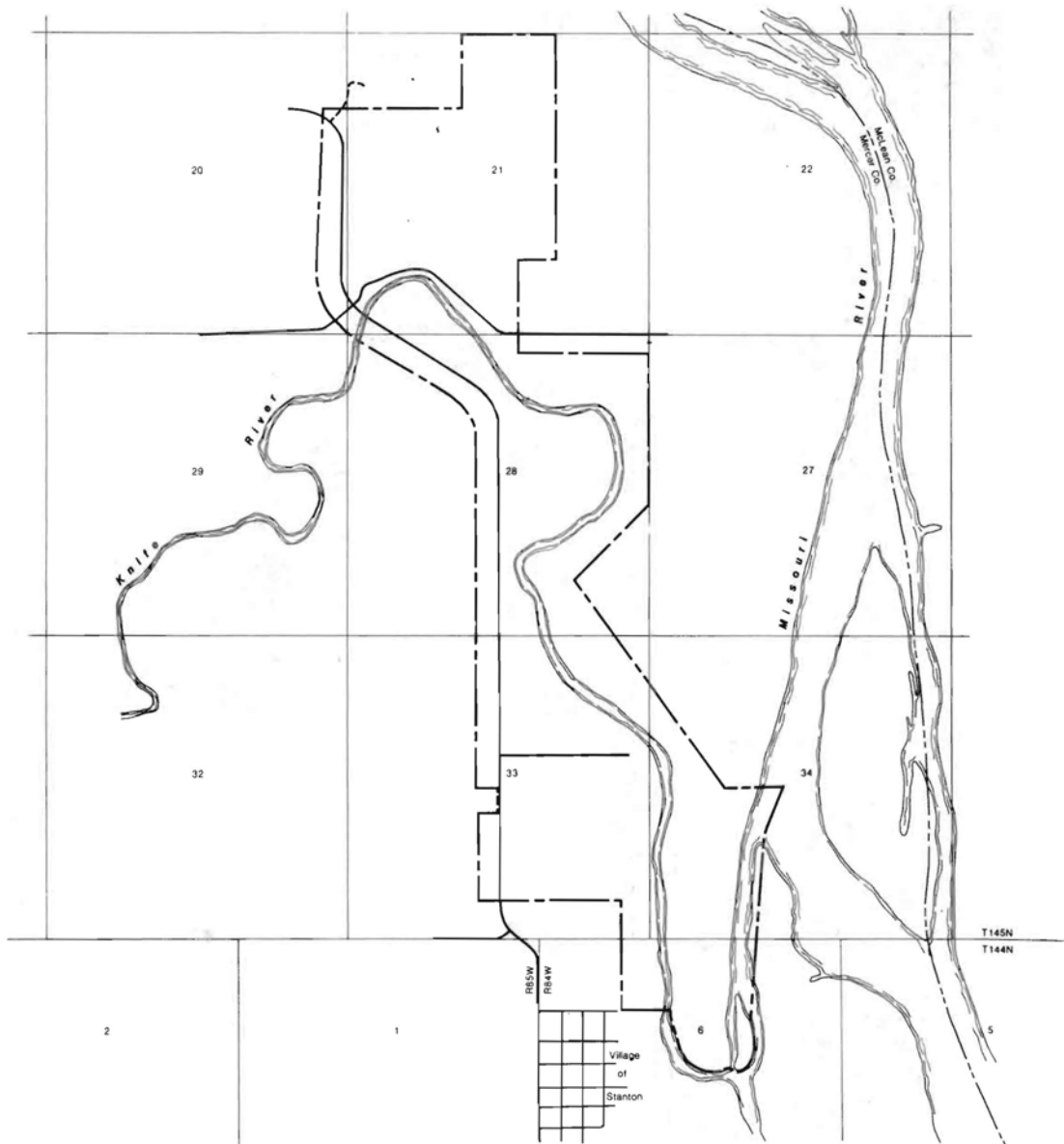
TRACT		ACRES
01-140	GAAB, LENA	12.75
01-142	BUCHMANN, DONNA M.	8.48
01-137	STIEFEL, DEAN and SHERREE	11.84
01-149	CONSOLIDATION COAL CO., et al	(11.48) MIN
01-150	TO MERCER COUNTY	(0.40) ROW
01-104	BORNER, MAYNARD	3.80
01-143	BORNER, MAYNARD R.	21.12
01-151	MERCER COUNTY	(60.00) ROW
01-144	FUCHS, DARLENE, et al	34.67
01-126	BORNER, MILTON, et ux	5.74
01-106	BUCHFINK, MARY	24.40
01-107	PAYTON, DUANE, et ux	13.61

**Map III.1  
LANDOWNERSHIP  
KNIFE RIVER INDIAN VILLAGES NATIONAL HISTORIC SITE**

**MERCER COUNTY, NORTH DAKOTA  
5th PRINCIPAL MERIDIAN**

UNITED STATES DEPARTMENT OF THE INTERIOR - NATIONAL PARK SERVICE

468 | 80,025 -A  
JAN 86 | RMP/D



**legend**

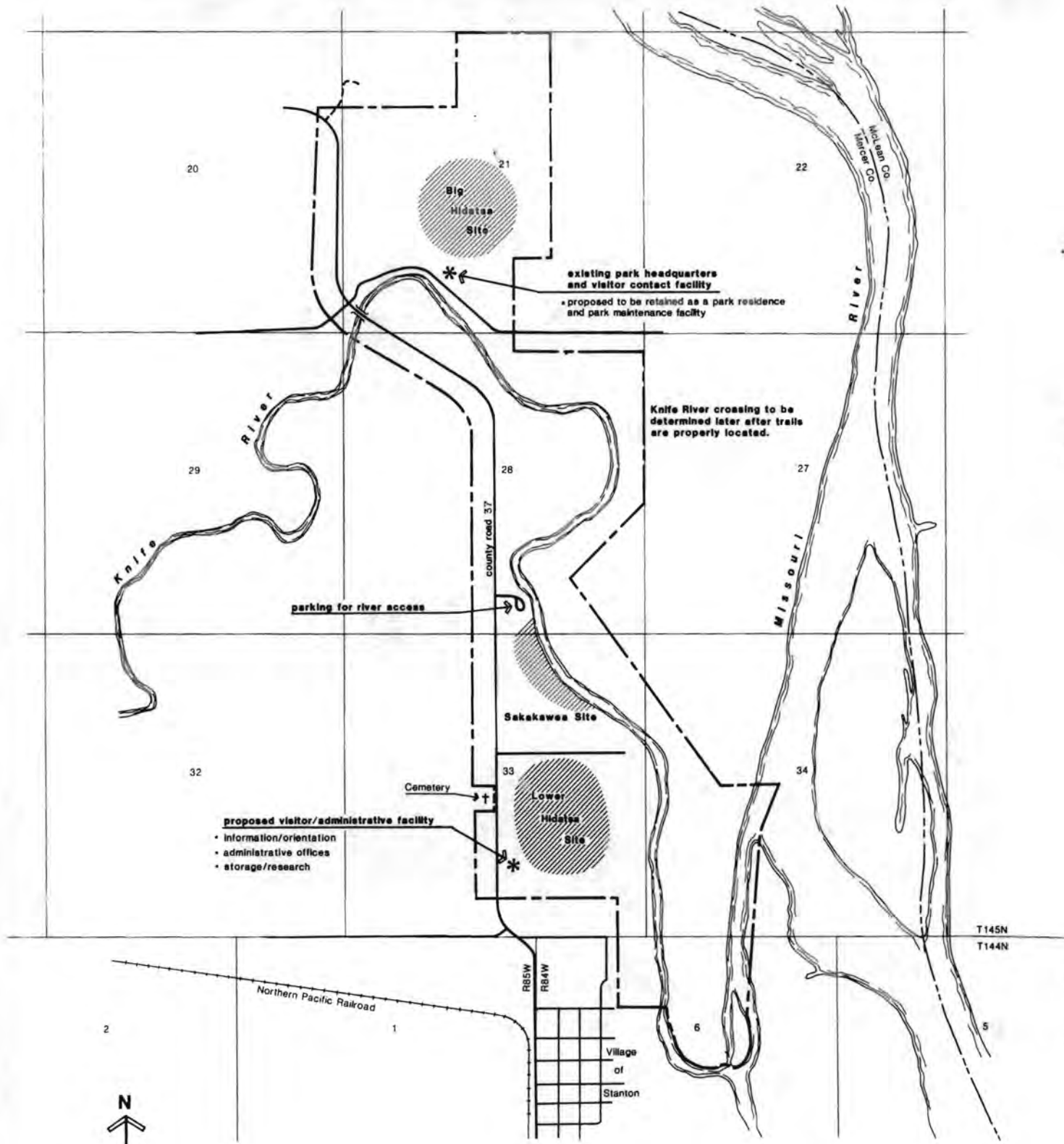
- national historic site boundary
- section line
- - - road

**Map III.2**

**BOUNDARY MAP**

**KNIFE RIVER INDIAN VILLAGES NATIONAL HISTORIC SITE**

U.S. DEPT. OF THE INTERIOR - NATIONAL PARK SERVICE



**Note:**  
 This is an amended General Development Plan based upon the visitor/administrative facility FONSI approved Nov. 14, 1984.  
 Trails are not shown since the locations need to be field checked and identified during site planning to tie development together with respect to the interpretive program and cultural resources.

**legend**

- national historic site boundary
- section line
- road

**Map III.3**  
**GENERAL DEVELOPMENT PLAN**  
**KNIFE RIVER INDIAN VILLAGES NATIONAL HISTORIC SITE**

U.S. DEPT. OF THE INTERIOR - NATIONAL PARK SERVICE

## NATURAL RESOURCES

### Hydrology

The Knife and Missouri Rivers flow through portions of the national historic site. The Knife River meanders through the southern three-quarters of the site while the Missouri River flows through the extreme southeast boundary. Floodplains comprise 60 percent of parklands (Natural Resource Management Plan, 1984) and are found immediately adjacent to the rivers. Historically, both the Knife and Missouri Rivers were subject to inundation during spring runoff and excessive rain storms. Today, as a result of the damming of the Missouri River, much of the flooding problems have been eliminated; however, the Knife River still retains its historic potential for flooding. Since the park has been authorized, the Knife River has exhibited considerable runoffs and flooding.

The floodplain zone can be identified as those areas whose elevation is within 20 feet of the river's elevation (see Map III.4).

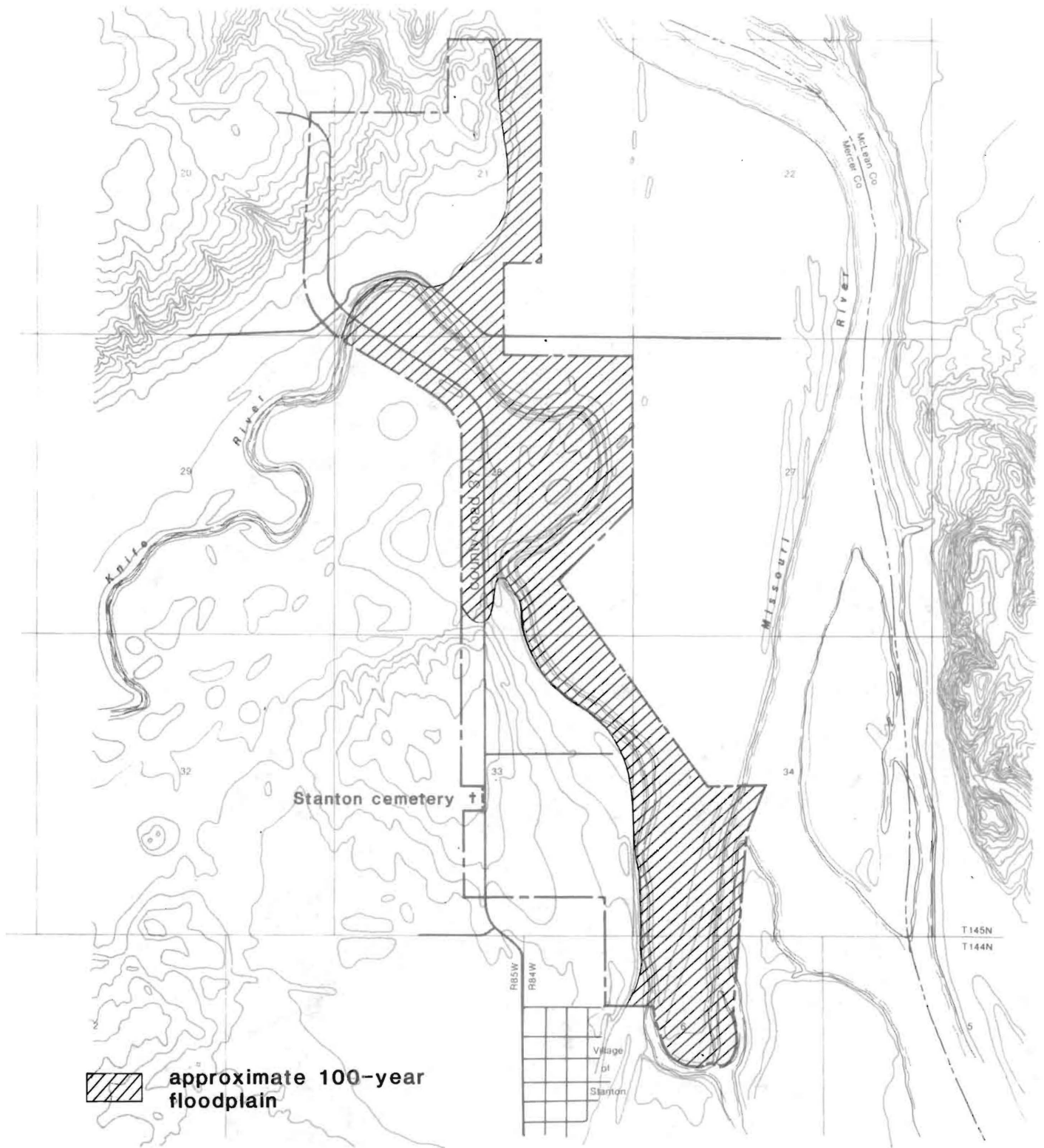
Wetlands at the national historic site are associated with the Missouri and Knife Rivers' floodplains. Historically, these areas were forest cover, much of it is now comprised of a forest type known as "Missouri River bottom lands."

The park obtains its current domestic water supply from a 70-foot well equipped with a 1/3 horsepower pump having a capacity of about 106 gallons per minute. National Park Service records indicate the National Park Service does not have a water right to use this water and a water right has not been applied for with the State of North Dakota. Four capped artesian wells are located within the park on sites of historic farmsteads. Their intended purpose is to serve as a supply source to suppress wildfire.

### Geology and Soils

Geology of the Knife River Indian Villages and surrounding area has been studied in some detail by Reiten (1980, n.d.). Reiten used data on terrace succession (see Map III.5) to make inferences regarding development of the national historic site.

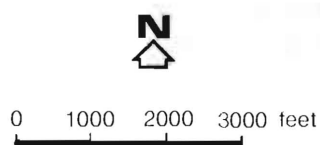
Within the park, lithified bedrock outcrop occurs in the central part of the park where coarse, fairly well

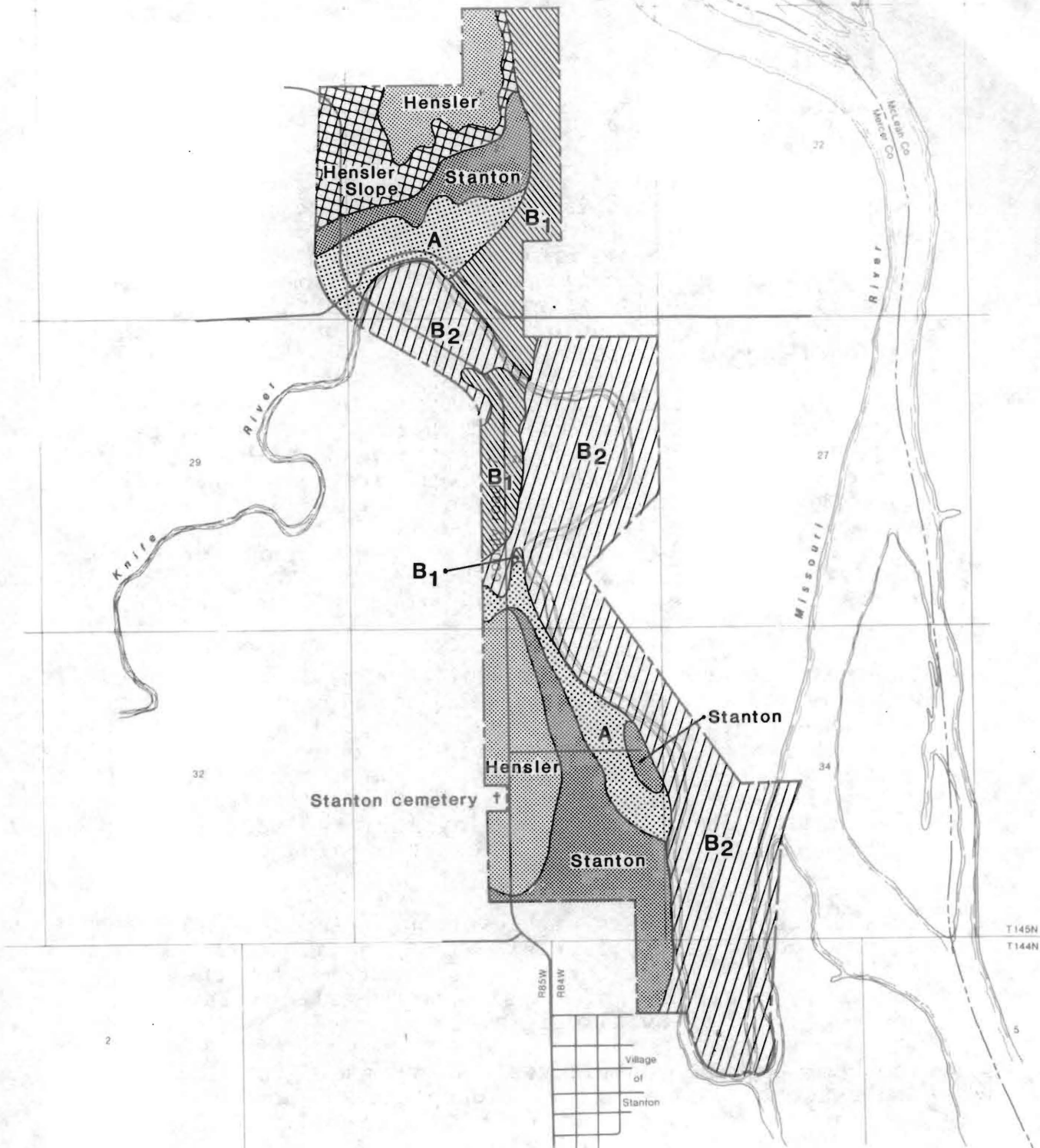


**Map III.4  
Floodplain**

**Knife River Indian Villages  
National Historic Site**

United States Department of the Interior  
National Park Service





0 1000 2000 3000 feet

**Map III.5**  
**Geological Terraces**  
**Knife River Indian Villages**  
**National Historic Site**

United States Department of the Interior  
 National Park Service

468 | 80,028  
 NOV 85 | RMRO



consolidated sandstone occurs as a ledge in the channel or bed of the Knife River.

Reiten has identified five Pleistocene age and three Holocene age terraces in the immediate area surrounding the confluence of the Knife and Missouri Rivers; Map III.5 displays these geologic terraces. As identified by this map, only the Hensler and Stanton Pleistocene terraces are found within the Knife River Indian Villages. All three Holocene terraces occur within the national historic site.

The Hensler terrace is found within areas of the highest elevation in the northern and southwestern portions of the park. Soils developed on the Hensler terrace surface are the deep, well-drained, moderately to highly permeable fine sand loam. The Stanton terrace occurs adjacent to the Hensler terrace. It consists of poorly sorted, flat bedded to unbedded sand and gravel and is overlain by silt. Soils include deep, well-drained, moderately permeable loam and silty loam.

The next lowest is the mid-Holocene age "A" terrace. It consists of silty sands in the lower elevations grading upward to a clayey silt capped by windblown silt. Several dark-colored banks occur in the upper part of this terrace, some of these banks contain cultural material. Soils on this terrace include clay loam, silty clay, and silty-clay loam reflecting finer grained parent material than is found on the Pleistocene terraces.

The "B" terrace occurs at elevations from 13 to 20 feet above local river levels. In general terms, the lithology of this terrace is similar to the "A" terrace, consisting of massive silt, silty clay, and sand units of alluvial origin.

The "B<sub>2</sub>" terrace constitutes the youngest geologic unit and constitutes the active floodplain of the Knife and Missouri Rivers. The fill of this area is similar to the "A" terrace. Naturally, this terrace would normally be forest cover. Soils on this terrace consist of silty-clay loam, loam, and loamy-fine sand.

#### Wildlife and Vegetation

Knife River Indian Villages National Historic Site possesses prairie and riparian habitats that are significant because they are part of an almost exhausted resource. The park contains remnants of vegetative communities that must be considered some of

the best of what is left. Specifically, the lower terraces contain an overstory of cottonwood, peach-leaved willow, green ash, box elder, and American elm with an understory of Virginia wild rye, loosestrife, dogbane, hat peanut, black medick, sweet clover, milkweed, wild licorice, canier flower, grape, fern, and strawberry. Buffaloberry, chokeberry, Juneberry, and Russian Olive are found throughout the floodplains.

Wheatgrass, needlegrass, gramma grass, upland sedges, little and big bluestem, and a wide variety of forbs dominate the upper terrace of the park.

Various portions of the floodplain and upper terrace are in different stage of succession. Some have been planted with an artificial mixture of native and exotic grasses with varying degrees of success. Large sections of the floodplain are presently dominated by grass, instead of forest, because of tree clearing by Native Americans and Euro-Americans.

Exotic plants exist within the park. Rhubarb, lilac, and honeysuckle are the result of earlier occupations. Other exotics include leafy spurge, Canada thistle, and sweet clover.

Associated with vegetative communities are many species of wildlife. Larger birds and mammals rely on wooded areas for cover and rearing of young. Specifically, the white-tailed deer, bald eagle, skunks, owls, other raptors, wild turkey, badgers, coyote, and beaver can be seen in this area. Species found in the grassier or upland areas of the park include weasels, sharp-tailed grouse, nesting waterfowl, racoons, northern pocket gopher, thirteen-lined ground squirrel, and the cottontail rabbit.

Aquatic species found in the Missouri and Knife Rivers include 26 species of aquatic mollusks, catfish, walleye, goldeye, sucker, carp, shiners, garfish, perch, and darters.

The bald eagle, which occasionally uses the Missouri River, is the only known rare, threatened, or endangered animal species within the national historic site. There are no known rare, threatened, or endangered plants with the national historic site.

#### Air Quality

The national historic site is classified as a Class II airshed. It is located in the heart of an energy

corridor that provides gas, coal, oil, and hydro-electric power for the U.S. and Canada. Presently, Knife River is within 150 miles of 10 sources which could significantly deteriorate air quality. Six of those sources are located within 30 miles of the historic site. Permits are pending for six additional applicants. Data from the North Dakota Department of Health monitoring stations in nearby communities indicate no present National Ambient Air Quality Standard violations.

The concern for Knife River Indian Villages National Historic Site is the potential for future degradation of the air quality as a result of energy related developments in the area.

### CULTURAL RESOURCES

#### Historical

During earlier portions of the Euro-American Period (A.D. 1861 to the present) military activities predominated in the region. Steamboats frequented the area as they carried goods and travelers to and from river towns or forts. Little or no human settlement or use of the park occurred during this phase. The one exception to this was the phenomenon of "wood yards" on the Missouri River bottom lands. Their purpose and function was the cutting and storing of wood for use as fuel by the steamboats. The largest of these occurred at the mouth of the Knife River in what is now the park.

Permanent settlement of the area by Euro-Americans occurred in 1882 when the villages of Stanton and Causey were established. The 1880's and 1890's saw settlement of the area by homesteaders. It is known that in 1891 two families lived within park boundaries. Railroads reached Stanton in 1912. A period of immense growth occurred as farmers and ranchers located in the area.

The last decade has seen an explosion in the energy industry in the area. Coal mining and processing have had immense impacts on the surrounding area with unknown consequences to air quality and other environmental qualities.

#### Archeological

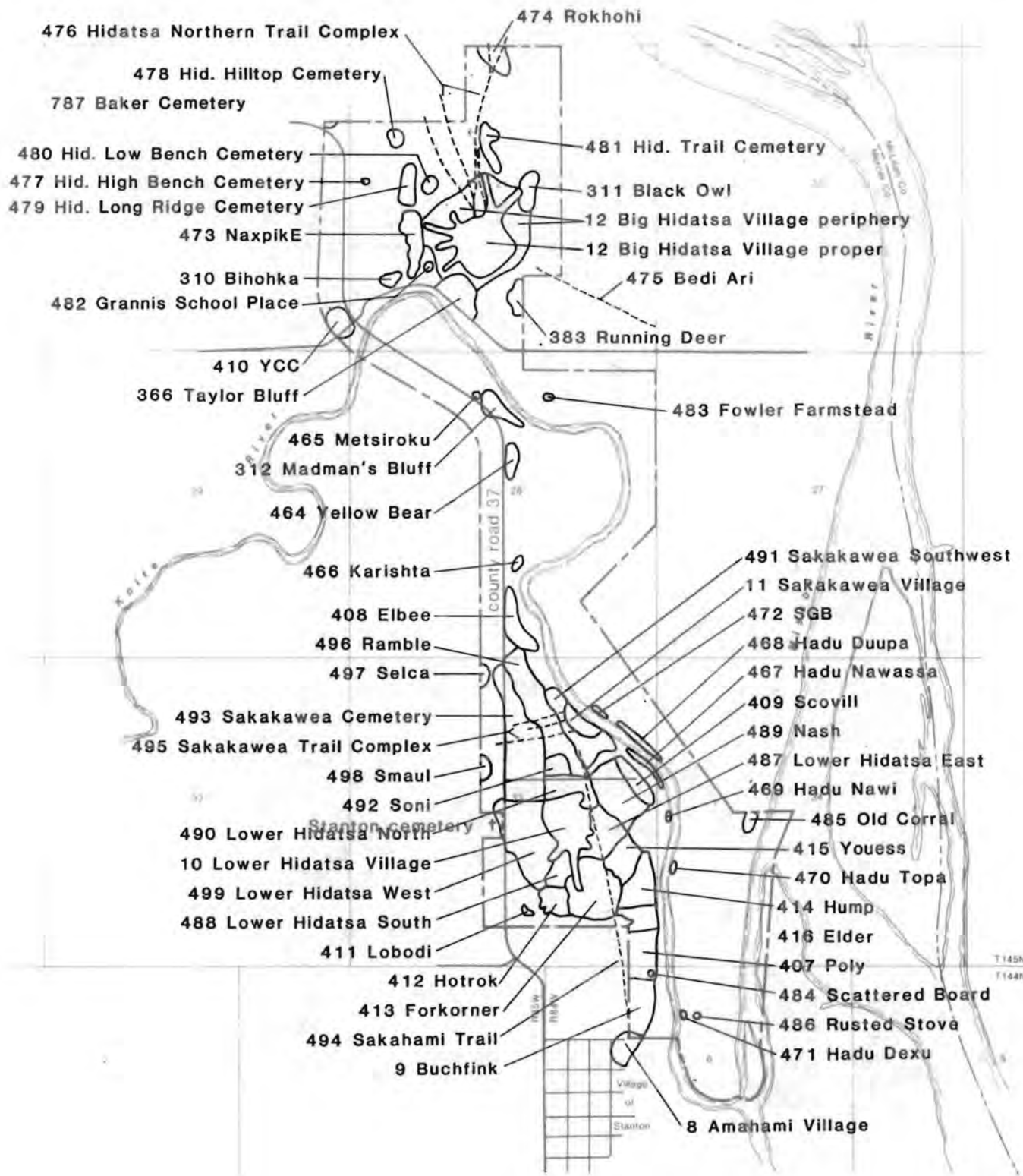
Archeological sites and artifacts constitute the majority of cultural resources at Knife River Indian

Villages National Historic Site apart from ethnographic specimens in the park collections.

An intensive, parkwide archeological survey has been completed. Map III.6, Cultural Resources, illustrates known archeological sites at the national historic site. Consequently, the archeological resource inventory for the park is relatively complete. The most current and comprehensive summary of the park's archeological resources is contained in "Cultural Resource Reconnaissance in the Knife River Indian Villages National Historic Site," by Steven K. Lovick and Stanley A. Ahler (1982).

A systematic and intensive archeological survey of the park was conducted from 1976 through 1980 as part of the Phase I research program. The survey resulted in the identification and delineation of a total of 57 archeological sites within park boundaries (see Map III.6). Together, these sites occupy about 25 percent of the total park area. However, more than 57 separate archeological components are present in the park area because some of the sites show evidences of repeated use by people who left different kinds of artifacts and other physical remains.

The cultural sequence for the park is outlined in the cultural resource management plan and is briefly reviewed here. Seventeen sites yielded evidence of Pre-Plains Village Tradition components which, with further investigation, will ultimately be assignable to the Archaic and/or Woodland Traditions (ca. 6000 B.C. to ca. A.D. 1000, respectively). Most of the archeological components within the park relate to the Plains Village Tradition, which lasted from about A.D. 1000 to A.D. 1861 when the last of the Plains Village people (the Arikaras) left the Knife-Heart Region. The Plains Village Tradition is comprised of several smaller phases. The earliest phase, Clark's Creek Phase (ca. A.D. 1000 to A.D. 1200), is not known to be represented in the park, but is represented in the immediate vicinity. The next phase, Nailati Phase (A.D. 1200 to A.D. 1400) is represented at the Buchfink Site in the southern portion of the park. The Nailati Phase appears to have been followed by two cultural taxa which are nearly contemporaneous in age (1) the poorly known Scattered Village Complex (ca. A.D. 1400 to A.D. 1650), which is represented at 13 sites within the park, and (2) the Heart River Phase (ca. A.D. 1400 to 1650), which occurs at one major village in the park. An unnamed transitional phase that is protohistoric in age (ca. A.D. 1600 to A.D. 1745) is represented by one component in the multicomponent



**Map III.6**  
**Cultural Resources**  
**Knife River Indian Villages**  
**National Historic Site**

United States Department of the Interior  
 National Park Service

Lower Hidatsa Site. The final episode of the Plains Village Tradition, the Knife River Phase (ca. A.D. 1700 to A.D. 1861), is present at three sites in the park; Big Hidatsa, Lower Hidatsa, and Sakakawea Village. These last three sites are the most conspicuous and highly visible resources in the park. Fourteen sites contain remains assigned to the Euro-American Tradition (ca. A.D. 1861 to present), although these remains are often found superimposed on Indian components. Six sites contain remains that are unassignable to any of the above classifications for lack of diagnostic artifacts or other characteristics.

Not all of the sites and components within the park represent remains of villages. Many of the sites have been classified by a mixture of descriptive and functional terms which suggest they originally served a purpose other than habitation. They fall into categories of (1) village periphery zone, where activities ancillary to village life took place; (2) off-village activity areas where specialized activities took place at some distance from habitation areas; (3) cemeteries; (4) trails connecting villages with each other and with areas that are now outside the park; (5) archeological debris scatters, whose functional significance is presently unknown; and (6) historically recent sites which served a variety of purposes.

#### VISITOR USE DATA

The national historic site is a day-use area. Average length of stay in 1981 was 1.4 hours, length of stay has gradually increased as visitor services expanded slightly to an average of 1.7 hours in 1984. Currently, there is no overnight use at the national historic site.

Peak monthly visitation occurs in June, July, and August (see Figure III.1). In 1984, use during the peak months comprised 66 percent of the total annual visitation. In August 1984, there was a daily average of 67 visits.

Collection of visitation data began in 1981. In that year, visits totalled 4,953 and has increased at an annual rate of 20.5 percent to the 1984 visitation total of 8,657 visits (see Figure III.2). Past visitation counts at the national historic site may be misleading since visitor facilities or interpretive programs that would attract visitors to the area are essentially incomplete.

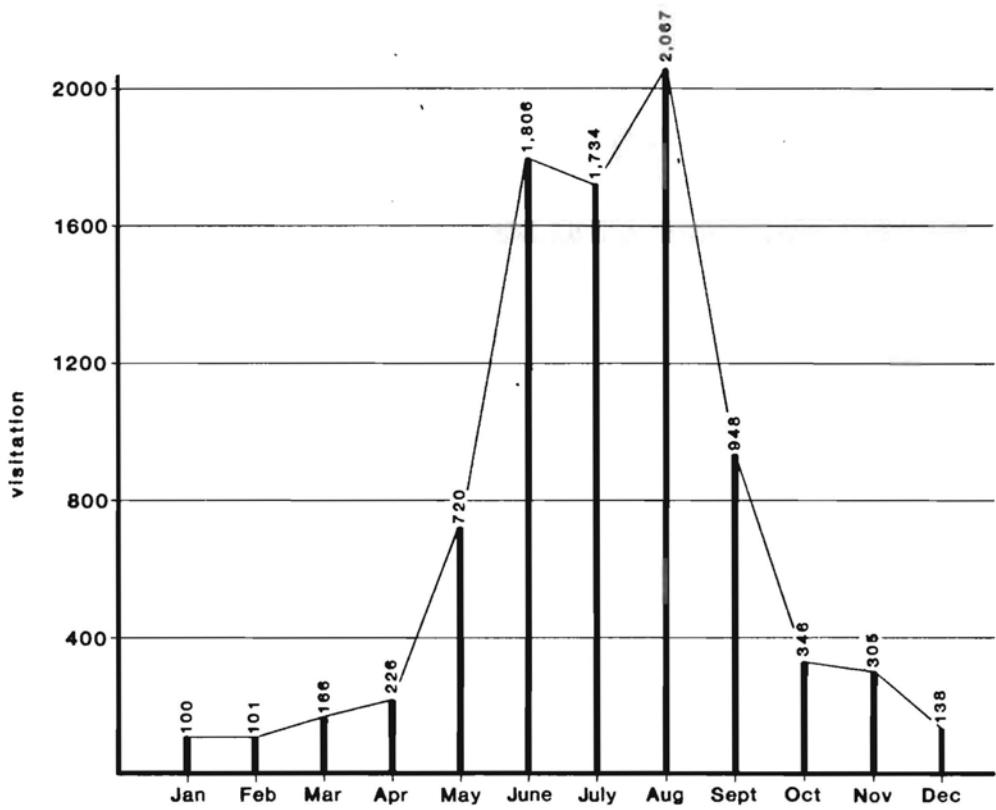
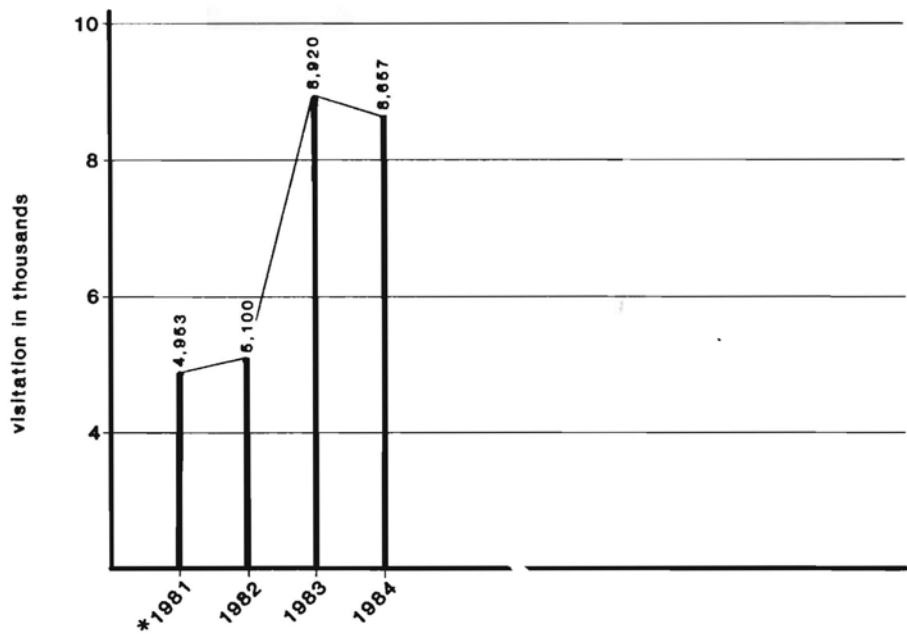


Figure III.1  
Monthly Visitation - 1984



\* first year that visitation statistics were collected

Figure III.2  
Annual Visitation

Knife River Indian Villages National Historic Site

With the exception of fishing by local residents, visitor origins are unknown. The principal activities that visitors participate in are viewing exhibits, walking interpretive trails, viewing cultural resource sites, and fishing the Knife River. Each summer a number of structured programs are presented by the park and local groups to help interpret life in the Indian Villages.

About 1 in 10 visitors are Native Americans. About 1 percent of visitors have some form of handicap condition; 1 percent are non-English speaking, primarily Germanic; nearly 20 percent are senior citizens; and more than half of the visitors come to the area in response to or to attend formal presentations.

Since Knife River is a relatively new area in the National Park System, it is difficult to project future trends. Because of the national historic site's proximity to Interstate 94, the Lewis and Clark Trail, and other recreation areas of North Dakota, the current master plan and 1980 "Assessment of Alternatives, Visitor/Administrative Sites" projected visitation at the site to be 85,700 in 1987. Actual visitation is falling short of these projections. Figure III.3 illustrates a range of visitation in 1990 from 16,000 to 26,500, this projection maybe a more accurate portrayal of the sites future use.

#### REGIONAL LAND USE AND REGIONAL VISITOR FACILITIES AND SERVICES

Knife River Indian Villages is just north of Stanton, North Dakota. Stanton, with a population of about 750, is the Mercer County seat. It is located 63 miles northwest of Bismarck, the State capital, and about 12 miles downstream from the Garrison Dam, which impounds Lake Sakakawea.

Agriculture has traditionally been the dominant industry and is centered chiefly on livestock production and cash grain crops. However, agriculture may be replaced by coal mining, power generation, and other energy related industries as the regions dominant industry. Large lignite coal mines produce fuel for power plants in the region. Coal mining for lignite, a low grade coal, is the most important industry in the region. New or expanded strip mines are expected, as well as the continued operation of existing strip mines. This has resulted in an increased work force



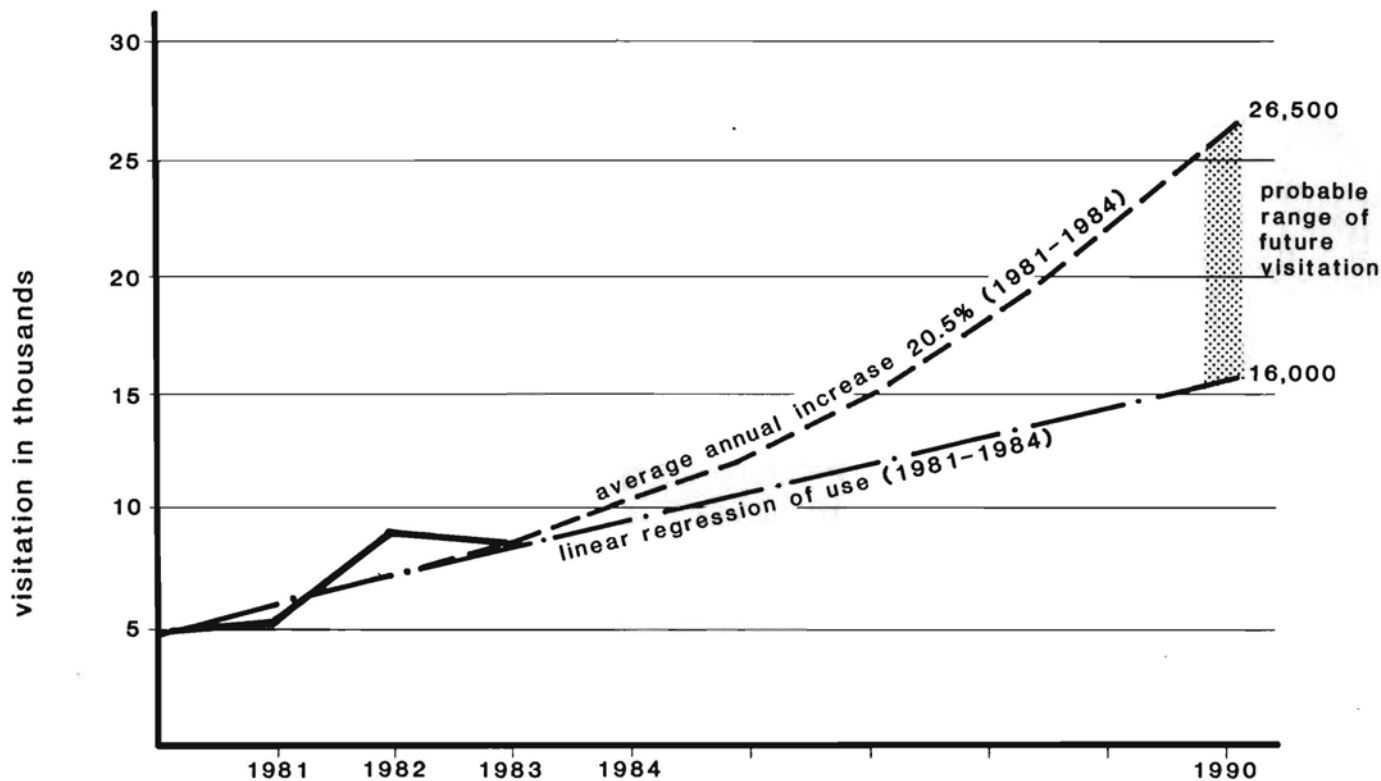


Figure III.3

**Projected Visitation Trends**  
**Knife River Indian Villages National Historic Site**  
 United States Department of the Interior - National Park Service

and population in the region. Past and expected coal production are illustrated on the following table.

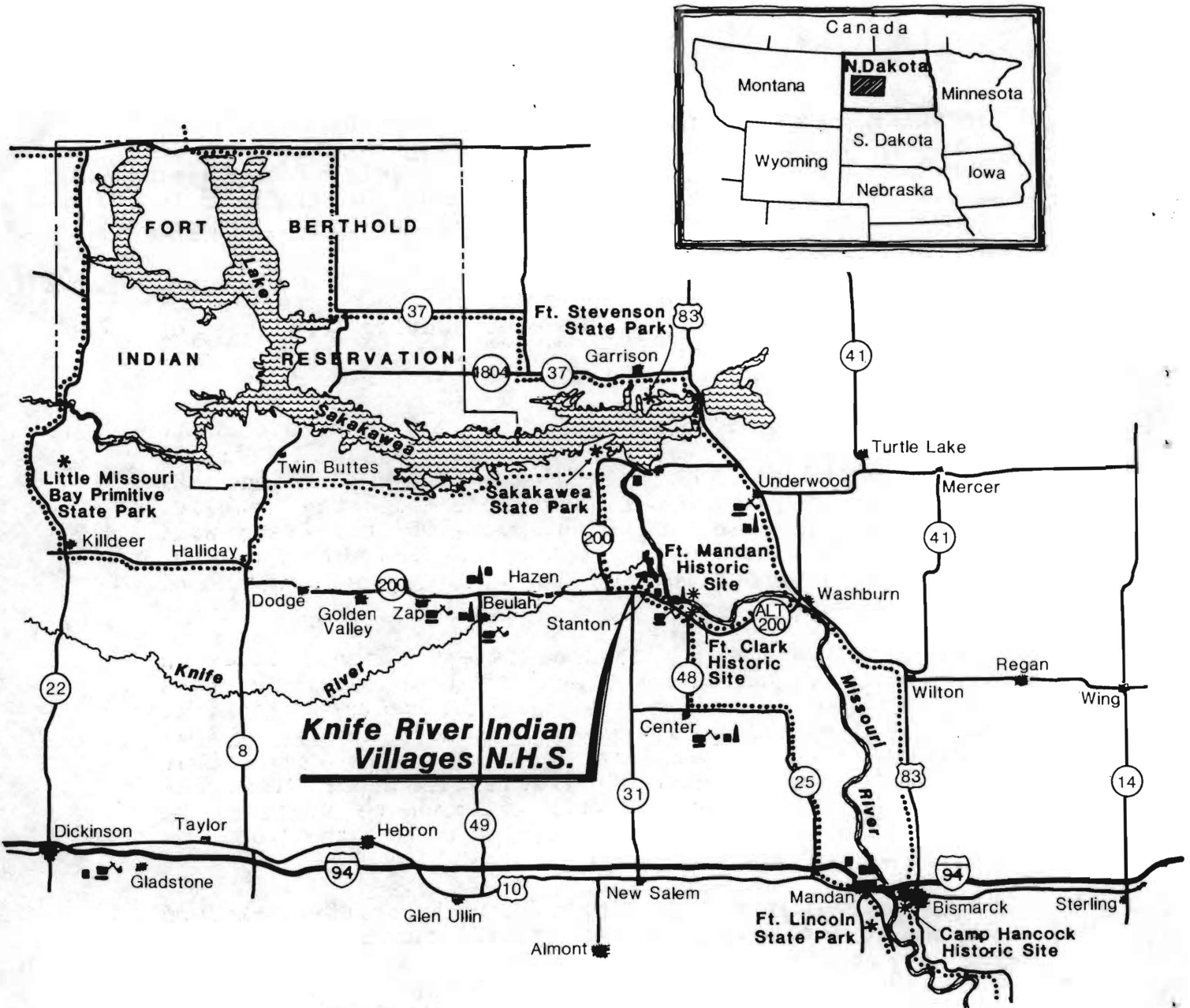
PROJECT COAL PRODUCTION, NORTH DAKOTA  
(million tons per year)

EXISTING MINES	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Gasconye	2.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Beulah	1.9	2.5	3.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Husky	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Velva	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Glenharold	2.9	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Larson	0.5	.05	0.5	0.5								
Center	3.7	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Indianhead	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Falkirk	1.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
TOTAL	14.9	21.1	22.3	23.6	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1

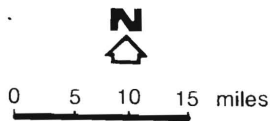
Map III.7, Regional Setting, illustrates the location of coal mines, coal-fueled power plants, and other energy production facilities.

Clays, also among the regions more valuable mineral resources, are abundant and vary in quality from common brick to fine pottery clays and expanded lightweight aggregates. Glacial boulders used for the construction of foundations and occasionally for complete buildings are also found here. Sand and gravels used for a variety of work are plentiful.

About 22 miles north of Stanton is Garrison Dam, behind which lies the largest of the Missouri River reservoirs, Lake Sakakawea. It is more than 14 miles wide at some points and 178 miles long, with 348,000 acres of surface water area and 1,340 miles of shoreline available for recreation. The U.S. Army Corps of Engineers has developed recreation facilities and services at a dozen different points along the lake.



- \* state parks
- \* historic sites
- coal fueled power plants
- other energy production facilities
- coal strip mines
- .... Lewis & Clark Trail - 1804 & 1806 routes



**Map III.7**  
**Regional Setting**  
**Knife River Indian Villages National Historic Site**  
 United States Department of the Interior National Park Service

Sakakawea City Park in Stanton provides the only camping, picnicking, swimming, boating, and fishing in the immediate area. Roads, picnic grills, and toilet facilities need to be improved in order for the park to accommodate any significant number of overnight campers.

Hunting, with rifle and shotgun, is common recreation on lands near the park. Game hunting consists of grouse, ducks, pheasant, rabbits, wild turkey, and white-tailed deer.

Eight miles south of Stanton the North Dakota State Historical Society manages Fort Clark State Historical Site. Access to the site is via paved road and, as yet, no displays are available to the public. Additional development of this site by the State will increase the historical interpretation of the area making it more attractive to an increased number of visitors.

Lake Sakakawea is one of the largest manmade lakes in the world. Recreation facilities around the lake include boat ramps, boat docks, boat rentals, fishing, camping, swimming, picnicking, summer homes, rental cabins, and concessions. Since none of these facilities are planned for the Knife River Site, the Lake Sakakawea services will accommodate visitors to the region who wish to participate in other outdoor recreation pursuits.

The National Park Service administers Theodore Roosevelt National Park 140 miles southwest of Stanton on I-94 near Medora, North Dakota. Another National Park Service area is Fort Union Trading Post National Historic Site near Williston, North Dakota. Knife River and Fort Union reveal cross sections of interesting native and European-American cultures on the Missouri River frontier.

The North Dakota Parks and Recreation Department administers Fort Lincoln State Park which has reconstructed Mandan-type earthlodges and historical interpretation programs. Fort Lincoln is 60 miles south of the Knife River Villages. Fort Mandan, north of Washburn, North Dakota, commemorates the 1804-1805 winter encampment of Lewis and Clark.

The table on the next page (1984 Visitation To Nearby Areas) indicates Knife River is in the center of a major portion of tourism in North Dakota.

1984 Visitation To Nearby Areas

<u>Facility</u>	<u>Location</u>	<u>Resource</u>	<u>Visits</u>
Sakakawea State Park	Approx, 23 mi. N. of KNRI	Recreational, Picnic, & Camping Facility	196,574
Downstream Camp- ing Area (Garrison Dam)	Approx. 24 mi. N. of KNRI	Picnic & Camping Area	251,598
Tailrace (Garrison Dam)	Approx. 24 mi.	Fishing Area	215,000
Ft. Stephenson State Park	Approx. 40 mi. N. of KNRI	Rec., Picnic, & Camping Facility	149,369
Hazen Rec. Area	Approx. 10 mi. W. of KNRI	Rec., Picnic, & Camping Facility	40,000
Beulah Bay	Approx. 20 mi. W. of KNRI	Rec., Picnic, & Camping Facility	37,731
Great Plains Gasification Assoc.	Approx. 25 mi. SW of KNRI	Gasification Plant	5,100
Cross Ranch	Approx. 23 mi. SE of KNRI	Cultural & Natural History	800
Heritage Center	65 mi. SE of KNRI	Historical Museum Exhibits, Archives	148,096
Ft. Lincoln	60 mi. SE of KNRI	Picnic, Fishing, & Camping Area	160,000
Ft. Mandan	Approx. 22 mi. E. of KNRI	Historical Site	2,500
Fort Clark	Approx. 10 mi. E of KNRI	Historical Site	2,000
Ft. Union National Historic Site	Approx. 170 mi. NW of KNRI	National Historic Site	14,195
Theodore Roosevelt National Park	140 mi. SW of KNRI	Natural and Historic Resource Area	368,615

## FACILITY ANALYSIS AND STAFFING

Existing facilities are minimal; therefore, the national historic site is still classified as a developing area. A two story building with 1,650 square feet was converted from a farm house to park headquarters. This structure houses administrative offices and visitor services. Because of its recent remodeling, it is in good condition.

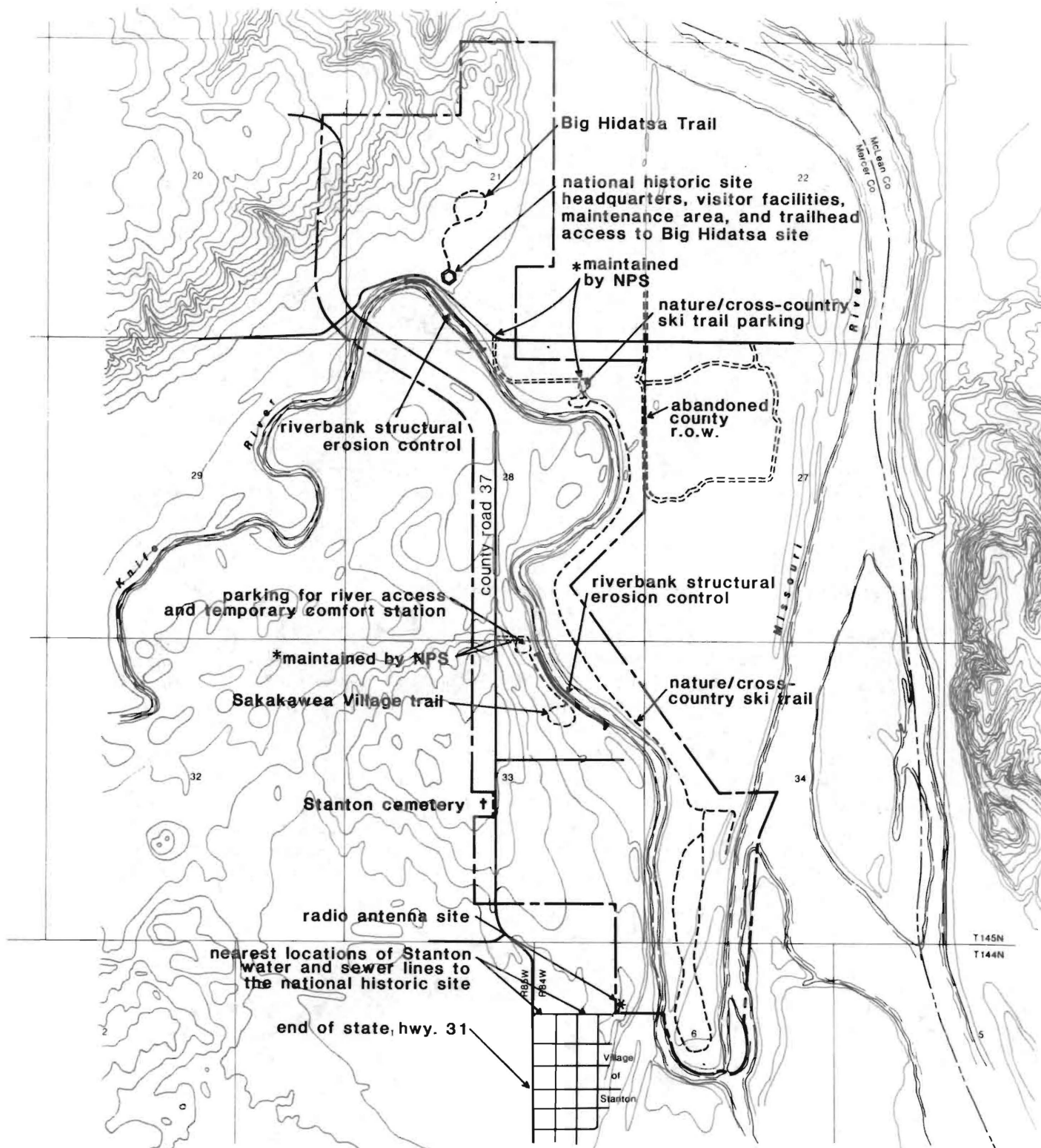
Other improvements at Knife River include 11 miles of barbed wire boundary fencing, the western park boundary along the 400-foot easement is not fenced; 6 miles of hiking and nature trails; the 1/2-mile Big Hidatsa trail; the 1-mile Sakakawea Trail; 1.5 miles of gravel road; 4 miles of dirt road; 1,500 square feet of parking lots; and a 1,500-square-foot building constructed in 1985. These improvements are illustrated on Map III.8, Existing Conditions.

The Knife River area manager is supervised by the Superintendent, Theodore Roosevelt National Park. Current staffing levels are illustrated below.

<u>Permanent Positions</u>	<u>FTE</u>
Area Manager	1.0
Park Ranger; Interpretation, Resource Management, and Law Enforcement	1.0
Park Technician; Interpretation; Typist	1.0
Maintenance Worker	.8
Clerk Typist, part-time	.6
 <u>Seasonal Staff</u>	
Maintenance Worker	.3
Park Technicians, Interpretation (two)	.6
TOTAL FTE's	5.3

## STATUS OF RIGHTS-OF-WAY, LANDOWNERSHIP, AND JURISDICTIONAL AUTHORITIES

The park contains 60.40 acres of rights-of-way for Mercer County Road 37. This 150-foot-wide rights-of-way, while within the park boundary, provides for maintenance and improvement by Mercer County. The National Park Service does not have authority nor



**Map III.8**  
**Existing Conditions**  
**Knife River Indian Villages**  
**National Historic Site**

United States Department of the Interior  
 National Park Service

\* 1.5 miles of gravel roads maintained by N.P.S.

--- national historic site boundary



0 1000 2000 3000 feet

468 | 80,030-A  
 JAN 86 | RMRO

responsibility to provide financial assistance in the maintenance or improvement of this road. Currently, the National Park Service, is in a "recommendation mode" in regard to regulations (such as, speed limits) governing use of this road.

A section-line road abandoned in July 1980 is located adjacent to a small portion of the parks eastern boundary. Because this rights-of-way is abandoned, the land west of the right-of-way centerline has reverted to Federal ownership.

Of the 1,293.35 gross acres within the park, 136.41 acres are in private ownership. This acreage constitutes the parks 400-foot easement west of Mercer County Road 37 and the county road rights-of-way. Appendix B contains a copy of the easement restrictions. Map III.1, Landownership, provides additional details on landowners and acreages.

There are 1,066.00 acres of non-Federal mineral rights within the park boundary. This includes oil, gas, coal, and other non-Federal mineral rights. About 10 percent of the non-Federal mineral rights are for coal.

A Memorandum of Agreement, dated May 23, 1977, between the National Park Service and the State of North Dakota provides concurrent jurisdictional authority on lands controlled by the State. This land includes the Knife River channel between the normal high water marks on each bank. The Memorandum of Agreement is provided in Appendix C.





## CHAPTER IV

### ENVIRONMENTAL CONSEQUENCES OF THE PROPOSAL AND ALTERNATIVES

#### INTRODUCTION

This chapter contains discussions on the estimated effects of each alternative. This disclosure provides the information necessary to compare the relative merits of the alternatives and proposal.

This disclosure includes discussions of possible environmental impacts resulting from implementation of the alternatives, any adverse environmental effects which cannot be avoided if the proposal is implemented, the relationship between short-term uses of the environment and maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resources necessitated by implementation of the proposal.

#### NATURAL RESOURCE ENVIRONMENTAL CONSEQUENCES

##### Hydrology

In all alternatives and the National Park Service Proposal, developments are located outside the 100-year floodplain and wetlands associated with the Knife and Missouri Rivers. These areas will not be affected by development of the park.

Various degrees of riverbank stabilization are provided in each alternative. In Alternative A, these programs are limited to already completed projects at Taylor Bluff and Sakakawea Village Sites. Natural erosion should be minimized at these sites; however, riverbank erosion could continue along remaining portions of the Knife River. Alternative B and the National Park Service Proposal include riverbank stabilization programs along the Knife River when cultural resources would be adversely affected by these processes. These practices could result in the elimination of erosion on over 80 percent of Knife River's banks within the national historic site.

Long-term impacts to water quality are reduced in all alternatives through initiation of vegetative management programs which would reduce surface erosion and subsequent river sedimentation. In Alternative A,

provisions for additional park development are not included; therefore, there will be no impact of water quality over existing levels. Construction and rehabilitation work associated with Alternative B and the National Park Service Proposal would create temporary and minor increases in sedimentation and turbidity of surface drainage. These processes would be eliminated by revegetation of disturbed areas following construction.

Demands for increased consumption of domestic water in Alternative B and the National Park Service Proposal is expected. Water service from the community of Stanton would meet these needs.

#### Geology and Soils

All proposed facilities are located on terraces with deep, well-drained, moderately to highly permeable fine sandy loam soils. No problems with bedrock, boulders, or other geologic structural materials are anticipated with construction.

During construction, temporary and minor increases in erosion would result in Alternative B and the National Park Service Proposal. Erosion is eliminated by revegetation of disturbed areas following construction. Table IV.1 illustrates the acres of soil that would be disturbed by each alternative.

Table IV.1  
Acres of Soil Disturbed

Alternative A	0
Alternative B	6.01
National Park Service Proposal	6.78

#### Wildlife and Vegetation

Development activities in Alternative B would permanently displace 6.01 acres of vegetation; 6.78 acres of vegetation would be displaced in the National Park Service Proposal. Vegetation would not be displaced in Alternative A.

All alternatives provide strategies to control noxious weeds. In Alternative A, noxious weeds receive spot controls. This action would reduce leafy spurge and Canadian thistle population; however, it would not eliminate their presence. An integrated pest management program would be employed in Alternative B and the National Park Service Proposal. This program should result in the near elimination of noxious weeds. Monitoring provided by this program would provide information on the environmental effects associated with these actions.

In Alternative A, existing vegetative processes would continue. Climax plant communities would result; however, this process may be greatly extended rendering large portions of the park of a lessened ecological and interpretive value. Alternative B and the National Park Service Proposal contain provisions for development of a vegetation management plan. Implementation of a vegetation management plan would increase the possibility of more rapidly restoring desired plant communities and would expand the parks information base, therefore, improving abilities to maximize results associated with vegetation and wildlife management.

Introduction of vegetation management programs in Alternative B and the National Park Service Proposal would increase habitat carrying capacity for some wildlife species described in Chapter III of this document. Because climax communities could result in Alternative A, habitat carrying capacity would be reduced resulting in a reduction of current wildlife populations.

No impacts are anticipated to fishery populations from implementation of any alternative. Habitat components of instream cover, streambank cover, spawning areas, and water temperature should remain unchanged.

The bald eagle would not be adversely affected by any alternative or the National Park Service Proposal. Habitat for the bald eagle is enhanced in Alternative B and the National Park Service Proposal through improved vegetation management programs and the subsequent increase of bald eagle prey.

#### Air

There will be no additional air quality impacts resulting from any alternative or the National Park Service Proposal.

Managements knowledge on the effects of outside influence on air quality, described in Chapter III, are increased through coordination programs with the State in Alternative B and the National Park Service Proposal. In Alternative A, coordination of air quality monitoring with the State is not provided. A substantial loss of air quality could result prior to management's knowledge of its continuing degradation until conditions are such that their impacts are irreversible.

#### CULTURAL RESOURCE ENVIRONMENTAL CONSEQUENCES

Alternative B and the National Park Service Proposal provide for construction of a visitor/administrative facility in the southwest portion of the park. Environmental consequences associated with this action are described in the "Assessment of Alternatives - Visitor/Administrative Sites, National Park Service, December 1980." Effects illustrated in that document are summarized as follows:

- Based on a relatively intense surface examination and representative subsurface testing for cultural material, the proposed visitor/administrative site could contain subsurface cultural features or significant cultural materials in the plow zone. It is unlikely to contain these cultural materials at deeper levels (Ahler, Stanley, A., 1979, "Archeological Field Research in the Knife River Indian Villages National Historic Site, Summer 1979," report prepared by the National Park Service). A portion of an area tentatively identified as a special activity locus of the Lower Hidatsa Village Site may be disturbed. Accidental disruption or destruction of unknown, buried archeological resources could occur during construction.

The December 1980 assessment also includes measures to mitigate adverse effects to cultural resources, they are summarized as follows:

- The plow zone would be stripped from the area to be directly impacted prior to construction in an effort to locate, map, hand excavate, and record any subplow zone features that may be present. Because significant archeological remains do not occur on the surface, only subsurface construction activities have the possibility of damaging important archeological features. Specific areas to be studied cannot be established until the final design is determined.

In Alternative A, riverbank cultural resources may be adversely affected on areas other than Taylor Bluff and Sakakawea Village due to continuing riverbank erosion. Alternative B and the National Park Service Proposal contain provisions necessary to mitigate these effects through research and riverbank stabilization programs.

Unless an agreement is reached with the University of North Dakota for continued storage of artifacts, all material would be returned to the park or to the Midwest Archeological Center. In Alternative A, facilities do not provide adequate storage space or environmental controls to meet the intent of NPS-28. In addition, none of the staff has the training or experiences in caring for such a collection. This results in collection deterioration which would render them useless to the scientific community and as a tool for interpretive needs.

In Alternative B and the National Park Service Proposal, staffing expertise would be provided at the park to care for collections. Space with required environmental condition to house the entire collection is provided for in Alternative B. Under the National Park Service Proposal, research and exhibit artifact categories are stored in the visitor/administrative facility with artifacts classified in the storage category stored in retrievable, sealed containers which meet the intent of NPS-28.

In Alternative A, no actions are taken to protect the Running Deer Site. As a result, the site could eventually be destroyed, its interpretive and/or scientific value lost, and the existing landowner--who is protecting the site via her nondisturbing-land use--could transfer ownership of her property to another private individual, and the present protection status could be lost. In the National Park Service Proposal, the Running Deer Site is evaluated. In the unlikely event that it is found to be a winter village or if significantly related to activities of the Big Hidatsa Site, National Park Service protection would be pursued. This establishes the site's value prior to seeking, if necessary, additional protection. These alternatives insure preservation of the sites historic integrity.

In Alternative A, public use of the access road across the Elbee Site is discontinued. Visitors would park along County Road 37 and walk across the Elbee Site to gain access to the river. Alternative B relocates the

access road and parking to an area that is less sensitive archeologically. Archeological resources are protected and visitor-use patterns are maintained. The National Park Service Proposal maintains the access road and parking in their current location and standard with practices to mitigate effects to the site.

Provisions for a comprehensive site management plan for Sakakawea Village are included as part of Alternative B and the National Park Service Proposal. This plan would provide cost efficient and quality resource protection. In Alternative A, natural site degradation continues which may result in one of the parks major resources being wholly or partially destroyed.

Rodent burrowing activities remain uncontrolled in Alternative A. This results in diminution of intact, irreplaceable cultural deposits in the park. Their value for future research will be lessened. Alternative B and the National Park Service Proposal include provisions to reduce burrowing activities which reduces adverse effects to artifacts. A majority of intact cultural deposits should be preserved. Without control of burrowing activities, this ongoing process will continue to "churn" site deposits. This contributes significantly to continued attrition of the park's primary resource.

In all alternatives, earthlodges are not reconstructed at Knife River Indian Villages National Historic Site. Replica earthlodges are available at Ft. Abraham Lincoln State Park.

In-park archeological/museum staff expertise is not provided in Alternative A. Due to the lack of specific training, quality control, and accountability, cultural resources may be in jeopardy. Alternative B and the National Park Service Proposal include provisions for additional archeological staff resulting in increased archeological input for interpretive programs and enhanced cultural resource management.

#### EFFECTS ON VISITOR USE

Visitor-use capacities at Knife River are dependent on capacities of supporting developed facilities. In Alternative A, current capacities are maintained which includes 30 persons at one time at the visitor contact

station and Big Hidatsa trail. Alternative B and the National Park Service Proposal increase visitor-use capacities to 90 persons at one time at the Big Hidatsa Site. Public use of the river access road and parking is maintained. Alternative A closes the access road and parking to public motorized use resulting in visitors parking along County Road 37 and walking to the "fishing hole." Because of the relocated visitor/administrative facility, the primary purpose of the river access road and parking would be to serve fishing activities at the Sakakawea Village cutbank.

Quality of visitor experiences is partially dependent on a natural- or historical-appearing landscape. In all alternatives and the National Park Service Proposal, there are no provisions to protect appearance of surrounding lands, if developed with incompatible uses this could lead to visitor experience degradation.

Development of the proposed visitor/administrative facility and improvements to the interpretive program in Alternative B and the National Park Service Proposal could increase visitor length-of-stay resulting in greater visitor awareness of the resources associated with Knife River Indian Villages National Historic Site.

With construction of the interpretive earthlodge in the National Park Service Proposal, the quality of interpretive programs will be increased. Visitor understanding of life at the Indian Village would be enhanced resulting in a greater awareness of the uniqueness of this resource.

Because of Knife River's small size and man's influences associated with land uses on surrounding landscapes, there are no opportunities for the visitor to experience primitive, unconfined recreation opportunities.

#### EFFECTS ON FACILITIES

Effects on facilities in Alternative B and the National Park Service Proposal are similar. Construction of the proposed visitor/administrative facility will include provisions for low maintenance and energy efficiency. With continuation of present facilities in Alternative A, the present visitor/administrative buildings life span will probably be shortened because use will exceed its design capacity. The probability exists that facilities in Knife River will appear well worn.



SUMMARY COMPARISON OF ENVIRONMENTAL CONSEQUENCES

RESOURCE ELEMENT	ALTERNATIVE A	ALTERNATIVE B	NATIONAL PARK SERVICE PROPOSAL
Hydrology	No effect to wetlands or floodplains. Long-term impacts to water quality reduced.	No affect to wetlands or floodplains potential reduction of riverbank erosion on 80 percent of Knife River within the park.  Long-term impacts to water quality reduced.  Temporary and minor increases in sedimentation from construction activities.  Increased consumption of potable water.	Same as B.
Geology and Soils	No effect	Temporary and minor increases in soil erosion from disturbance of 6.01 acres of soil during construction.  No geologic effects.	Temporary and minor increases in soil erosion from disturbance of 6.78 acres of soil during construction.  No geologic effects.
Wildlife and Vegetation	Small reduction of noxious weed populations.  Large portions of park of a lessened ecological and interpretive value.	6.01 acres of vegetation displaced.  Near elimination of noxious weeds.  Rapid restoration of desired plant communities.	6.78 acres of vegetation displaced.  Near elimination of noxious weeds.  Rapid restoration of desired plant communities.

RESOURCE  
ELEMENT

ALTERNATIVE A

ALTERNATIVE B

NATIONAL PARK SERVICE PROPOSAL

Reduced wildlife habitat carrying capacity.

Increased wildlife habitat carrying capacity.

Increased wildlife habitat carrying capacity.

No affect to fisheries.

No affect to fisheries.

No affect to fisheries.

No affect to bald eagle.

Enhanced bald eagle habitat.

Enhanced bald eagle habitat.

Air

No affect

No affect

Cultural Resources

Riverbank cultural resources adversely affected by riverbank erosion.

Riverbank cultural resources protected by erosion control programs.

Riverbank cultural resources protected by erosion control programs.

Potential deterioration of archeological collections if returned to park.

Staffing and storage facilities for archeological collections provided in park to insure protection.

Staffing and storage facilities for archeological collections provided in park to insure protection.

Potential loss of Running Deer Site.

Protection of Running Deer Site if determined to be a winter village.

Protection of Running Deer Site if determined to be a winter village or significantly related to Big Hidatsa.

Elbee Site protection by relocation of road and parking.

Potential effects to Elbee Site created by road and parking-- use will be monitored and effects mitigated as necessary.

RESOURCE  
ELEMENT

ALTERNATIVE A

ALTERNATIVE B

NATIONAL PARK SERVICE PROPOSAL

Continuance of natural site deterioration at Sakakawea Village.	Cost effective management and protection of Sakakawea Village.	Cost effective management and protection of Sakakawea Village.
Diminution of intact cultural deposits from rodent burrowing activities.	Reduced rodent burrowing activities and reduced diminution of intact cultural deposits.	Reduced rodent burrowing activities and reduced diminution of intact cultural deposits.
No earthlodge reconstruction.	No earthlodge reconstruction.	No earthlodge reconstruction.
		Increased archeological input from additional archeological staff.

Effects on

Visitor Use

Capacity of visitor/administration facility 30 persons at one time.	Capacity of visitor/administration facility 90 persons at one time.	Capacity of visitor/administration facility 90 persons at one time.
Curtailed use of Sakakawea Village cutbank.	Public use of Sakakawea Village cutbank maintained.	Public use of Sakakawea Village cutbank maintained.
Potential visitor experience degradation from development of incompatible land uses on surrounding lands.	Potential visitor experience degradation from development of incompatible land uses on surrounding lands.	Potential visitor experience degradation from development of incompatible land uses on surrounding lands.
	Probable increase in visitor's average length of stay.	Probable increase in visitor's average length of stay.
		Increased quality of interpretive program by construction of an interpretive earthlodge in conjunction with the proposed visitor/administrative facility.

If the current well for domestic water supply is maintained, application for water rights with the State should be made. New utilities (water, sewer, and electric) should be obtained from the City of Stanton or other local sources. Use of this strategy should reduce long-term National Park Service infrastructure maintenance costs.

#### LAND USE EFFECTS

Because about 82 percent of the national historic site is encumbered by oil, gas, coal, and other non-Federal mineral rights, the potential exists that these minerals could be developed. The extent to this potential is unknown and the effect mineral development would have on the parks resources is also unknown.

#### ANY IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Portions of the national historic site scheduled for development will be irretrievably committed to that use for the lifetime of that development. There will be no irreversible commitment of ecological resources, since the proposed developments can be removed at some future time and the site restored to the same level of ecological development as it is presently. However, archeological resources encountered during construction may be irreversibly disturbed. In addition, any excavation for archeological mitigation purposes would amount to an irreversible commitment of archeological resources.

#### THE RELATIONSHIP BETWEEN SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF THE LONG-TERM PRODUCTIVITY

An opportunity for rewarding visitor use, while promoting the preservation and protection of the cultural resources, will be provided by the National Park Service Proposal. To accomplish these goals, the ecological productivity of development areas will be lessened by structures and associated developments. Nevertheless, the ultimate ecological productivity of the site will not be affected, since the facility can be removed at some future time and the site easily restored to the same level of ecological development as it is in presently.

## CHAPTER V

### LIST OF PREPARERS

This environmental assessment/ revised general management plan was prepared by an interdisciplinary team composed of Rocky Mountain Regional Office and Knife River Indian Villages National Historic Site staff, the team members are:

Bill Haviland, Chief, Interpretation and Resource Management, Knife River Indian Villages National Historic Site

Michael O. Holm, Area Manager, Knife River Indian Villages National Historic Site

Dr. Ann Johnson, Archeologist, Rocky Mountain Regional Office

Michael D. Snyder, Team Captain, Planner/Landscape Architect, Rocky Mountain Regional Office.

Others who were active in the preparation of this document are:

Lori Jean Kinser, Visual Information Specialist, Rocky Mountain Regional Office

Joyce Moe, Editorial Clerk, Rocky Mountain Regional Office.

## CHAPTER VI

### CONSULTATION

The following organizations or individuals were contacted or consulted with during preparation of the environmental assessment/ revised general management plan.

Stanley Ponce, National Park Service, Water Resource Branch

State Historical Society of North Dakota

Advisory Council on Historic Preservation

Midwest Archeological Center

Richard Young, Division of Land Resources, Rocky Mountain Regional Office

Ramon Borrás, Denver Service Center, Estimating Branch

Mike Bogan, U.S. Fish and Wildlife Service

North Dakota State Department of Health

North Dakota Game and Fish Department

Dick Sorenson, Mercer County, North Dakota

North Dakota Parks and Recreation Department

City of Stanton, North Dakota

Three Affiliated Tribes, New Town, North Dakota

Knife River Indian Heritage Foundation, Stanton, North Dakota

APPENDICES



Public Law 93-486  
93rd Congress, H. R. 13157  
October 26, 1974

## An Act

88 STAT. 1461

To provide for the establishment of the Clara Barton National Historic Site, Maryland; John Day Fossil Beds National Monument, Oregon; Knife River Indian Villages National Historic Site, North Dakota; Springfield Armory National Historic Site, Massachusetts; Tuskegee Institute National Historic Site, Alabama; Martin Van Buren National Historic Site, New York; and Sewall-Beumont House National Historic Site, Washington, District of Columbia; and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

### TITLE I

SEC. 101. (a) Unless otherwise provided hereafter, the Secretary of the Interior (hereinafter referred to as the "Secretary") is authorized to acquire by purchase with donated or appropriated funds, donation, exchange, or by transfer from another Federal agency such lands and interests in lands as hereafter provided for establishment as units of the national park system, as follows:

(1) for establishment as the Clara Barton National Historic Site, Maryland, those lands depicted on the map entitled "Boundary Map, Clara Barton National Historic Site, Maryland", numbered NHS-CLBA 90,001 and dated February 1974, which shall include the land and improvements occupied by Clara Barton, founder of the American Red Cross located at 5801 Oxford Road, Glen Echo, Maryland: *Provided*, That the above-mentioned land and improvements may be acquired only by donation: *And provided further*, That the donation of any privately owned lands within the historic site may not be accepted unless and until the property is vacant;

(2) for establishment as the John Day Fossil Beds National Monument, Oregon, those lands depicted on the map entitled "Boundary Map, John Day Fossil Beds National Monument", numbered NM-JDFB-20,014-A and dated June 1971: *Provided*, That the national monument shall not be established unless and until the State of Oregon donates or agrees to donate the Thomas Condon-John Day Fossil Beds, Clarno, and Painted Hills State Parks: *Provided further*, That the Secretary shall not acquire a fee title interest to more than one thousand acres of privately owned lands except by donation or exchange: *Provided further*, That the Secretary shall designate the principal visitor center as the "Thomas Condon Visitor Center";

(3) for establishment as the Knife River Indian Villages National Historic Site, North Dakota, those lands depicted on the map entitled "Boundary Map, Knife River Indian Villages National Historic Site, North Dakota", numbered 468-20,012 and dated July 1970;

(4) for establishment as the Springfield Armory National Historic Site, Massachusetts, those lands depicted on the map entitled "Boundary Map, Springfield Armory National Historic Site, Massachusetts", numbered NHS-SPAR-91,003 and dated January 1974, the oldest manufacturing arsenal in the United States: *Provided*, That the historic site shall not be established unless an agreement is executed which will assure the historical integrity of the site and until such lands as are needed for the historic site are donated for this purpose;

Historic sites  
and national  
monument.  
Establishment.

Land acquisition.

Clara Barton  
National His-  
toric Site,  
Md.  
16 USC 461  
note.

John Day Fossil  
Beds National  
Monument, Oreg.  
16 USC 431  
note.

Thomas Condon  
Visitor Center,  
designation.  
Knife River  
Indian Villages  
National His-  
toric Site,  
N. Dak.  
16 USC 461  
note.  
Springfield  
Armory Nation-  
al Historic  
Site, Mass.  
16 USC 461  
note.



Tuskegee Institute National Historic Site, Ala.  
16 USC 461  
note.

(5) for establishment as the Tuskegee Institute National Historic Site, Alabama, those lands depicted on the map entitled "Boundary Map, Tuskegee Institute National Historic Site, Alabama", numbered NHIS-TI 20,000-C and dated September 1973, which shall include the home of Booker T. Washington, the Carver Museum, and an antebellum property adjacent to the campus of Tuskegee Institute, known as Grey Columns; and

Martin Van Buren National Historic Site, N. Y.  
16 USC 461  
note.

(6) for establishment as the Martin Van Buren National Historic Site, New York, those lands depicted on the map entitled "Boundary Map, Martin Van Buren National Historic Site, New York", numbered NHS-MAVA-91,001 and dated January 1974, which shall include the home of Martin Van Buren, eighth President of the United States.

Personal property acquisition.

(b) The Secretary may also acquire personal property associated with the areas referred to in subsection (a) of this section. Lands and interests therein owned by a State or any political subdivision thereof which are acquired for the purposes of subsection (a) of this section may be acquired only by donation.

Notice to congressional committees.

Sec. 102. (a) When the Secretary determines that an adequate interest in lands has been acquired to constitute an administrable unit for each of the areas described in section 1 of this Act, he may, after notifying the Committees on Interior and Insular Affairs of the United States Congress of his intention to do so at least fourteen days in advance, declare the establishment of such unit by publication of a notice to that effect in the Federal Register. Such notice shall contain a map or other description of the boundaries of the unit, together with an explanation of the interests acquired and the costs incident thereto. The Secretary may refrain from acquiring property for establishment of any unit authorized by this Act where, in his judgment, satisfactory agreements or donations with respect to properties which are needed for the protection and administration of a particular unit have not been consummated with the owners of such properties.

Publication in Federal Register.

Administration.

(b) Pending the establishment of each unit and, thereafter, the Secretary shall administer the property acquired pursuant to this Act in accordance with the provisions of the Act of August 25, 1916 (39 Stat. 535), as amended and supplemented, and, to the extent applicable, the provisions of the Act of August 21, 1935 (49 Stat. 666), as amended.

16 USC 1.  
16 USC 461.

Tuskegee Institute National Historic Site, road construction.

Sec. 103. Notwithstanding any other provision of law, the Secretary is authorized to construct roads on real property in non-Federal ownership within the boundaries of the Tuskegee Institute National Historic Site. Any roads so constructed shall be controlled and maintained by the owners of the real property.

Appropriation.

Sec. 104. There are authorized to be appropriated such sums as may be necessary to carry out the provisions of this Act, not to exceed, however, the following:

(a) Clara Barton National Historic Site, \$812,000 for acquisition of lands and interests in lands and for development;

(b) John Day Fossil Beds National Monument, \$400,000 for the acquisition of lands and interests in lands and \$4,435,200 for development;

(c) Knife River Indian Villages National Historic Site, \$600,000 for the acquisition of lands and interests in lands and \$2,268,000 for development;

(d) Springfield Armory National Historic Site, \$5,300,000 for development;

(e) Tuskegee Institute National Historic Site, \$185,000 for the acquisition of lands and interests in lands and \$2,722,000 for development; and

(f) Martin Van Buren National Historic Site, \$213,000 for acquisition of lands and interests in lands and \$2,737,000 for development.

## TITLE II

Sec. 201. In order to preserve for the benefit and inspiration of the people of the United States as a national historic site, the Sewall-Belmont House within the District of Columbia, the Secretary of the Interior is authorized to enter into a cooperative agreement to assist in the preservation and interpretation of such house.

Sewall-Belmont  
House National  
Historic Site,  
D. C.

Sec. 202. The property subject to cooperative agreement pursuant to section 101 of this Act is hereby designated as the "Sewall-Belmont House National Historic Site".

16 USC 461  
note.

Sec. 203. The cooperative agreement shall contain, but shall not be limited to, provisions that the Secretary, through the National Park Service, shall have right of access at all reasonable times to all public portions of the property covered by such agreement for the purpose of conducting visitors through such property and interpreting it to the public, that no changes or alterations shall be made in such property except by mutual agreement between the Secretary and the other parties to such agreement. The agreement may contain specific provisions which outline in detail the extent of the participation by the Secretary in the restoration, preservation, and maintenance of the historic site.

Cooperative  
agreement.

Sec. 204. There are hereby authorized to be appropriated such sums as may be necessary to carry out the purposes of this Act, but not to exceed \$500,000.

Appropriation.

Approved October 26, 1974.

### LEGISLATIVE HISTORY:

HOUSE REPORT No. 93-1285 (Comm. on Interior and Insular Affairs)  
SENATE REPORT No. 93-1233 (Comm. on Interior and Insular Affairs)  
CONGRESSIONAL RECORD, Vol. 120 (1974):

Aug. 19, considered and passed House.

Oct. 8, considered and passed Senate, amended.

Oct. 16, House concurred in Senate amendments.

APPENDIX B

The restrictions hereby imposed upon the use of said lands of the Vendors, and the acts which said Vendors so covenant to do and refrain from doing upon their said lands in connection therewith, are and shall be as follows:

1. No buildings or other structures shall be erected anywhere on said land except for farming purposes and purposes accessory thereto, without the written approval of the Secretary of the Interior or his designee.
2. Said land shall not be used for any professional or commercial activity (other than farming) except such as can be and is in fact conducted from a residential dwelling without alteration of the dwelling.
3. No utility transmission lines shall be erected on said land and no interests in said land shall be granted for this purpose without written permission of the Secretary of the Interior or his designee. This provision shall in no way, however, preclude the erection of utility pole lines to serve buildings and structures in conformity with the uses set forth herein.
4. No noxious or offensive activity shall be permitted on said land. No junk cars, inoperative buses, house trailers, shanties, or dilapidated structures, accumulated trash or litter, dump of ashes or any other unsightly or obnoxious matter or things shall be allowed on said land.
5. No trailer shall be used on the lands as a substitute for a residential building or other structure except on a temporary basis not to exceed one year.
6. The land shall not be used as a site for any major public utilities installations such as electric generating plants, electric power substations, high-tension electric power transmission lines, gas generating plants, gas storage tanks, water storage tanks or reservoirs, sewage treatment plants, microwave relay stations, or telephone exchanges. Nothing herein shall, however, be deemed to prevent the construction or maintenance on, over, or under the lands of facilities usual to a residential neighborhood, such as telephone and electric lines and water mains.
7. No advertising signs or billboards shall be displayed or placed upon the land, with the exception of professional nameplates and signs, not larger than two square feet, advertising home occupations or products or the sale or lease of the lands.
8. Mining and related mineral activities are authorized subject to the condition that there will be no occupancy or disturbance of the surface of the lands.
9. No hunting, gathering, digging, or exploratory excavating for artifacts, items, potsherds, tools or portions thereof, or for any physical items or articles that fall within the meaning and intent of the Antiquities Act of 1906 (34 Stat. L. 225) shall be permitted.
10. No dump of ashes, trash or any unsightly, offensive material shall be placed upon the land except that in eroding areas of a drainage system where surface water runoff is destroying the natural ground cover, suitable heavy fill may be so placed as to control and prevent further erosion provided said fill is covered by arable soils or humus.

It is understood and agreed that the imposition of the covenants and land use limitations set forth herein are in no way intended to nullify, supersede, or amend any covenants or land use limitations which have heretofore been placed upon said lands.

THIS AGREEMENT, made this 23 day of May,  
1977, by and between the National Park Service, Department of Interior,  
hereinafter called the Service, acting through the Regional Director,  
Rocky Mountain Region, as the authorized representative of the Secretary  
of Interior, pursuant to the Act of Congress of August 25, 1916, (39 Stat.  
535) and Acts amendatory thereof or supplementary thereto, including without  
limitation by this enumeration the Acts of Congress approved August 8, 1953  
(67 Stat.495), and August 18, 1970 (84 Stat. 825), and the State of North  
Dakota, hereinafter called the State, organized and existing under and by  
virtue of the laws of the United States of America.

WITNESSETH:

WHEREAS, the Service recognizes the right and authority of the  
State to retain ownership of that portion of land lying between the normal  
high watermarks on the left and right bank of that portion of the Knife  
River which passes through the authorized boundary of Knife River Indian  
Villages National Historic Site (94 Stat. 486, October 24, 1974); and,

WHEREAS, the State is willing to invest the Service with certain  
specified authorities for control of this State owned land within the  
boundaries of Knife River Indian Villages National Historic Site; and,

WHEREAS, the Service desires the right to exercise certain specified  
authorities for control of this State owned land; now,

THEREFORE BE IT RESOLVED, that the Service shall retain the  
following specified authority and control of State owned land within the  
boundaries of Knife River Indian Villages National Historic Site:

- 1) The Service is authorized to regulate hunting, fishing,  
and boating on the Knife River and enforce Title 36 CFR  
on State owned lands within the park.

- 2) The Service may post regulations pertaining to protection of the land, wildlife, vegetation, and the historic values of the area.
- 3) The Service may construct docking facilities, river bank stabilizing structures, bridges, and other structures deemed necessary for the visitor use and the development and operation of the park.
- 4) The Service may carry on archeological and other scientific activities and may salvage artifacts from the Knife River.
- 5) The Service may engage in such additional activities and exercise such additional control over State owned lands within the park as is deemed necessary in order to insure sound management of the park.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed in triplicate by their duly authorized representative all on the day and year first written.

UNITED STATES OF AMERICA  
DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

BY

Glenn T. Bean

TITLE

Acting Regional Director

ATTEST:

STATE OF NORTH DAKOTA

BY

R. E. Lamm

TITLE

Land Commissioner









DATE DUE

<del>MAY 17 1989</del>			
<del>DEC 4 1990</del>			
<del>DEC 10 1991</del>			
<del>OCT 17 1991</del>			
<small>RAYLORD 884</small>			<small>PRINTED IN U. S. A.</small>

