US Army Corps
of Engineers
Omaha District

Fort Peck Dam/Fort Peck Lake Master Plan with Integrated Programmatic Environmental Assessment

Missouri River, Montana

Update of Design Memorandum MFP-105D

August 2008

CENWO-DE

05 SEP 2008

MEMORANDUM for Kathryn M. Schenk; Chief, Operations Division (CENWO-OD)

SUBJECT: Fort Peck Dam/Fort Peck Lake Master Plan with Integrated Environmental Assessment, Design Memorandum MFP-105D

X I approve of subject master plan and FONSI.

_____ I approve of subject master plan and FONSI with comments.

_____ I do not approve of subject master plan and FONSI.

DAVID C. PRESS
Colonel, Corps of Engineers
District Commander

CENWO-OD-TN

MEMORANDUM FOR CENWO-DE

SUBJECT: Fort Peck Dam/Fort Peck Lake Master Plan with Integrated Environmental Assessment, Design Memorandum MFP-105D

1. The Fort Peck Dam/Fort Peck Lake Master Plan and Finding of No Significant Impact (FONSI) are submitted for approval. The format and content of the Master Plan were prepared in accordance with ER 1130-2-550. A quality assurance/quality control checklist is attached.

2. The Assistant Secretary of the Army for Civil Works, the Honorable John Paul Woodley, directed the Omaha District to identify and provide strategies/solutions for drought-related issues as well as flood events that would extend into the exclusive flood zone of Fort Peck Lake. The Omaha District developed a High Pool/Low Pool Management Issues and Strategies document that addressed land management issues during these times. This is a unique approach to the master planning process because, historically, inundated lands are not considered in a master plan. The High Pool/Low Pool management document is included in Chapter 3 of the master plan.

3. Numerous Federal, State and Tribal agency meetings as well as public meetings were held throughout the development of the master plan. Native American Programmatic Agreement requirements have been followed throughout the entire master planning process.

4. All National Environmental Protection Act (NEPA) guidelines have been followed. An Environmental Assessment has been integrated into this master plan. A FONSI (a NEPA requirement) is enclosed for signature.

5. The enclosed master plan and FONSI are recommended for approval.

Encl
As

KATHRYN M. SCHENK
Chief, Operations Division

CF (w/o encl):
CENWO-OD-FP

FINDING OF NO SIGNIFICANT IMPACT
MASTER PLAN UPDATE
MISSOURI, RIVER, MONTANA
FORT PECK DAM/FORT PECK LAKE
August 2008

In accordance with the National Environmental Policy Act and implementing regulations, an Environmental Assessment (EA) has been prepared and integrated into the 2008 Master Plan Update for the Fort Peck Dam/Fort Peck Lake project in Montana. The updated Master Plan will provide guidance for stewardship and management of the recreational, cultural, paleontological, and natural resources of Fort Peck Lake. The Master Plan includes a comprehensive description of the project, a discussion of factors influencing recreation and resource management, an identification and discussion of special problems, descriptions of development and resource objectives and needs, and a summary of public involvement and input into the planning process. The Master Plan does not address or relate to U.S. Army Corps of Engineers (Corps) management policies that govern Fort Peck Lake water levels and management. It also does not address wildlife management, forage and grazing, or non-game hunting on the Charles M. Russell National Wildlife Refuge, which are the responsibility of the U.S. Fish and Wildlife Service.

The EA analyzed the impacts of two alternatives for the Master Plan update—the No Action Alternative and the Preferred Alternative, or proposed Master Plan update. Resource categories that were evaluated included, but were not limited to, sedimentation and erosion, water quality, fish and wildlife, threatened and endangered species, invasive plants and aquatic nuisance species, cultural resources, recreation, and socioeconomic characteristics.

Under the No Action Alternative, the 1992 Master Plan would not be updated. The Corps would continue to maintain and upgrade facilities as described in the 1992 Master Plan; however, new proposals contained in the Master Plan update would not be implemented. The No Action Alternative would not meet the purpose and need of the Master Plan.

The Preferred Alternative proposes a low level of development to upgrade and expand facilities at existing recreation areas. It also proposes more natural resource management improvements than the No Action Alternative. The primary benefit of the update of the 1992 Master Plan would be to reflect changes in recreation facilities, economic conditions, and visitation patterns. The EA determined that the Master Plan update would not result in significant impacts to any resources. No adverse impacts to threatened and endangered species are expected to occur as a result of the projects proposed in the Master Plan update. The proposed actions would be in compliance with applicable environmental statutes. Because of the incorporation of the *Programmatic Agreement for the Operation and Management of the Missouri River Main Stem System for Compliance with the National Historic Preservation Act*, as amended, protection of known cultural resources would be more comprehensive and concise than in the past.

Based on the EA, it is my finding that the proposed Federal activity will have no significant adverse impacts on the environment, including no significant impact to the quality of the human environment. Therefore, an EIS will not be prepared.

5 September 2008
Date

/s/
David C. Press
Colonel, Corps of Engineers
District Commander

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ACRONYMS AND ABBREVIATIONS

AAQS	Ambient Air Quality Standards
AC-FT or A-F	acre-feet
AC-FT/YR	acre-feet per year
ACHP	Advisory Council for Historic Preservation
ANS	Aquatic Nuisance Species
AIRFA	American Indian Religious Freedom Act
ARPA	Archeological Resources Protection Act
ATV	all-terrain vehicle
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BOR	Bureau of Reclamation
C	Celsius
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CMR	Charles M. Russell National Wildlife Refuge
Corps	Corps of Engineers
CRMP	Cultural Resources Management Plan
DEQ	Department of Environmental Quality
DM	Design Memorandum
DOI	Department of the Interior
EA	Environmental Assessment
EC	Engineer Circular
EIS	Environmental Impact Statement
EM	Engineer Manual
E.O.	Executive Order
EOP	Environmental Operation Principles
EPA	Environmental Protection Agency
ER	Engineer Regulation
ESA	Endangered Species Act
F	Fahrenheit
FONSI	Finding of No Significant Impact
FWCA	Fish and Wildlife Coordination Act
FY	Fiscal Year
GIS	Geographic Information Systems
GSA	General Services Administration
HPMP	Historic Properties Management Plan
HQUSACE	Headquarters, U.S. Army Corps of Engineers
KW	kilowatt
ITRR	Institute for Tourism and Recreation Research
LWCF	Land and Water Conservation Fund
MAF	million acre-feet

MDC	Montana Department of Commerce
MDEQ	Montana Department of Environmental Quality
MDFWP	Montana Department of Fish, Wildlife, and Parks
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
mph	miles per hour
MRM	Multiple Resource Management
msl	mean sea level (1929 NGVD)
MYBP	Million Years Before Present
NAGPRA	Native American Graves Protection and Repatriation Act
NAWMP	North American Waterfowl Management Plan
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWD	Northwestern Division, U.S. Army Corps of Engineers
NWR	National Wildlife Refuge
OMBIL	Operations and Maintenance Business Information Link
OMP	Operational Management Plan
ORP	Oxygen reduction potential
ORV	off-road vehicle
PA	Programmatic Agreement
P.L.	Public Law
RCRA	Resource Conservation and Recovery Act
RM	river mile
RV	recreational vehicle
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SCS	Soil Conservation Service
SHPO	State Historic Preservation Officer
SMP	Shoreline Management Plan
sq. mi.	square mile(s)
TCP	Traditional Cultural Properties
THPO	Tribal Historic Preservation Officer
TMDL	total maximum daily load
USACE	United States Army Corps of Engineers
U.S.C.	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WA	Wildlife Area
WAPA	Western Area Power Administration
WMA	Wildlife Management Area
WRDA	Water Resources Development Act

1. INTRODUCTION

The Fort Peck Dam/Fort Peck Lake project is located in northeastern Montana (Figure 1-1). It is the oldest and furthest upstream project in the Corps of Engineers' (Corps) Missouri River Mainstem Reservoir System. Construction of the Fort Peck Dam began in 1934 and was completed in 1940.

The Fort Peck project area consists of the reservoir, the dam and related facilities, the area surrounding the reservoir, and the area immediately downstream of the dam (Plate 1). Executive Order 3705 in 1936 created the Fort Peck Game Range, now known as the Charles M. Russell National Wildlife Refuge (CMR) which surrounds the Fort Peck project. The U.S. Fish and Wildlife Service (USFWS) manages the majority of the lands acquired or withdrawn for the project as part of the CMR, which surrounds the Fort Peck project. The CMR covers approximately 1.1 million acres. The Corps manages approximately 390,000 acres of lands immediately adjacent to the dam and reservoir.

PROJECT AUTHORIZATION

The 1935 Rivers and Harbors Act was the original authorization for Fort Peck Lake. The Act provided for operations "primarily for navigation, with such arrangements for future installation of power as will permit the maximum production of hydroelectric power consistent with the primary demands of navigation . . ." The authorization was in accordance with recommendations of the Chief of Engineers in House Document 238, 73rd Congress, 2d session (February 5, 1934). The subsequent Fort Peck Act, approved May 18, 1938 authorized completion, maintenance, and operation of Fort Peck Lake "for the purpose of improving navigation on the Missouri River, and for other purposes incidental thereto, the dam and appurtenant works now under construction at Fort Peck, Montana, and a suitable power plant for the production of hydroelectric power shall be completed, maintained, and operated under the direction of the Secretary of War (now Army) and the supervision of the Corps of Engineers, subject to the provisions of this Act relating to the duties of the Bureau of Reclamation . . . respecting the transmission and sale of electric energy generated at said project" (Public Law 529, 75th Congress).

The Flood Control Act of 1944 authorized construction of the Garrison, Oahe, Big Bend, Fort Randall, and Gavins Point Reservoirs. The Corps administratively modified the operation of Fort Peck Lake to incorporate it into the Missouri River Mainstem Reservoir System operations, which are authorized for multiple purposes including flood control, irrigation, navigation, hydroelectric power, and other purposes. Congress was notified of the incorporation by the Chief of Engineers during Congressional hearings in 1957.

In 1986, the Water Resources Development Act (Public Law 99-662) authorized recreation as a specific project purpose at Fort Peck.

THE MASTER PLAN

MASTER PLAN PURPOSE AND NEED

The Master Plan provides direction for project development and use. It is a vital tool for the responsible stewardship of project resources for the benefit of present and future generations. The Master Plan is programmatic and identifies conceptual types and levels of activities, not designs, project sites, or estimated costs. All actions by the Corps and the agencies and individuals granted leases to Corps lands (out-grantees) must be consistent with the Master Plan. Therefore, the Master Plan must be kept current in order to provide effective guidance in Corps decision-making. The original Fort Peck Master Plan was approved in 1946 and updated in 1965. The last update was in 1992.

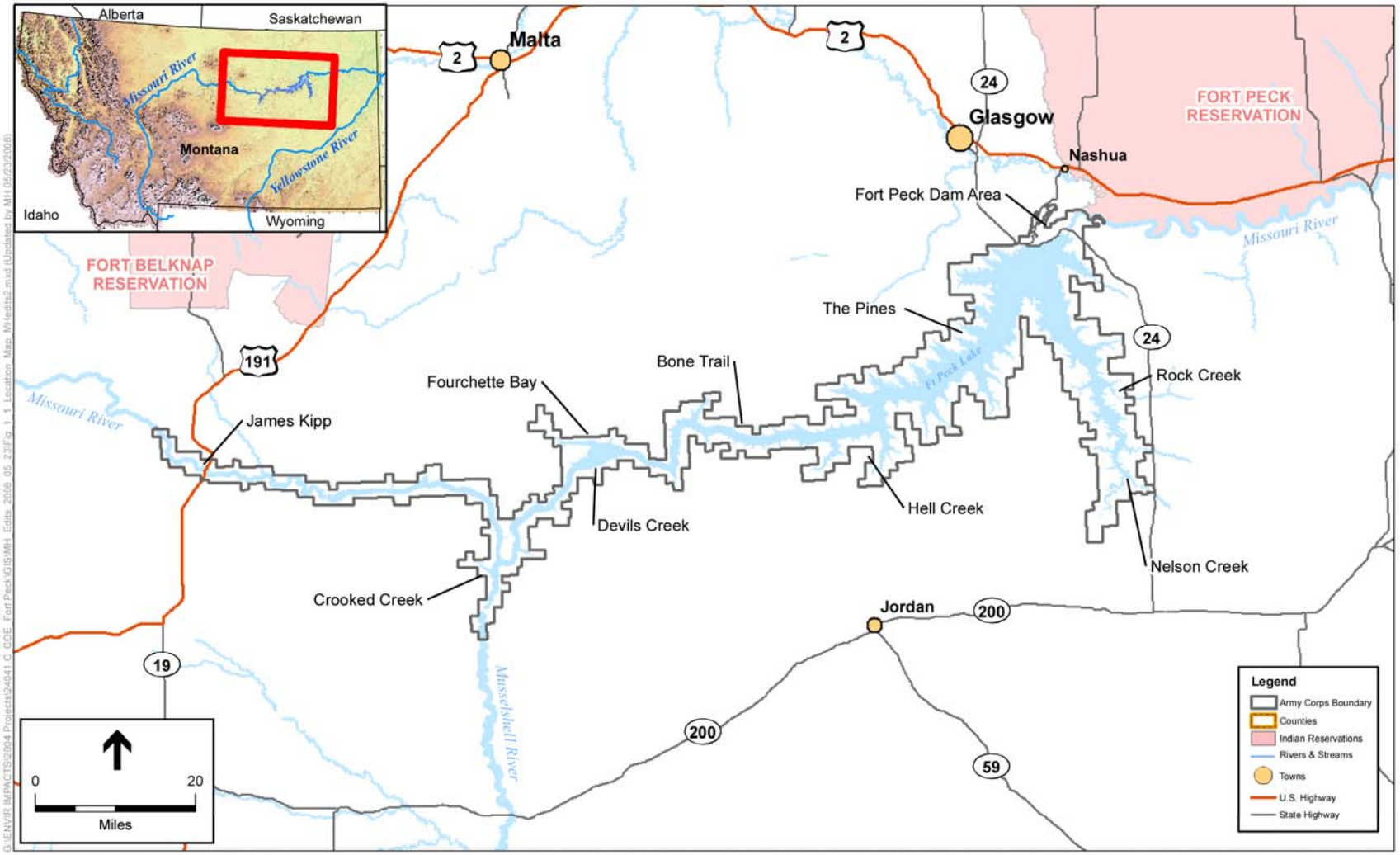
The Master Plan is based on responses to regional and local needs, resource capabilities and suitabilities, and expressed public interests consistent with authorized project purposes and pertinent legislation and regulations. The Master Plan provides a District-level policy consistent with national objectives and other State and regional goals and programs. The plan is distinct from the project-level implementation emphasis of the Operational Management Plan (OMP). Policies in the Master Plan are guidelines implemented through provisions of the OMP, specific Design Memorandums, and the Annual Management Plans. The broad intent of this Master Plan is to:

- Determine appropriate uses and levels of development of project resources;
- Provide a framework within which the OMP and Annual Management Plans can be developed and implemented; and
- Establish a basis on which out-grants and recreational development proposals can be evaluated.

MASTER PLAN SCOPE

This Master Plan includes guidance for appropriate uses, development, enhancement, protection, and conservation of the natural, cultural, and man-made resources at the Fort Peck project. The Master Plan includes:

- A comprehensive description of the project resources (Chapter 2);
- A discussion of factors influencing resource management and development (Chapter 2);
- A strategy for developing and managing project resources to meet the needs of the public and wildlife over a wide range of reservoir elevations (Chapter 3);
- A synopsis of public involvement and input (Chapter 4);
- Land classifications (Chapter 5);
- Resource objectives and identification of existing uses and needed development (Chapter 6); and
- The environmental analysis for the Integrated EA (Chapter 7).



Fort Peck Dam/Fort Peck Lake Master Plan . 24041.C

SOURCE: ESRI, 2005; USACE, 2007.

Figure 1-1
Fort Peck Project Vicinity
Fort Peck, Montana

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The proposed land classifications, recreation development, and management practices in the updated Master Plan apply to Corps public lands at the Fort Peck project. The USFWS Fee Title Lands managed as the Charles M. Russell National Wildlife Refuge (CMR) are not included in the Master Plan.

The Corps has the mission of managing, conserving, and improving environmental, cultural, and paleontological resources at Corps reservoir projects while providing quality public outdoor-recreation experiences to serve the needs of present and future generations. To ensure consideration of natural and cultural resources throughout the Master Plan, the Programmatic Agreement (PA) (signed by the Corps and most Tribes in the upper Missouri River basin) and a programmatic Environmental Assessment (EA) are integrated into the Master Plan. The functions of the PA and EA in the Master Plan and in regard to subsequent proposals for implementation of development or management activities included in the Master Plan are provided in more detail below.

MASTER PLANNING PROCESS

Preparation of this Master Plan was a cooperative effort involving the Corps; tribal representatives; Federal, State, and local governmental agencies; non-governmental organizations; and members of the general public. Scoping comments from government officials and the general public were important for identifying issues that needed to be addressed in the Master Plan. Details regarding the public involvement efforts for the Master Plan are provided in Chapter 4.

The Corps' six-step planning process, provided in Appendix A, was used in developing the Master Plan. Public input was important in identifying significant resources; problems and opportunities; planning objectives and constraints; important features of the project area; and public needs, desires, and concerns. These factors were taken into account in forming the proposed resource objectives and development needs for the Master Plan and the alternatives evaluated in the EA. The alternatives were assessed in the EA in regard to 1) meeting project purposes and expressed public needs and desires, 2) minimizing adverse environmental impacts, and 3) consistency with relevant laws and regulations and regional needs and plans. The EA recommends a Preferred Alternative (Chapter 7) that provides the most appropriate level of stewardship, management activities, and types and levels of recreation development and use for the Fort Peck project. For any conceptual development or management activity proposed in the updated Master Plan, the EA identifies potentially significant impacts on the human or natural environment and indicates how these impacts can be avoided or minimized.

This updated Master Plan/Integrated EA was prepared in accordance with the following guidance:

- Engineer Manual (EM) 1110-1-400, Engineering and Design – Recreation Planning and Design Criteria, 31 July 1987;
- Engineer Pamphlet (EP) 1130-2-550, Project Operations – Recreation Operations and Maintenance Guidance and Procedures, 15 November 1996;

- Engineer Regulation (ER) 200-1-5, Environmental Quality – Policy for Implementation and Integrated Application of the U.S. Army Corps of Engineers Environmental Operating Principles (EOP) and Doctrine, 30 October 2003;
- ER 200-2-2, Environmental Quality – Procedures for Implementing the National Environmental Policy Act (NEPA), 4 March 1988;
- ER 1105-2-100, Planning Guidance, 22 April 2000 (with Appendices D and G revised June 2004 and Appendix F revised January 2006); and
- ER 1130-2-550, Project Operations – Recreation Operations and Maintenance Guidance and Procedures, 15 November 1996 (with changes 1 October 1999, 1 March 2002, and 15 August 2002).

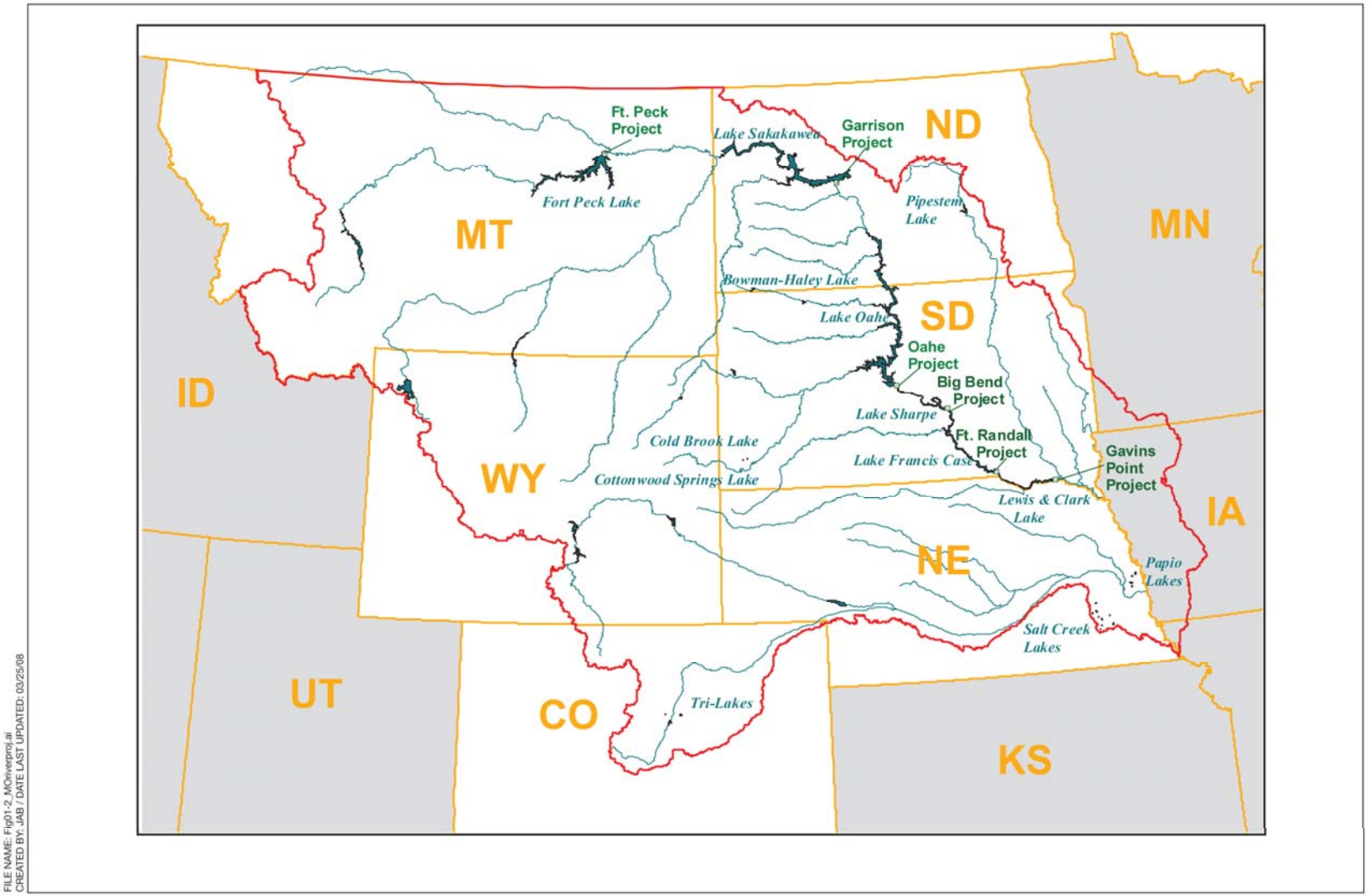
PROJECT DESCRIPTION

The Fort Peck project is located in the Missouri River Valley in McCone, Valley, Garfield, Phillips, Petroleum, and Fergus Counties in northeastern Montana (Figure 1-1). The dam is on the Missouri River approximately 1,770 miles upstream from its mouth and approximately 11 miles upstream from its confluence with the Milk River. Nearly the entire Fort Peck project is within the CMR boundaries, which is managed by the USFWS.

Fort Peck Dam, completed in 1940, is the world's oldest and largest hydraulically filled earthen dam. The embankment of the dam is 4 miles long and 250 feet high at its highest point. The left abutment of the dam is in Valley County, and the right abutment is in McCone County. The project is the oldest and farthest upstream of the six Missouri River Mainstem projects (Figure 1-2).

Fort Peck Lake is the fifth largest manmade reservoir in the United States based on storage capacity. Fort Peck Lake has a storage capacity of 18.7 million acre-feet. The lake is typically 2 to 5 miles wide and backs up from the dam approximately 134 river miles to the west and south. At maximum operating pool (2250 feet mean sea level (msl)), the surface area of the lake covers approximately 249,000 acres.

The Fort Peck project can be divided into four distinct areas. The first area begins at the dam and continues upstream approximately 100 miles to the mouth of the Musselshell River. This area comprises the "lake" and is characterized by a large, open expanse of water with a maximum depth of 220 feet. The second area is the "free-flowing river," which depending on lake elevation may begin as far east as Ghost Coulee near Devils Creek or as far west as Wilder Coulee, stretching west to the upstream terminus of the project, roughly 9 miles upstream from U.S. Highway 191 at the Fred Robinson Bridge. The Big Dry Arm is the third area of the Fort Peck project. This area begins near the dam and extends southward into the Big Dry Creek Valley. The impoundment of Fort Peck Lake inundated approximately 30 miles of the Big Dry Creek Valley, creating the Big Dry Arm—the major offshoot of the lake. The last area of the Fort Peck project is the open stretch of the Missouri River known as the Downstream Area. This area begins at the dam and continues downstream approximately 4 miles. Combined, these four areas provide for the largest areas for water-based recreation in northeastern Montana.



SOURCE: U.S. Army Corps of Engineers.

Fort Peck Dam/Fort Peck Lake Master Plan . 204041.C

Figure 1-2
Missouri River Mainstem Reservoir System

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AUTHORIZED PROJECT PURPOSES

The Fort Peck project was originally designed and intended for the primary purpose of improving navigation flows from Sioux City, Iowa to the mouth of the Missouri River, with the incidental purposes of flood control and hydropower. After additional storage was built on the mainstem of the Missouri River, the Fort Peck project was incorporated into the operation with the five other mainstem reservoirs to create a system that is operated for flood control, navigation, hydropower, fish and wildlife, recreation, municipal and industrial water supply, water quality, and irrigation. Criteria described in the Missouri River Mainstem Reservoir System Master Water Control Manual are formulated to ensure water management in accordance with project purposes. The specific project purposes are as follows.

FLOOD CONTROL

Flood control was authorized in the River and Harbor Act of 1935 (Public Law 409, 74th Congress). Missouri River mainstem reservoirs have prevented over $31 billion in flood damages (at 2006 price levels) through September of 2005. Over $7.6 billion (September 2006 price levels) can be credited to the Fort Peck project.

NAVIGATION

Fort Peck was initially planned to improve navigation along the lower Missouri River between St. Louis, Missouri, and Sioux City, Iowa. In the "308 Report" to the Secretary of War dated 30 September 1933, the Chief of Engineers recommended that “the reservoir at the site of Fort Peck be built to the maximum practicable capacity; and be operated primarily for navigation, with such arrangements for future installation of power as will permit the maximum production of hydroelectric power consistent with the primary demands of navigation ..." Incorporated as part of House Document 238, navigation was legislated as a project purpose through the River and Harbor Act of 1935 and was provided for in the Fort Peck Act of 1938.

Although navigation on the Missouri River originally opened up settlement of this area of Montana, there is no commercial navigation through this reach of the river today. Releases from mainstem reservoirs serve navigation downstream from Gavins Point Dam near Yankton, South Dakota.

MUNICIPAL AND INDUSTRIAL WATER SUPPLY

The Water Supply Act of 1958 authorizes that water storage may be included in any reservoir project for municipal and industrial use. Fort Peck Lake currently provides minimal municipal water supply, primarily to cabins along the lake, the town of Fort Peck, and the Fort Peck Rural Water District. The towns of Glasgow and Saint Marie have a shared intake that withdraws water from the Missouri River at Nelson Dredge, downstream of Fort Peck Dam. The intake is located on Corps property.

HYDROPOWER

Hydropower was authorized as a project purpose in the Fort Peck Act of 1938 (Public Law 529, 75th Congress). This subsequent legislation established the strategy for marketing power through the Bureau of Reclamation (later transferred to the Department of Energy, Western Area Power Administration (WAPA)). Construction of one powerhouse was started in 1940; another was started in 1959. Generators were placed in operation in 1943 and 1961.

The Fort Peck power plant has a total generating capacity of 185,250 kilowatts (kW), with an average annual output of 1 billion kilowatt-hours. The main preference for hydroelectric power is given to customers in the Montana area rural electric cooperatives. Power generated at Fort Peck is integrated with the generation provided from other mainstem projects, as well as that generated from other public and private facilities throughout the WAPA power marketing area.

FISH AND WILDLIFE

The protection of fish and wildlife and their habitat as a Fort Peck project purpose is not as clearly defined as other project purposes and, therefore, requires further explanation.

Executive Order 7509 dated 11 December 1936 created the Fort Peck Game Range (now known as the Charles M. Russell National Wildlife Refuge). Approximately 1.1 million acres were withdrawn from public domain lands for the CMR, which encompasses and includes virtually all Fort Peck project lands (see Plate 1).

The Secretary of the Interior was ultimately tasked with management of the wildlife and forage resources on the withdrawn lands comprising the CMR. By issuing these overlapping land withdrawals, it was apparently intended that the respective agencies apply their expertise in managing the array of resources in a manner that would not interfere with the mandate of the other agency. In the "General Plan for Use of Project Land and Water Areas for Fish and Wildlife Conservation and Management, Fort Peck Dam and Reservoir Project," drafted by the Department of the Interior, the Department of the Army, and the State of Montana, it was agreed that "all or any portion of the fee-owned lands of the project area, determined by the Secretary of the Army to be available for administration for wildlife purposes, will be made available by the Secretary of the Army to the Secretary of the Interior in accordance with a cooperative agreement between the two agencies."

In 2001, the Corps and the USFWS signed a Memorandum of Agreement (MOA) (DACW45-9-01-6027) related to the use and administration of Fort Peck lands (Corps and USFWS, 1995). This agreement makes the Corps the lead agency for recreation management and the USFWS the lead agency for wildlife management. It grants the authority for issuing grazing leases on the CMR to the USFWS. This MOA expired in December 2005 and replaced by a new MOA (DACW45-9-07-8054) in 2007.

Although the primary responsibility for wildlife management clearly rests with the Department of the Interior, the Corps has routine authority to manage the project in a manner that will benefit wildlife resources.

RECREATION

The generic recreation authority in Section 4 of the 1944 Flood Control Act provided an opportunity for recreation at Fort Peck. Section 861 of the Water Resources Development Act of 1986 provided for recreation as a Fort Peck project purpose. The Corps and its partners manage 19 recreation areas around the project. Four of those are managed in cooperation with the State of Montana or the Bureau of Land Management (BLM). In addition, the Corps, USFWS, and Fort Peck Paleontological Institute (FPPI) jointly manage the Fort Peck Interpretive Center.

WATER QUALITY

Water quality was added as an authorized purpose of the Fort Peck project when it was incorporated into the Missouri River Mainstem Reservoir System. Water quality was authorized as a project purpose in the 1944 Flood Control Act in terms of silt control; soil erosion prevention; pollution abatement; adequate and safe municipal water supplies; improving water quality for irrigation; provision of water suitable for domestic, sanitary, and industrial purposes; and improving the clarity of water for recreation and for fish and wildlife. Silt control was also intended to aid the navigation channel downstream.

Water quality in Fort Peck Lake must comply with the State of Montana's standards for B-3 waters. The standards require that the Lake be "maintained suitable for drinking, culinary, and food processing purposes, after conventional treatment; bathing, swimming, and recreation; and agricultural and industrial water supply" (Montana Code Annotated 17.30.624-625). In addition, Fort Peck Lake must be maintained for growth and propagation of non-salmonid fishes. The Corps water quality monitoring program and Fort Peck Lake's water quality characteristics are described in Chapter 2.

IRRIGATION

Irrigation was not specifically authorized as a project purpose for the Fort Peck project. However, the Fort Peck project is administratively operated as part of the overall Missouri River Mainstem Reservoir System which includes multiple purposes--one of which is irrigation.

INTEGRATION OF THE PROGRAMMATIC AGREEMENT AND PROGRAMMATIC ENVIRONMENTAL ASSESSMENT INTO THE MASTER PLAN

The 2004 Programmatic Agreement for the Operation and Management of the Missouri River Mainstem System for Compliance with the National Historic Preservation Act, as amended (PA) is an attempt to address all issues associated with cultural and historic resource impacts involved with the ongoing operation and maintenance of the Missouri River Mainstem System. This document outlines the processes through which affected tribes; tribal, State, and Federal historic preservation agencies; and interested parties will consult with the Corps of Engineers on issues directly affecting important historic and cultural resources. The PA is included in Appendix B.

The United States Department of Defense recognizes its trust responsibilities to federally recognized Indian Tribes and has established an American Indian and Native Alaskan Trust policy that directs its agencies, including the Corps of Engineers, to work with Tribes in a manner that incorporates Tribal needs, traditional resources, stewardship practices, and the development of viable working relationships. Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, outlines policy and criteria establishing regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies having tribal implications. It also strengthens the United States' government-to-Government relationships with Indian tribes, and reduces the imposition of unfunded mandates upon Indian tribes. Although the PA is limited to the application and enforcement of historic preservation and protection laws, it provides the opportunity to develop a dialogue and forum for the various tribes and agencies to begin addressing all resources considered sacred or important. The provisions of the document are outlined in the Cultural Resources section of Chapter 2.

A programmatic EA is integrated into the text of the Master Plan. The EA assesses potential impacts of conceptual development and management activities proposed in the Master Plan and identifies beneficial as well as adverse impacts of the proposed activities. If the potential impact is adverse, a determination is made regarding whether the impact is significant. If the impact is significant, potential methods of avoiding or mitigating the impact are proposed. When conceptual development included in the Master Plan is proposed in detail for implementation, site-specific location drawings will be developed and a site-specific EA (tiered under the programmatic EA) will be prepared. Depending on the type of development proposed, a market analysis, feasibility study, and other documentation may also be required. The Corps will notify the tribes of the proposal, and the tribes have the opportunity for a consultation on the proposal. Conceptual development and management activities proposed in the Master Plan must be in compliance with all applicable environmental laws, regulations, and Executive Orders. The purpose or provisions of each of these laws, regulations, and Executive Orders, along with the status of and rationale for the Master Plan's compliance with each, are provided in Section 2.25.

Environmental sustainability is a central theme of the Corps' Environmental Operating Principles and is required of all Corps projects. Documentation of how the Master Plan/EA is in compliance with the seven Environmental Operating Principles is provided in Chapter 7. The Environmental Operating Principles are:

1. Strive to achieve Environmental Sustainability. An environment maintained in a healthy, diverse, and sustainable condition is necessary to support life.
2. Recognize the interdependence of life and the physical environment. Proactively consider environmental consequences of Corps programs and act accordingly in all appropriate circumstances.
3. Seek balance and synergy among human development activities and natural systems by designing economic and environmental solutions that support and reinforce one another.
4. Continue to accept corporate responsibility and accountability under the law for activities and decisions under our control that impact human health and welfare and the continued viability of natural systems.

5. Seek ways and means to assess and mitigate cumulative impacts to the environment; bring systems approaches to the full life cycle of our processes and work.
6. Build and share an integrated scientific, economic, and social knowledge base that supports a greater understanding of the environment and impacts of our work.
7. Respect the views of individuals and groups interested in Corps activities, listen to them actively, and learn from their perspective in the search to find innovative win-win solutions to the Nation's problems that also protect and enhance the environment.

PROJECT-WIDE RESOURCE OBJECTIVES

The purpose of the Corps' Master Plan extends beyond the construction and use of recreational facilities to include the stewardship of project resources, both natural and manmade. Sound stewardship requires the development and management of project resources for the public benefit, consistent with resource capabilities. An important element of this approach is the establishment of viable project-wide resource objectives—long range goals to guide proposed actions.

Resource objectives are attainable goals for the development, conservation, and management of natural, cultural, and manmade resources at the project. They are guidelines for obtaining maximum public benefits while minimizing adverse impacts to the environment. They are developed in accordance with:

- authorized project purposes;
- applicable laws and regulations;
- resource capabilities and suitabilities;
- regional needs;
- other governmental plans and programs; and
- expressed public desires.

The natural and unspoiled character of the lake environment has been identified as Fort Peck's primary and most unique asset. It is likewise recognized that future long-distance tourism will depend heavily on maintenance of this unspoiled character, which distinctively separates Fort Peck from all similar manmade lakes. A single and overriding project goal has been identified—a goal against which other objectives are to be weighed and subordinated except in the most unusual circumstances. This goal is:

- Give priority to the preservation or improvement of wildland values in all public use planning, design, development, and management activities.

To support and implement the overriding goal, the Corps has developed project-wide resource objectives for the Fort Peck project. In addition, the Corps has developed resource objectives for each recreation area. These are described in Chapter 6. The project-wide resource objectives, not in priority order, are to:

- Develop and manage lands in cooperation and coordination with other management agencies and appropriate entities in the private sector;
- Maintain and manage project lands and waters to support regional and national management programs;
- Manage and develop project resources to support types and levels of recreation activities indicated by visitor demand and to be consistent with carrying capacities and aesthetic, cultural, and ecological values;
- Manage identified recreation lands in ways that enhance benefits to wildlife;
- Manage habitat for threatened and endangered species and to support a diversity of fish and wildlife species;
- Preserve and protect important paleontological, ecological, and aesthetic resources;
- Maintain high reservoir water quality for irrigation, water supply, fish and wildlife, and recreation use;
- Maintain high levels of water quality through soil conservation practices that reduce erosion caused by wind and water;
- Manage resources in response to sedimentation trends;
- Manage and develop project lands to accommodate periodic fluctuations in lake elevations with minimum impacts;
- Preserve and protect cultural resource sites in compliance with existing Federal statutes and regulations;
- Guarantee access by tribal members to any cultural resources, sacred sites, or other Traditional Cultural Properties;
- Expand public outreach and education about the history of the area, project resources, and the Corps' role in developing and managing these resources; and
- Foster stewardship by minimizing encroachments and other non-allowed uses.

OTHER AGENCIES AND AUTHORIZATIONS

Other Federal and State agencies have jurisdictional responsibility and authority within the Corps Fort Peck project boundaries. These are described below.

U.S. FISH AND WILDLIFE SERVICE

The USFWS manages the Charles M. Russell National Wildlife Refuge (CMR), which surrounds the Fort Peck project. The Fort Peck Game Range was created on 11 December 1936 with President Roosevelt's Executive Order 7509 (1 CFR 2149). Through a series of name changes, the Fort Peck Game Range was officially changed to the CMR by the National Wildlife Refuge System Administration Act Amendment of 27 February 1976 (90 Stat. 199; 16 U.S.C. 668dd).

The CMR encompasses the entire Fort Peck project and covers approximately 1.1 million acres. The CMR includes lands acquired by the USFWS, lands acquired by the Corps and used by the USFWS through interagency cooperative agreements, lands withdrawn for both the Fort Peck project and CMR, and lands withdrawn specifically and exclusively for CMR purposes.

As discussed above, a Cooperative Agreement between the Corps and the USFWS grants authority for wildlife management and issuing grazing leases on CMR lands to the USFWS. The Corps is responsible for the management of these same project lands for the benefit of recreation, flood control, navigation, hydropower, irrigation, and domestic water supply.

The USFWS has developed and maintains three low density recreation sites on the upper end of the reservoir. In addition, the USFWS administers the UL Bend National Wildlife Refuge (NWR), the UL Bend Wilderness Area, 15 proposed wilderness areas, and a self-guided auto tour.

BUREAU OF LAND MANAGEMENT

The l49-mile Upper Missouri National Wild and Scenic River flows between Fort Benton, Montana and the James Kipp Recreation Area. The lower 9.5 miles of the designated river flows inside the boundaries of the Fort Peck project and CMR. This segment is classified as scenic. The National Park Service (NPS) is the overseeing agency for the National Wild and Scenic Rivers System. Under NPS oversight, the Bureau of Land Management (BLM) is the managing agency for the Upper Missouri National Wild and Scenic River.

Within the Fort Peck project and CMR boundaries, BLM management of the designated river is confined to the area between the average high-water marks. This would include islands, but the BLM has deferred management of the islands to USFWS.

The BLM also manages the Upper Missouri River Breaks National Monument that surrounds the Wild and Scenic River. The Corps has out-granted the James Kipp recreation area at Highway 191 to the BLM for management. James Kipp serves as a take out point for river trips on the Upper Missouri.

NATIONAL PARK SERVICE

A portion of the Lewis and Clark National Historic Trail follows the river from Fort Peck Dam to the Fred Robinson Bridge. The NPS administers the trail and oversees any State, local, and private interests that express a desire to develop and manage facilities along the trail.

U.S. COAST GUARD

The U.S. Coast Guard has jurisdiction on the lake portion of the project for placement of navigational aids and coordinates with the Corps on bridge construction.

MONTANA FISH WILDLIFE AND PARKS

The State of Montana Department of Fish Wildlife and Parks (MFWP) coordinates the management of fish and wildlife resources with the USFWS and manages the State parks and State fishing access sites located on land leased from the Federal Government. The MFWP, in cooperation with USFWS, regulates hunting for game animals on project lands. The MFWP also manages fisheries on Fort Peck Lake and in the Missouri River within the Fort Peck project.

2. AFFECTED AREA: FACTORS INFLUENCING RESOURCE MANAGEMENT AND DEVELOPMENT

FORT PECK PROJECT DESCRIPTION AND SETTING

FORT PECK DAM

Fort Peck Dam is one of six multipurpose mainstem projects which operate as part of a system on the Missouri River. Construction of Fort Peck Dam near Glasgow, Montana, began in 1933 and was completed in 1940. The project was funded as part of the National Industrial Recovery Act through the Public Works Administration. Hydropower was added later as an authorized purpose. The original intent of the dam was to improve downstream navigation. In addition, dam construction was intended to benefit the local and national economy. Over 10,000 people were employed during the peak construction period. To house the workers in the sparsely populated area, a new town, Fort Peck, was constructed. Several shanty towns also sprang up to house workers and families. Many of the Fort Peck town site buildings remain and are listed on the National Register of Historic Places (NRHP).

Fort Peck Dam is the largest hydraulically filled dam in the United States. The dam measures 21,026 feet in length with a maximum height of 250.5 feet. The total combined capacity of the five turbines generates 185,250 kilowatts of power. Additional details on Fort Peck Dam and Fort Peck Lake are provided in Appendix C, Pertinent Data.

FORT PECK LAKE

Fort Peck Lake is the fifth largest man-made reservoir in the United States based on storage capacity. Fort Peck Lake has a storage capacity of 18.7 million acre-feet. The lake is 134 miles long, has 1,520 miles of shoreline, and has a maximum depth of 220 feet. The lake stores water for downstream navigation, hydroelectric production, and other project purposes. The total storage capacity of the reservoir is approximately 18.7 million acre-feet. The watershed draining into the lake encompasses an area of approximately 57,500 square miles.

Fishing is the most popular recreation activity on Fort Peck Lake. Other water sports include motorized boating, waterskiing, sailing, windsurfing, and swimming.

PROJECT LANDS

Land management at the Fort Peck project is unique from other Missouri River Mainstem System Reservoirs because of the overlapping jurisdiction between the Corps and the U.S. Fish and Wildlife Service (USFWS). When lands were withdrawn for the Fort Peck project, Executive Order 7509 (11 December 1936) created the Fort Peck Game Range (now the CMR).

The CMR contains approximately 1.1 million acres, including the 245,000-acre Fort Peck Lake (Plate 1). The refuge encompasses virtually all of the Fort Peck project lands. Through a series of Cooperative Agreements and Memoranda of Understanding (see the discussion in Chapter 1), the Corps has been designated the lead agency for recreation management on the lands and the USFWS is the lead agency for wildlife management and grazing. The Corps manages approximately 390,000 acres of land immediately adjacent to the dam and reservoir. The USFWS manages the 1.1 million acres of the CMR.

SURROUNDING AREAS

The area around the Fort Peck project is largely devoted to farming or ranching. A few small subdivisions have been developed in the vicinity of Fort Peck Dam. The closest towns to the project are Fort Peck, near the dam, and Nashua and Glasgow within 20 miles of the dam area. Numerous other small and medium-sized towns surround the Fort Peck Lake area (see Figure 1-1). Recreation at Fort Peck is an important revenue source for the surrounding counties and the area is used for recreation by local residents.

LAND ACCESSIBILITY

Fort Peck Dam and Lake are located in the relatively isolated area of northeastern Montana (Figure 1-1). Access is the primary factor that has influenced recreational use and development at the project. The Fort Peck project's enormous size, remoteness from major transportation corridors and population centers, and location within the CMR make Fort Peck unique among the other mainstem projects.

Unlike most other reservoirs, Fort Peck lacks the strategic placement of communities in close proximity to the reservoir. Aside from towns near the dam, such as Fort Peck, Glasgow, and Nashua, there is no community with a population exceeding 100 people within 20 miles of any part of the lake. Billings, the largest city in Montana is located about 300 miles south of the dam. The project's remoteness significantly reduces the opportunity for quick and easy access to the resources of the Fort Peck project. This same factor limits most recreational users from accessing many parts of the lake because of the lack of essential services.

HIGHWAY ACCESS

The Federal, State, and county road network provides the principal means of access for the majority of recreational users at the Fort Peck project.

Montana is served by three major interstate highways—Interstate 94 (1-94), Interstate-15 (I-15), and Interstate-90 (I-90). All of these highways are over 100 miles from the project area. U.S. Highways 2 and 191 provide access to the north and west ends of the project. State Highway 200 provides access to the south of Fort Peck Lake, and State Highway 24 provides access around the dam site and along the Big Dry Creek Arm (Figure 1-1). Access roads into The Pines, Fourchette Bay, Crooked Creek, Hell Creek, Nelson Creek, and Rock Creek Recreation

Areas were all upgraded to all-weather status in 1989 as part of a joint effort by Valley, Phillips, Petroleum, Garfield, and McCone Counties; the USFWS; the BLM; and the Montana Department of Fish, Wildlife, and Parks (MFWP). Recent cooperative efforts between the Corps, USFWS, and the six counties surrounding Fort Peck have resulted in further road improvements to Hell Creek, Rock Creek, Fourchette Bay, The Pines, Bone Trail, and Crooked Creek Recreation areas.

The soils, terrain, environmental concerns, and the pattern of land ownership limit the ability to construct all-weather access roads to Fort Peck Lake. An all-weather road is unpaved and constructed with a material, typically gravel, that does not become muddy when wet. With the exception of the major recreation areas, access to the lakeshore is primarily on unimproved dirt trails that have been established by public through years of use. Access to the lake on these roads is restricted to four-wheel-drive vehicles. When wet, these roads become extremely slick and are impassable.

Historically, the availability of Corps funds for road construction and maintenance has been limited. With shrinking operation and maintenance budgets, it is unlikely this trend will reverse. Although the Corps will continue to participate in necessary road construction and maintenance when funds are available, the only viable means for improving roads at the Fort Peck project is to pursue alternate funding sources and partnership arrangements between all of the affected Federal, State, and local agencies. The BLM, USFWS, and the State of Montana have indicated a desire to continue participation in road improvements as long as funding is available and projects are justified. Neighboring counties have shouldered a large share of this responsibility, despite encountering similar difficulties in securing the necessary funds. Without county participation, access to the lake would be substantially less than what is available today.

AIR AND RAIL ACCESS TO SURROUNDING AREAS

Big Sky Airline provides commercial air service to Glasgow, Wolf Point, and Lewistown, Montana (Figure 1-1). Airstrips for private planes are available at municipal airports, near the town of Fort Peck. A very small percentage of Fort Peck visitors arrive by air. Amtrak provides passenger train service to Glasgow on the "Empire Builder," which travels between Minneapolis, Minnesota, and Seattle, Washington. Train passengers comprise only a very small percentage of visitors to Fort Peck.

LAKE NAVIGATION

The entire lake, classified as a navigable water of the United States, has been marked with navigational aids since 1973. The Coast Guard maintains lights and three day beacons on Fort Peck Lake and fluorescent orange and green day markers that contain night beacons on the shore. The lake is appropriately marked for general navigation and pleasure craft. The markers are maintained between May 15 and November 30 by a Coast Guard staff. The lake typically begins freezing over in December with ice remaining until March or April.

In many instances, the most practical means of travel from one part of Fort Peck Lake to another is by water, but navigation skill is required. Fuel and harbor accommodations at Fort Peck, Rock

Creek, Hell Creek, and Crooked Creek are planned to permit and encourage pleasure craft navigation on Fort Peck Lake. The challenges and difficulty of navigating this large and sometimes rough lake should not be underestimated. Boat operators are encouraged to participate in a Coast Guard approved training course.

Aircraft are allowed to land on the lake surface, including ice, in designated areas per the Fixed-Wing Aircraft Use Plan. This joint plan between the Corps and USFWS was developed as an update to the Seaplane Landing Plan in October 2004 to better define aircraft operating procedures and landing areas on and within the Fort Peck project (Appendix D). There is little seaplane use of the reservoir. Aircraft may not land on the upland area of the CMR.

CLIMATE

Climate conditions in the Fort Peck Lake area are marked by distinct seasonal changes. Summers are hot; winters are often cold with occasional severe blizzards. The area has a strong continental climate. The mountains to the west block cool, moist Pacific Ocean air masses from moving eastward. However, there are no barriers to the north or south. Consequently cold, dry air masses originating in the far north flow over the area in the winter; warm, humid air masses originating in the tropical regions flow over the area in the summer. Movement of these air masses and their associated fronts cause nearly continuous wind and often result in large day-to-day temperature fluctuations in all seasons. Temperature, precipitation, and wind conditions may affect the timing and duration of many activities and the location and availability of various recreation facilities.

TEMPERATURE

The frost-free growing season averages only 140 days. Daylight hours are long in both spring and summer. Summer temperatures near 100° Fahrenheit (F) are not uncommon, and clear to partly cloudy days occur frequently during this season. Average monthly minimum, maximum, and mean temperatures for all months and annually during the 1956-2006 period for Fort Peck and Glasgow are provided in Table 2-1.

The average annual temperature range (difference between July and January average temperatures) in the Fort Peck Lake area is very large, about 60º F. This clearly illustrates the pronounced continental climate of the area.

Table 2-1. Fort Peck Area Temperature Records*

Month	*Fort Peck (Dam)*			*Glasgow (Airport)*		
	Monthly Minimum Temperature	Monthly Maximum Temperature	Monthly Mean Temperature	Monthly Minimum Temperature	Monthly Maximum Temperature	Monthly Mean Temperature
January	4.4	24.9	14.6	1.6	20.5	11.1
February	10.8	31.9	21.4	8.1	27.6	17.8
March	20.9	43.2	32.1	19	40.1	29.6
April	33.1	58.2	45.7	31.6	56.2	43.9
May	43.6	70.1	56.9	42.4	67.7	55
June	52.7	79.5	66.1	51.4	76.7	64
July	57.5	87.4	72.4	56.9	84.5	70.7
August	56.1	86.6	71.3	55.6	83.7	69.7
September	45.9	74.1	60	44.4	71.2	57.8
October	36.3	60.9	48.6	33.1	58	45.5
November	22.5	42.7	32.6	18.6	39	28.8
December	10.9	31.1	21	7.2	26.4	16.8
Annual	32.5	57.5	45.2	30.8	54.3	42.6

*Source: National Climate Data Center, 2007, *Degrees Farenheit*

Winter temperatures are extremely variable. Cold spells with temperatures remaining below 0º F for several days are not unusual when Arctic air masses combine with widespread snow cover. For example, temperatures below 0º F occur about 32 days per year at Fort Peck Dam and about 38 days per year at Glasgow (National Climatic Data Center, 2007). Air masses from the west or south can produce winter temperatures in the 30s and 40s.

Fort Peck Lake usually freezes over by January and remains frozen through March. The earliest date for lake freeze over was November 29 in 1955 and the latest was February 24 in 2006. The ice thickness varies from about 16 inches to 3 feet. On the larger streams in the area, such as the Missouri River downstream of Fort Peck Dam, Big Dry Creek, the Musselshell River, ice jams cause high flood stage levels. The ice typically breaks up in April, but has broken up as early as March 8 and as late as May 9.

The cold winters result in outdoor recreation opportunities for ice fishing, cross-country skiing, and other winter sports. However, the cold temperatures make it necessary to shut off water service to flush toilets and other water-using facilities for much of the year to avoid water freezing in the pipes. As a result, developed campgrounds are open at Fort Peck Lake for a much shorter period of time than is the case in many other areas of the United States. Undeveloped campsites remain open throughout the year. Boating activities other than fishing occur mainly between May and September, limiting the period of time during the year that marinas and marina concession facilities remain open.

PRECIPITATION

The normal annual precipitation at the Fort Peck dam weather station is 11.80 inches, with about 80 percent of it occurring during the 6-month period from April through September. Snowfall in the winter is moderate, with occasional drifting and blizzard conditions. The average annual

snowfall is approximately 1.7 inches. Average monthly and annual precipitation at Fort Peck and Glasgow for the period 1956 to 2006 is shown in Table 2-2. The region typically has high evaporation rates because of the low humidity, warm summer temperatures, and moderate to strong winds. Because of the clay and/or moderately fine-textured soils, runoff is rapid, regularly exceeding 50 percent of total precipitation. Snowmelt runoff causes the greatest flood flow volumes on the Missouri River, Big Dry Creek, and the Musselshell River. High flows can occur on these streams any time from January to August. In addition, sudden rainstorms can cause major flooding on smaller drainages.

Table 2-2. Fort Peck Area Precipitation Records*

Month	*Fort Peck (Dam)*			*Glasgow (Airport)*		
	Average Monthly Minimum Precipitation	**Average Monthly Maximum Precipitation**	**Average Monthly Mean Precipitation**	**Average Monthly Minimum Precipitation**	**Average Monthly Maximum Precipitation**	**Average Monthly Mean Precipitation**
January	0	1.13	.33	0	1.24	0.37
February	0	3.37	0.27	0.03	0.97	0.28
March	0.01	2.42	0.38	0.05	1.27	0.4
April	0.02	3.12	0.95	0.07	1.99	0.77
May	0.1	6.77	1.77	0.03	3.74	1.61
June	0.12	8.89	2.48	0.09	5.36	2.42
July	0.27	8.77	1.96	0.01	5.93	1.78
August	0.02	4.45	1.32	0	5.74	1.29
September	0.01	6.07	1.04	0.04	4.14	0.87
October	0	2.36	0.76	0	3.05	0.63
November	0	1.39	0.31	0	1.53	0.38
December	0	1.14	0.25	0.01	1.03	0.34
Annual	5.18	21.29	11.81	6.74	17.77	11.14

Source: National Climate Data Center, 2007.
**Inches*

WIND

The prevailing winds during the period from October to February are predominately from the west/northwest and from the east from March to September. Summer winds are subject to passing storm systems and fronts, making them highly variable. These winds sweep across the wide stretches of open water, providing relief from the summer heat. However, high winds cause large waves to form on the lake, making boating difficult and causing considerable bank erosion.

TOPOGRAPHY, GEOLOGY, AND MINERAL RESOURCES

TOPOGRAPHY

The Missouri River marks the southernmost advance of the Pleistocene glaciers in eastern Montana and consequently creates a sharp transition in topography. The glaciated, northern side

of the river is relatively smooth with level to rolling uplands dissected by coulees and gullies. The unglaciated south side of the river is rugged and characterized by low hills, rugged breaks, and badlands. Approximately 40 to 50 percent of the project area consists of steep ridges and eroded coulees.

The Missouri and Musselshell Rivers flow through deep valleys with narrow floodplains lying 500 to 1,000 feet below the average elevation of surrounding uplands. Elevations vary from slightly over 2000 feet mean sea level (msl) near the dam to over 3000 feet msl in the Seven Blackfoot area, located 10 miles east of the Devils Creek Recreation Area. Three main landforms—uplands, breaks, and floodplains—dominate the Fort Peck project area and the surrounding lands.

The uplands are level to rolling prairies dissected by intermittent streams flowing in a generally eastward direction toward the Missouri River. These are the sagebrush-grassland plains typical of eastern Montana.

The Missouri River Breaks lie adjacent to Fort Peck Lake and are typified by highly dissected, rough terrain often resulting in spectacular, varied, and scenic badlands. This topography is common to a strip of land from 2 to 10 miles wide along the Missouri River and varies from the low barren hills of the Big Dry Creek Arm area to the severely eroded coulees of the Seven Blackfoot and Burnt Lodge areas to the juniper, pine, and grassland ridges of the western half of the project area.

Floodplains occur along the Missouri and Musselshell Rivers, in the upper reaches of Fort Peck Lake, and in some of the larger drainages. The floodplains developed from pre-glacial river and stream alluvium and are characterized by heavy clay soils, deciduous trees, sagebrush, and grassland. The floodplains are comparatively flat and vary in width from 25 yards to 2 miles.

GEOLOGY

The Fort Peck project area is underlain by sedimentary rock layers formed during repeated advances and retreats of inland seas. The rock formations are nearly flat-lying marine, brackish, and freshwater rock ranging in age from late Cretaceous (145 to 65 million years before present (MYBP) to early Tertiary (65 to 1.8 MYBP)) (USFWS, 1985). The sedimentary rock formations in the project area consist of thick units of dark gray marine shale alternating with relatively thin wedges of near shore marine sandstone and nonmarine mudstone and sandstone. The geologic units exposed within the project area are described in Table 2-3 in order of oldest to youngest. The Bearpaw Shale and Hell Creek formations are the dominant formations on the Fort Peck project.

Table 2-3. Fort Peck Project Geologic Formations

Geologic Formation	*Age*	*Location and Characteristics*
Judith River Formation	Upper Cretaceous 135 MYBP*	Outcrops in major stream valleys west of Rock Creek in Phillips County. It is composed of approximately 500 feet of interbedded shale, siltstone, and sandstone with scattered beds of lignite and bentonite. This formation has good stability; however, its outcrop area is limited to steep slopes.
Bearpaw Shale	Upper Cretaceous 135 MYBP*	Underlies more of the Fort Peck project area than any other formation. Bearpaw Shale occupies all the breaks west of UL Bend and all lower slopes east of UL Bend except the central and southern Big Dry Creek Arm area. Bearpaw Shale is composed almost entirely of dark gray clay shale and includes beds of bentonite. The predominant particle of this formation is clay, and the predominant clay mineral found in Bearpaw Shale is montmorillonite. As a result, this unit swells when exposed on steep slopes and erodes rapidly at many locations. In general, Bearpaw Shale does not yield water.
Fox Hills Sandstone	Upper Cretaceous 135 MYBP*	Composed of yellowish-gray sandy shale, claystone, siltstone, and/or very fine-grained sandstone. The formation is generally found in areas of high relief along Fort Peck Lake, such as the Larb Hills area. Fox Hills Sandstone is found as far south as Rock Creek Recreation Area.
Hell Creek	Upper Cretaceous 135 MYBP*	Generally found above elevation 2500 feet msl in the central and eastern parts of the project area. This formation is composed of unconsolidated fine sediments such as claystone, shale, siltstone, and sandstone. Some of the clay and silt-rich zones of the formation tend to shrink and swell during excavation or when exposed to water. The Hell Creek Formation is important for its richness in fossilized fauna and flora.
Fort Union	Lower Tertiary-Paleocene 70 MYBP*	Found in Garfield and McCone Counties, east and west of the Big Dry Creek Arm area and south of Rock Creek Recreation Area. This formation is also found in the highest parts of the Larb Hills area. The Tullock member, the most widely found subunit, contains some lignite beds. This formation responds to most development activities in a manner similar to that of the Hell Creek Formation.
Glacial Till	Quaternary-Pliestocene 1 MYBP*	Found at scattered locations, particularly between Rock Creek, Phillips County, and Valentine Creek. Glacial till is a dense, clayey material with characteristics similar to Bearpaw Shale. Outwash and related deposits are found west of the UL Bend on low benches and in the Missouri River Valley. The latter deposits are porous and stable.

**MYBP= million years before present*

The Fort Peck Lake area is an area of minimal crustal disturbance. There is some faulting to the west. Late Tertiary and Pleistocene erosion has stripped much of the land.

Four glacial advances have had a major influence on the formation of the area along the Missouri River. During pre-glacial time, the Missouri River flowed northeastward from Great Falls to Havre, Montana, and then eastward along what is now known as the Milk River Valley. As the glaciers moved southward out of Canada, they forced the Missouri to seek a new channel south of its original course. After the river was rerouted, it quickly cut down through the soft shales and sandstones in the region. As the river entrenched itself into the plains, the side drainages kept pace cutting back and eroding the adjacent benchlands, creating a badlands aspect. Roughly 100 million years ago during the Upper Cretaceous period of geologic history, a large shallow inland sea covered most of middle North America, including eastern Montana. The deposition of large amounts of sedimentary material became the parent material for the present soils. This

sedimentary material includes many fossils such as clams, ammonites, baculites, oysters, dinosaurs, and fossil plants.

GEOLOGIC HAZARDS

Piping, the subsurface formation of tubes, channels, and tunnels within soils, is an important erosional process in the Hell Creek Formation and related deposits. Piping is pronounced in disturbed areas such as roadbeds, colluvium, and landslide deposits. Pipes may collapse or create general ground instability. Areas of piping on Fort Peck project lands occur at Hell Creek, along the Big Dry Creek Arm, and at other locations.

Landslides are one of the most significant erosional processes in the Fort Peck project area. Landslides are mostly related to steep slopes in the Bearpaw Shale Formation and occur as slumps, earthflows, slump/earthflows, and debris flows. Landslides are found in most areas of steep relief, such as in the breaks area near the river, especially along the lake's south shore in Garfield County and along the north shore from the Larb Hills area east to Eighth Ridge near Fourchette Bay. Landslides can threaten structures and people, add sediment to waterways, and increase maintenance costs. Slides can be triggered by excavation, construction, or vegetation removal by burning or overgrazing, or undercutting by waves along the lake shore.

Expansive clay soils are associated with the lithified clay shales and bentonites of the Bearpaw Shale Formation and the clay shales of the Fort Union and Hell Creek Formations. Some glacial till soils can also be expansive. Most areas north of the reservoir and west of UL Bend, in addition to other locations, are dominated by expansive soils.

MINERAL RESOURCES

A mineral report covering project lands was prepared by the US Geological Survey (USGS) in 1979 (USGS, 1979). The report indicates that parts of the Fort Peck project have moderate potential for oil and natural gas and a low to moderate potential for lightweight aggregate, bentonite, and coal. The project area has virtually no potential for mineral commodities such as uranium or gold.

Oil deposits probably lie at depths greater than 4,000 feet under the western part of the Fort Peck project. Natural gas deposits are likely to occur at depths of less than 2,000 feet across the entire project (USGS, 1979). Significant gas deposits have been developed in the Bowdoin field, along the flanks of the Bearpaw Mountains, and east of the Fort Peck project in the Williston Basin near Scobey, Culbertson, and Sidney, Montana.

There is a low to moderate potential for bentonite, an absorptive and colloidal clay with many industrial uses, on the Fort Peck project. The highest quality bentonite beds are found in Bearpaw Shale, particularly west of Nichols Coulee in the Siparyann area. This bed ranges in thickness from 1 to 6 feet at the outcrop. The bentonite resources east of Nichols Coulee are considered of low potential because of their thinness and poor quality.

An estimated 290 million short tons of coal occur in the general vicinity of the Fort Peck project. About 100 million tons are in the Fort Union Formation and are under less than 250 feet of overlying soils and rocks. Underground coal mining beneath the poorly consolidated sediments that make up the overburden would be expensive, but strip mining may be practical. The remaining estimated 190 million short tons of coal are more deeply buried in the Judith River Formation below overburden as thick as 450 feet. Approximately 87 percent of the Judith River coal is more than 200 feet deep and would have to be mined underground or gasified in place.

MINERAL STATUS

For the purpose of development, Federal minerals are classified as locatable, leasable, or salable minerals. The distinction between these classifications is governed by the Mining Act of 1872; the Mineral Leasing Acts of 1920 and 1947, as amended; and the Materials Act of 1947, as amended. The public lands that were set aside for the Fort Peck project were closed to all forms of appropriation under the Public Land laws and Mineral Leasing laws; however, these lands were not closed to mineral location or entry under the 1872 Mining Law.

Locatable minerals include metallic and hardrock minerals such as gold and silver, as well as nonmetallic minerals such as fluorspar, asbestos, mica, uranium, and bentonite. Minerals classified as locatables can be acquired through prospecting, discovery, and filing of mining claims in accordance with the Mining Act of 1872. According to the 1979 mineral report, bentonite is the only locatable mineral occurring in minable quantities at Fort Peck (USGS, 1979). The public lands of the Fort Peck project and the CMR were withdrawn from entry and location for a period of 20 years beginning in 1993 (U.S. BLM, 1993). The USFWS anticipates extending the withdrawal in 2013. The closure of Fort Peck project lands from mineral location is consistent with the Department of Army and Department of Interior Joint Acquisition Policy which states that: “mineral rights not acquired will be subordinated to the Government's right to regulate their development in a manner that will not interfere with the primary purposes of the project, including public access.”

Leasable minerals are governed by the Mineral Leasing Acts of 1920 and 1947. Leasable minerals include oil, gas, coal, chlorides, sulfates, carbonates, silicates, potassium, sodium, sulfur, asphalt, oil-impregnated sands and rocks, geothermal steam, and hardrock minerals in acquired lands (which normally would be subject to location under the Mining Law of 1872 on public domain lands). Fort Peck project lands are closed to mineral leasing under Department of the Interior regulations that closed the encompassing CMR lands to mineral leasing.

Salable minerals are administered under the authority of the Materials Act of 1947. Salable minerals include petrified wood and common varieties of sand, stone, gravel, pumicite, cinders, and clay. According to the delegated authority from the General Services Administration (GSA) and Corps regulations, the Corps has limited authority to dispose of salable minerals on acquired property. BLM has authority to dispose of salable minerals held in the public domain. Gravel is the only salable mineral at Fort Peck considered to occur in minable quantities.

During the acquisition of lands for the Fort Peck project, the intent was to acquire fee simple title to the property (both surface and mineral). Fee simple acquisition was not always possible or

practical; however, because of severed property interests or because of a seller's refusal to part with the mineral estate. This resulted in some properties with State and private reserved minerals on Federal land. On those lands, the development of reserved minerals is governed by State and common law and by Federal law to the extent that the proposed activity must comply with the National Environmental Policy Act (NEPA). In the past, Fort Peck lands were not considered to have significant mineral deposits, so mineral acquisition was sometimes ignored. Because of the complexity of the mineral estate, specific adjudication of mineral interests is required on a case-by-case basis.

MINERAL ACTIVITY

The only known exploration or extraction of minerals on project lands is the occasional extraction of gravel to improve roads leading to the reservoir. Some oil and gas development takes place east of the Fort Peck project in the Williston Basin near Sidney, Culbertson, and Scobey. The Zortman-Landusky gold mine in the Little Rocky Mountains near Zortman was closed in 1998, when the mining company declared bankruptcy.

PALEONTOLOGY RESOURCES

The northeastern region of Montana is recognized as one of the world's leading areas for paleontological deposits. The findings in this area represent the period of the decline of the dinosaurs and the beginning of the mammalian era. Since the early 1900s, some of the most outstanding fossil discoveries of all time have been made in the region surrounding Fort Peck Lake.

The Cretaceous Age formations in the Fort Peck area contain both marine and terrestrial sediments. Fossils found in the sediments range from large vertebrates to shellbeds to spores and pollen. In addition to dinosaur fossils, the Fort Peck area formations include the iridium-enriched boundary between the Cretaceous and Tertiary periods (K-T Boundary). This thin layer of dark rock is believed to demarcate the geologic moment of the great extinction of the dinosaurs.

The Hell Creek Formation was formed by the deposition of layers that spanned a period of roughly 2 million years, from 67 MYBP to 65 MYBP. The formation has produced impressive assemblages of fossils, including invertebrates, plants, mammals, fish, reptiles, and amphibians. A few bird and pterosaur fossils have also been found in this formation, as well as the teeth of sharks and rays (Alt and Hinman, 2006). The genus Triceratops (three-horned dinosaur) is the most abundant dinosaur found in the area. Many of the most complete dinosaurs on display in the world were gathered in Garfield County north of Jordan, Montana. The first *Tyrannosaurus rex* (*T. rex*) skeleton ever discovered came out of Montana's hills in 1902. In 1988, a nearly intact *T. rex* skeleton was discovered near Nelson Creek on the Big Dry Arm.

In 1997, another *T. rex* skeleton was discovered on U.S. Department of Agriculture land east of the Fort Peck project. This nearly intact skeleton is known as “Peck’s Rex.” The 360-acre area, known as “Section 24,” was transferred from the U.S. Department of Agriculture to the Corps for

management as part of the Fort Peck project. The Corps was also given rights of access across adjacent private land to the site through an easement.

The Bug Creek Fossil Area, east of the Big Dry Arm, and the Hell Creek Fossil Area, south of the Hell Creek Recreation Area, were designated as National Natural Landmarks in 1966 for their importance as paleontological sites. The two sites are world famous for the diversity of deposits and for fossil species that have been found only in these areas. The two sites depict the decline of dinosaurs and the beginning of the mammalian era.

The Fort Peck Interpretive Center includes extensive displays of Fort Peck area paleontology resources, including a replica of the "Peck's Rex." The Interpretive Center is also part of the Montana Dinosaur Trail (described later in this chapter). Excavation for fossils on Fort Peck project lands and other public land requires permits, which are granted only to universities or educational institutions. The Corps has a Memorandum of Agreement (MOA) with the Museum of the Rockies for curation of the Nelson Creek or Wankel *T. Rex* and the Fort Peck Paleontological Institute (FPPI) for management of Peck's Rex. The Corps is currently working on an additional MOA with the Museum of the Rockies for evaluation and management of any and all future paloeontological resources found on project lands. Additional information on the management of these resources is located in the Management of Paleontological Resources section of Chapter 3.

SOILS

SOIL FORMATION

All soils originate from rock. This rock is termed the 'parent material'. The parent material may be directly below the soil, or great distances away if wind, water or glaciers have transported the soil. Soil characteristics are determined by five factors: 1) the mineral and organic materials present in the parent material; 2) climate and the weathering of the parent material; 3) the living organisms present in and on the soil; 4) the topography of the land; and 5) the amount of time all these factors interact with the soil material.

Based on the soil characteristics listed above, the following factors have influenced the development of the soils around the project area. Soil in this region has been forming since the last glacier receded approximately 10,000 years ago. Bearpaw shales and glacial till deposits occur mainly north of the Missouri River to the east of the Musselshell River. West of the Musselshell River, Bearpaw shales are found on both sides of the Missouri River. Soils in Garfield and McCone counties are usually derived from sandstone deposits or are formed as alluvial deposits from sedimentary uplands (USFWS, 1985). Topography is generally rolling to steep, with the steepest slopes along rivers. Soils were developed in continental climate typically with moderately cold winters (average January minimums near 0 degrees F) and moderate summers (averaging in the 80s during afternoon hours).

SOIL ORDERS

Four major soil orders are represented in the Fort Peck project area. They are Aridisols, Entisols, Mollisols, and Vertisols.

Aridisols in the project area are composed of two types of suborders: those with significant salt and clay accumulations below the surface (creates moderately impervious subsoil), and those with little or no salt or clay accumulations. In the project area, these are found primarily on gentle slopes. Aridisols are typically found in Garfield and McCone Counties, and are generally derived from sandstone or alluvium in sedimentary uplands (USFWS, 1985).

Entisols are soils usually found in the floodplains of rivers and major creeks, and the breaks portion of the Fort Peck project area. They are defined by limited development. The vegetated surface is unstable on these steeply sloping breaks, and soils are poorly developed. The parent materials for these Entisols include alluvial deposits from streams or sedimentary deposits (siltstone, sandstone, or clay from Bearpaw shales) (USFWS, 1985).

Mollisols are prairie soils typically found in areas with greater rainfall than those found in the project area; their extent is very limited in this region (USFWS, 1985).

Vertisols are usually associated with Bearpaw shales (very fine-textured soil) and are located north of the Missouri River. They are found on sloping sedimentary Bearpaw-shales uplands, or fans and terraces formed below the Bearpaw shales (USFWS, 1985).

SOIL CHARACTERISTICS

Three distinct soil patterns are found in the vicinity of Fort Peck Lake: sedimentary uplands, glaciated uplands, and alluvium. The characteristics of each soil pattern are discussed below.

The majority of the region surrounding the lake is composed of sedimentary uplands. These are characterized by the undulating to steep landscapes of the Bearpaw, Fox Hills, and Hell Creek Formations. The soils derived from the Bearpaw Shale Formation are primarily heavy textured, although those derived from the Fox Hills and Hell Creek Formations are loamy. The soils are highly erodible and have a high shrink-swell potential. Outcroppings of Bearpaw shales and sandstone are common. Pierre clays are found scattered mainly just above the breaks on open flats; however, in the Crooked Creek drainage basin, they cover gullied hills, ridges, and escarpments. Pierre clays usually have an alkali zone from 12 to 20 inches deep, and crystals of gypsum are characteristic of the lower depths. Shales outcrop and underlie the surface at various depths in the more rolling sections. The structure of the surface is crumbly. Fertility is poor, with slow permeability. Pierre clays are droughty and difficult to revegetate because they have a narrow range of moisture conditions under which they can be worked. These soils are usually shallow, heavy, and plastic. When wet the soils become gumbo-like. Roads in the Fort Peck project area are primarily constructed on Bearpaw shales and the roads become impassible in wet weather. Ruts created by vehicles during wet weather do not heal themselves and provide channels for water runoff that further degrades the roads.

The second major soil pattern, the glaciated uplands, is characterized by undulating and rolling glacial plains. The soils are basically Phillips, Scobey, and Telstad. They were developed in clay loam material weathered in glacial till.

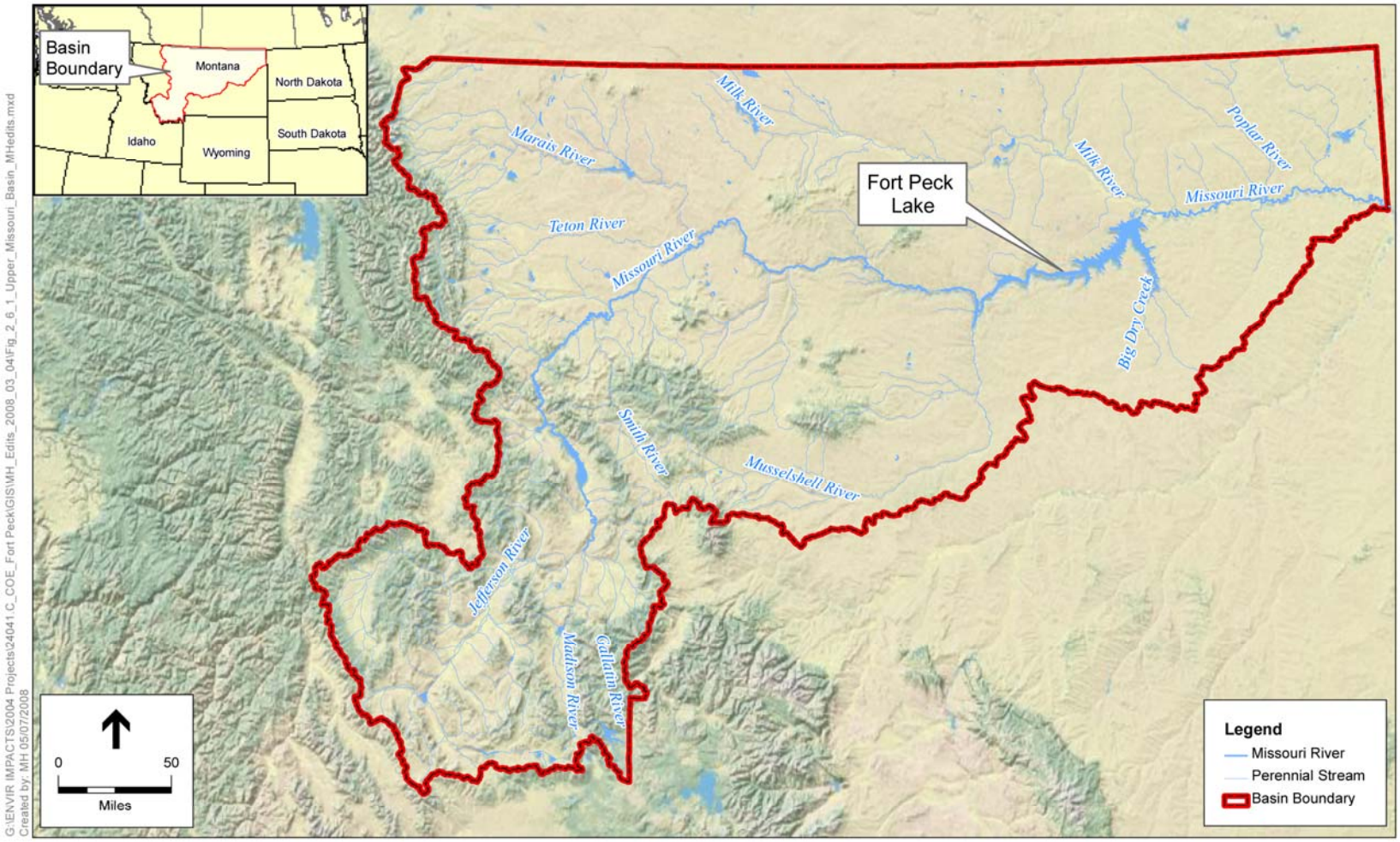
The third major soil pattern consists of alluvium on nearly level floodplains and low stream terraces. These physiographic areas are restricted to nearly level coulee bottoms and the Missouri River floodplain upriver from Fort Peck Lake. The primary soils are of the Vanda Havre type, developed entirely from alluvial deposits. These soils have the highest potential for vegetation production but are subject to frequent flooding. They also include areas of high salt content. The parent material depends on the source of alluvial outwash from surrounding terraces and benches. The soil depths range from very shallow to very deep. The fertility is fairly high where the salinity is low, and textures range from coarse to very fine. Soils are stratified but structureless. Crops can be grown on these soils with irrigation, but the limitations are high salinity and immature soils with no horizon development.

HYDROLOGY AND GROUNDWATER

HYDROLOGY

The Missouri River begins at the junction of the Jefferson, Madison, and Gallatin Rivers, near Three Forks in the Rocky Mountains of south-central Montana. Figure 2-1 illustrates the Upper Missouri River Basin. From the headwaters to Fort Peck Dam is a distance of approximately 550 miles. The total drainage area for the Fork Peck Lake is approximately 57,500 square miles (Corps, Northwestern Division, 2006). In addition to the Missouri River, the Musselshell River and Big Dry Creek also flow into Fort Peck Lake. The Musselshell's source is north of Checkerboard, Montana. Approximately 30 miles of Big Dry Creek are inundated to form the Big Dry Creek Arm of the lake.

From Fort Peck Dam, the Missouri River flows east for approximately 204 miles in an unchannelized river before entering the headwaters of Lake Sakakawea near Williston, North Dakota (Corps, Northwestern Division, 2006). Major tributaries of this section of the Missouri River include the Milk, Poplar, and Yellowstone Rivers.



Fort Peck Dam/Fort Peck Master Plan . 204041.C

SOURCE: USACE, 2007; ESRI, 2005.

Figure 2-1
Upper Missouri River Basin
Montana

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Table 2-4 contains annual statistics for the Fort Peck Lake from the 1937 to 2006. Included in this table are maximum elevation; mean discharge, minimum discharge, and maximum discharge, all in cubic feet per second (cfs).

As evident from Table 2-4, the maximum reservoir elevation for the most recent years (2004-2006) has been at the lowest elevations since the mid- to late 1950s. A maximum reservoir elevation lower than that seen in 2006 had not been reported since 1955, and a maximum reservoir elevation lower than that seen in 2005 had not been reported since 1958, showing evidence of the recent drought conditions in the upper Missouri River Basin.

Table 2-4. Annual Statistics for the Fort Peck Lake, 1937-2006

Year	*Maximum Elevation (feet msl)*	*Mean Discharge (cfs)*	*Minimum Discharge (cfs)*	*Maximum Discharge (cfs)*
1937	2065.80	2,663	301	8,780
1938	2136.50	8,508	710	25,400
1939	2100.00	7,582	590	22,600
1940	2128.40	4,017	0	16,840
1941	2131.20	3,858	820	15,100
1942	2183.80	4,909	410	15,300
1943	2222.70	7,196	0	22,910
1944	2225.80	7,205	0	19,510
1945	2226.40	5,310	500	20,770
1946	2232.30	5,170	1,000	20,580
1947	2242.60	11,783	690	27,000
1948	2244.80	13,948	1,000	28,610
1949	2231.80	9,984	2,910	23,590
1950	2234.20	8,471	900	23,990
1951	2237.50	12,196	1,400	27,390
1952	2237.80	9,637	2,310	22,220
1953	2240.00	10,859	2,880	28,000
1954	2226.80	10,730	2,980	28,050
1955	2206.00	13,347	4,260	28,060
1956	2180.90	6,401	3,010	10,400
1957	2186.60	6,211	3,100	7,500
1958	2198.50	6,130	3,900	7,500
1959	2210.00	7,438	5,200	7,900
1960	2217.70	7,217	3,200	9,100
1961	2212.20	8,925	4,600	15,500

Year	*Maximum Elevation (feet msl)*	*Mean Discharge (cfs)*	*Minimum Discharge (cfs)*	*Maximum Discharge (cfs)*
1962	2205.10	6,800	1,900	12,400
1963	2216.10	4,975	1,000	12,500
1964	2235.90	6,183	1,000	12,700
1965	2245.90	5,100	5,100	15,700
1966	2242.10	9,900	5,000	15,800
1967	2245.70	11,400	900	14,800
1968	2244.70	10,700	3,000	14,200
1969	2246.80	11,500	4,800	14,700
1970	2247.30	12,600	2,800	15,300
1971	2244.20	11,600	7,400	15,300
1972	2244.00	10,900	7,400	14,900
1973	2241.70	8,000	3,000	15,000
1974	2245.50	9,500	3,100	13,300
1975	2251.60	15,700	4,300	35,400
1976	2249.00	14,500	9,000	25,500
1977	2240.50	8,600	4,600	15,400
1978	2249.60	11,700	0	15,300
1979	2247.30	12,600	1,000	28,900
1980	2242.10	10,500	5,800	14,600
1981	2242.20	12,107	7,300	15,000
1982	2239.70	10,900	5,200	15,600
1983	2241.70	8,991	4,400	14,400
1992	2217.63	6,466	2,800	8,800
1984	2243.20	10,384	4,800	13,800
1985	2238.50	10,193	5,600	14,600
1986	2238.30	8,025	1,100	14,500
1987	2238.50	7,108	3,100	11,400
1988	2234.20	7,858	4,300	12,200
1989	2223.60	9,708	5,000	13,400
1990	2216.20	8,118	3,300	13,100
1991	2220.12	7,208	3,000	8,200
1993	2232.22	5,650	2,700	8,700
1994	2238.94	7,291	3,300	12,200
1995	2244.21	9,308	3,600	14,900
1996	2247.30	12,025	3,000	15,200

Year	*Maximum Elevation (feet msl)*	*Mean Discharge (cfs)*	*Minimum Discharge (cfs)*	*Maximum Discharge (cfs)*
1997	2250.31	13,275	2,500	22,400
1998	2240.46	8,900	4,600	12,700
1999	2238.32	8,267	4,300	12,300
2000	2235.37	7,883	4,400	10,400
2001	2226.00	5,967	3,600	11,800
2002	2220.44	6,592	3,900	10,400
2003	2214.53	7,542	3,700	10,800
2004	2206.80	6,758	3,600	11,200
2005	2203.70	5,645	3,000	8,500
2006	2206.34	7,274	4,500	10,400

Source: U.S. Army Corps of Engineers, 2006.

GROUNDWATER

The most productive regional groundwater source is the alluvium along the Missouri River Valley. Water can also be found in the Fox Hills-Hell Creek aquifer in Garfield and McCone Counties, and on Harper Ridge, a location where numerous springs are found (Corps Omaha District, 2004). Groundwater is relatively deep in the Missouri River Breaks Area to the west, where domestic wells vary in depth from 300 to 1,200 feet. There are two aquifers located south-southeast of Fort Peck Lake in McCone and Garfield Counties, the Upper Cretaceous and the Lower Tertiary aquifers. The aquifers are both sandstone aquifers.

RESERVOIR OPERATION

MISSOURI RIVER MAINSTEM RESERVOIR SYSTEM

Fort Peck Lake is operated as an integral component of the Missouri River Mainstem Reservoir System. To achieve full coordination within the entire Missouri River basin and to meet all of the authorized project purposes, operation of all six mainstem reservoirs is directed by the Missouri River Basin Reservoir Control Center located in Omaha, Nebraska, part of the Corps Northwestern Division. The six mainstem reservoirs operated by the Corps are listed in Table 2-5.

Fort Peck Lake provides a significant storage contribution to the mainstem system of reservoirs. It is the third largest of the six reservoirs, with a storage capacity of approximately 18.7 million acre-feet (MAF), which comprises 25 percent of the total 73.3 MAF storage capacity in the mainstem system.

Table 2-5. Missouri River Mainstem Flood Control Reservoirs

Project (Dam and Reservoir)	*Incremental Drainage Area (Square Miles)*	*Year of Closure*	*Flood Control and Multiple Use Storage in Acre-Feet (AF)*	*Total Storage in Acre-Feet*
Fort Peck Dam / Fort Peck Lake	57,500	1937	2,717,000	18,688,000
Garrison Dam / Lake Sakakawea	123,900	1953	4,222,000	23,821,000
Oahe Dam / Lake Oahe	62,090	1958	3,201,000	23,137,000
Big Bend Dam / Lake Sharpe	5,840	1963	117,000	1,798,000
Fort Randall Dam / Lake Francis Case	14,150	1952	1,309,000	5,418,000
Gavins Point Dam / Lewis and Clark Lake	16,000	1955	90,000	470,000

RESERVOIR REGULATION

The primary water management functions for Fort Peck are:

- To capture the mountain and the plains snowmelt and localized rainfall runoffs from the large drainage area above Fort Peck Dam, which are then metered out at controlled release rates to meet the entire reservoir system's authorized purposes while reducing flood damages in the Fort Peck Dam to Lake Sakakawea reach;
- To serve as a secondary storage location for water accumulated in the system of six mainstem dams from reduced system releases because of major downstream flood control regulation, thus helping to alleviate large reservoir level increases in Garrison, Oahe, and Fort Randall; and
- To provide the extra water needed to meet all of the Congressionally authorized project purposes within the system of six mainstem dams that draft storage during low-water years.

For the purpose of regulation, the storage capacity at Fort Peck Lake is divided into four zones (Figure 2-2). Starting at the bottom, there is the 4.2 MAF permanent pool between elevations 2030.0 and 2160.0 feet msl. This storage provides a minimum pool for fisheries and is not available for regulation purposes. Above the permanent pool there is the 10.8 MAF carry-over multiple-use zone between elevations 2160.0 and 2234.0 feet msl. This intermediate zone provides a storage reserve for navigation, power production, irrigation, and other beneficial conservation uses. This zone also provides carry-over storage for maintaining downstream flows

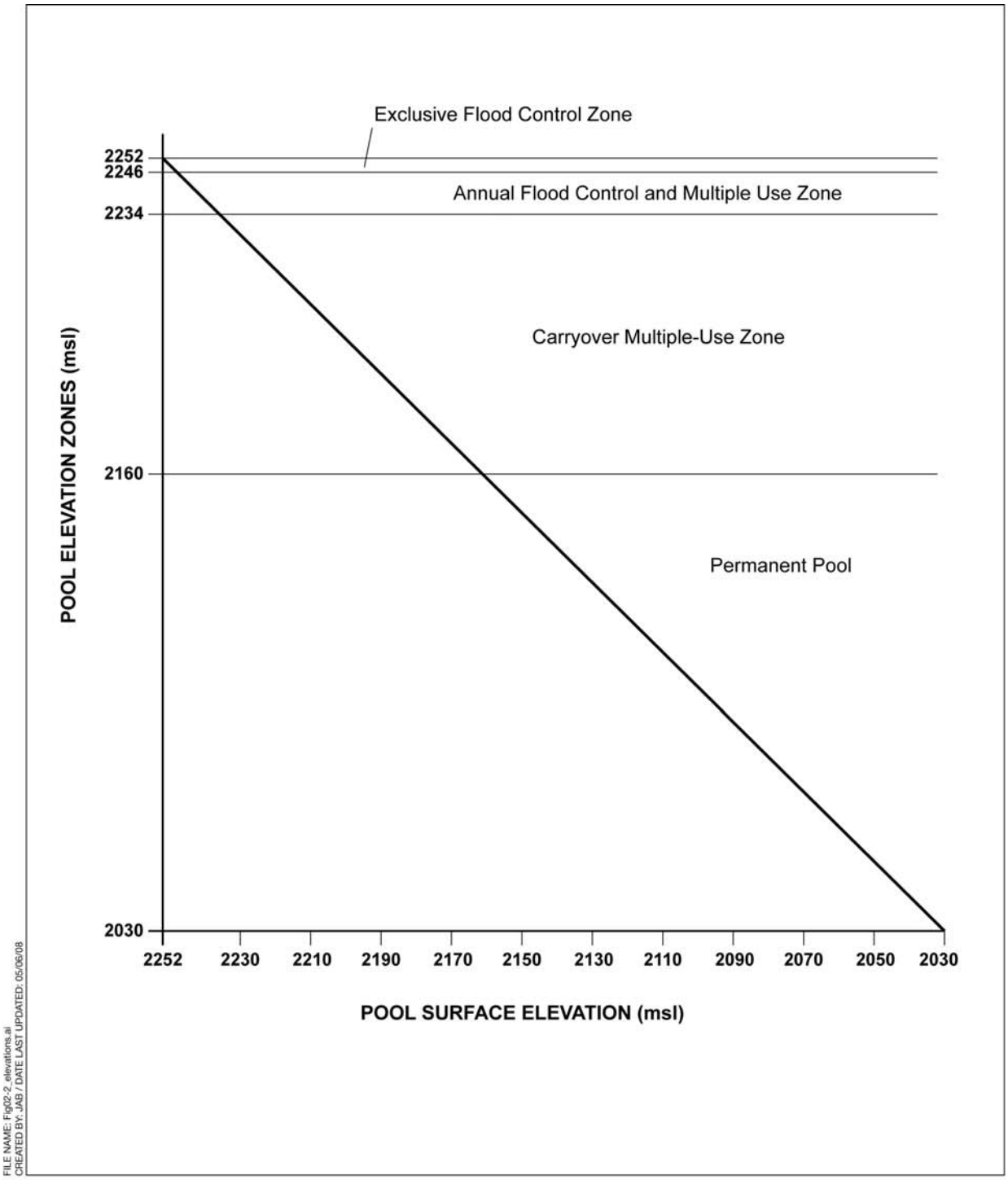
through a succession of years in which runoff is below normal. The next zone is the 2.7 MAF annual flood control and multiple use zone between elevations 2234.0 and 2246.0 feet msl. This is the desired operating zone. Water stored in this zone is normally evacuated by March 1 of each year to provide adequate storage capacity for the flood season. During the flood period, water is impounded in this space as required. Finally, the upper zone, or exclusive flood control zone, consists of 0.97 MAF of storage between elevations 2246.0 and 2250.0 feet msl. This zone is used only during periods of extreme high water and is evacuated as soon as downstream conditions permit.

Regulating the Missouri River Mainstem Reservoir System is essentially a repetitive annual cycle. Unless water conservation measures are being implemented, the reservoirs are evacuated to the bottom of the annual flood control and multiple use zone (2234.0 msl) by March 1. Because the major portion of the annual runoff enters the reservoirs between March and July, storage accumulates and usually reaches a peak during early July. Releases from Fort Peck Lake are scheduled throughout the remainder of the year to provide support for hydropower production and other authorized purposes. Releases during the summer and winter are generally higher than those in the spring and fall because of increased demand for hydropower.

During periods of normal to above normal runoff, these releases evacuate the water stored in the annual flood control and multiple use zone, drawing the reservoir down to the top of the carry-over multiple-use zone (elevation 2234.0 feet msl) by the following March 1, when the cycle begins once more. During a period of extended drought, water is drafted from the large carry-over multiple-use zone. The conservation storage provided in the carry-over multiple-use zones of the six mainstem reservoirs was designed to serve all authorized project purposes through a drought like that of the 1930s, though at reduced levels.

FORT PECK LAKE POOL ELEVATIONS

Table 2-6 shows the annual average end of the month storage within the reservoir for the period from 1968 to 2006.



Fort Peck Dam/Fort Peck Lake Master Plan . 204041.C

Figure 2-2
Fort Peck Lake Elevation Zones
Montana

Table 2-6. Annual Average End of the Month Reservoir Storage (1968-2006)

Year	*Acre-Feet*	*Year*	*Acre-Feet*
1968	16,860,000	1988	13,921,000
1969	17,075,000	1989	12,242,000
1970	17,119,000	1990	11,088,000
1971	16,953,000	1991	11,435,000
1972	17,091,000	1992	11,156,000
1973	16,123,000	1993	12,387,000
1974	16,582,000	1994	15,365,000
1975	17,498,000	1995	15,798,000
1976	17,618,000	1996	16,560,000
1977	15,458,000	1997	16,642,000
1978	17,065,000	1998	15,664,000
1979	17,417,000	1999	15,475,000
1980	16,020,000	2000	14,477,000
1981	15,528,000	2001	12,604,000
1982	15,398,000	2002	11,950,000
1983	16,252,000	2003	10,745,000
1984	16,525,000	2004	9,355,000
1985	14,890,000	2005	9,127,000
1986	15,159,000	2006	9,354,000
1987	15,865,000		

Source: Corps, Northwestern Division, 2007b

SEDIMENTATION AND EROSION

Sedimentation processes can have a significant impact on the recreation planning process in several ways: a) siltation and bank erosion can result in excessive maintenance costs and/or curtail the useful life of recreation areas; b) boating facilities such as launching ramps and harbors can be rendered unusable as sediment accumulates on the ramps, across harbor entrances, and in embayments; c) fish spawning areas can be adversely affected by silt deposition; d) bank erosion can endanger improvements at recreation areas or encroach on private land, perhaps necessitating additional real estate requirements or costly shore protection measures; e) littoral drift from bank erosion can form bars across small embayments, rendering them useless for fish spawning and recreational use; and f) delta encroachment in the upstream end of a reservoir can elevate the local water table. However, many of these problems can be mitigated and even avoided through careful assessment of the rate and extent of future sedimentation and coupling that information with recreational planning.

Sediment in Fort Peck Lake has two major sources: 1) erosion of land adjacent to the shore of the lakes by wave action; and 2) sediment transported to the lake by the Missouri River and its tributaries. Each of these sources is discussed in detail below.

SHORELINE EROSION

Reservoir shorelines are highly erodible because of the fact that the river valley slopes are terraced and the soils are comprised of erodible sands, silts, clays, gravels, and shales (Corps, Northwestern Division, 2006). Shorelines composed of this erodible combination of materials and subjected to wave and ice action experience shoreline erosion in the form of slumping cut-banks. Fort Peck Lake is 134 miles long, with approximately 1,600 miles of shoreline. The cut-banks along Fort Peck Lake are eroding at a rate of 4 feet or less per year, which is a rate that is considered to be comparatively low. The low rate is because of the harder shale composition of the lake's shoreline (Corps, Northwestern Division, 2004).

The rate of shoreline erosion is dependent upon several factors: the nature of the shore materials; the energy of the oncoming waves that are determined by wind velocity, direction, and fetch; and the tendency of the eroded materials to form beaches. Fort Peck Lake is located in a region that is known for high-intensity winds of short duration during summer thunderstorm activity. The resulting wave action produced by these high winds can be a contributor to shoreline erosion, especially in the wider areas of the reservoir. Exposed cliffs and banks within and above the normal operating pool levels experience erosion problems.

Shoreline erosion problem areas are of greatest concern at Park Grove in the Downstream Area, the cabin areas, and recreation areas because of potential impacts to private and public facilities. Adjacent private property owners and cabin lot lessees are allowed under the Regulatory program to implement shoreline protection measures, but this is primarily a high-low pool issue (see Chapter 3 of this document for further information). The Fort Peck and The Pines cabin sites have predominantly clay soils. When the shoreline materials are composed of mostly clays, the eroded material does not form beaches and is subject to continual wave-caused erosion (Corps, Omaha District, 2004). The Corps currently has no plans for bank stabilization projects to address the erosion problem areas.

STREAM TRANSPORTED SEDIMENT

In its natural state, the Missouri River transported a sediment load that averaged 25 million tons per year in the general vicinity of Fort Peck, Montana (Corps, Northwestern Division, 2006). Following construction of the Fort Peck Dam and Lake and the other reservoirs in the Missouri River Mainstem Reservoir System, these reservoirs have acted as catchments, trapping and storing the high sediment load carried by the Missouri River and its tributaries, resulting in a loss of storage capacity in the reservoirs. It has been estimated that approximately 18 to 26 thousand acre-feet (KAF) of sediment enter each of the four largest reservoirs each year (Corps, Northwestern Division, 2006). This sediment is being deposited within the reservoirs, below the dominant reservoir pool levels.

Major sediment deposition occurs in the headwaters and tributary inlets of Fort Peck Lake because of soil erosion that is occurring in the upstream basin as the Missouri River and its tributaries flow through highly erodible sediments. This eroded material is washed into tributary streams and carried downstream, into the reservoir, during periods of high runoff. As the velocity of the transporting stream decreases in and near the reservoir, the sediment falls to the bottom to form a delta. These large sediment deposits continue to grow over time and reduce the useful life of the reservoir (Corps, Northwestern Division, 2004).

Sediment deposition in Fort Peck Lake averaged 18,000 acre-feet per year during the period from 1938 to 1986, resulting in a total reduction of approximately 5 percent of the original volume of the lake (Corps, Northwestern Division, 2004). There has also been an 8 percent loss in the permanent pool. The 1986 hydrographic survey indicated that most of this deposition has occurred upstream of the Musselshell Arm between river mile (RM) 1866 and RM 1900, where the sediment depths have been recorded as high as 30 feet and where the channel loss has been measured at approximately 50 percent (Corps, Northwestern Division, 2004). A new hydrographic survey of Fort Peck Lake was conducted in 2007. While not completed, analysis of the new survey data might indicate that the delta deposits have migrated downstream of this past location because of the low pool elevations. The Corps continues to study sedimentation within the reservoir and more recent information may be available in the future. Current problem sedimentation areas have been identified in the Musselshell River, near Crooked Creek, and in the Big Dry Arm.

The major delta areas of Fort Peck Lake are located on the mainstem reach upstream from Crooked Creek Recreation Area and on the Musselshell River at its confluence with the lake. Based on the 1986 surveys, the toe of the delta was near RM 1873. Because of recent low pool levels, the current delta location has probably moved downstream. The average rate of advance for this delta is 1,000 feet per year. Large areas of sediment accumulation also exist upstream and downstream from the Hell Creek Arm and within the Big Dry Creek Arm. The delta located within the Big Dry Creek Arm is located approximately 38.5 miles upstream from its mouth, and moves at an average rate of 22.5 feet per year based on 1986 survey data. The deltas of the tributary arms also have probably migrated downstream because of low Fort Peck pool elevations.

Even with the low reservoir levels in recent years, sedimentation has continued within the same areas described above. Wave action continues along the lakeshore, leading to sediment flux and areas of erosion. In addition, mobilization of the initial sediment laid down in the deltas could occur. Downcutting of the channel under low water levels is anticipated, and could lead to channel widening.

Fort Peck Lake's original storage capacity at the maximum operating pool elevation of 2250 feet msl was 19,557,500 acre-feet in 1937. In 1986, the capacity had decreased to 18,687,700 acre-feet. The decreased lake volume and capacity can impact recreation sites, fish and wildlife.

Littoral Drift. Alongshore currents and waves in the reservoir transport eroded materials along the sides of the lake. This littoral drift moves along the shoreline of the reservoir and forms bars or shoals across the embayments where many recreation areas are located. This shoal or shallow water area becomes a hazard to boats entering and leaving a cove. Littoral drift may move into the embayments themselves, making them shallower and more difficult to navigate. Accumulation of littoral drift on boat ramps severely impairs the launching capabilities and, if not periodically removed, will completely bury the ramp. Currently there are no major problems on the temporary and permanent ramps at Fort Peck. The ramps are cleaned periodically as needed.

WATER QUALITY

APPLICABLE WATER QUALITY STANDARDS

In accordance with the Clean Water Act, states and authorized tribes or the Environmental Protection Agency (EPA) are responsible for developing and adopting water quality standards for their jurisdictions. Pursuant to the Clean Water Act, water quality standards consist of three components: 1) designated and existing uses, 2) water quality criteria necessary to protect these uses, and 3) an anti-degradation policy (40 CFR Part 131.6). Water quality standards have been developed by the State of Montana for surface and groundwater. These standards were developed in compliance with both the Montana Water Quality Act and the Clean Water Act.

The State of Montana has established various beneficial uses which include recreation (swimming, boating, or other activities that involve physical contact with water); growth and propagation of salmonid (i.e., cold water fishery) and non-salomonid (i.e., warm water fishery) fishes and associated aquatic life; waterfowl and furbearers; water supply (domestic, municipal, industrial and agricultural); and fisheries. Corresponding water quality standards have been developed for each use, including parameters such as various pollutants, temperature, and dissolved oxygen levels. Water quality standards include both numerical and narrative criteria. Numeric water quality criteria are developed for the various beneficial use designations and narrative criteria describe the water quality conditions that must be attained, maintained or avoided.

In addition to the above, the water quality standards must include an anti-degradation policy which provides three levels of protection (Corps, Northwestern Division, 2004):

1. Existing water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.
2. High quality waters shall be protected by minimizing impacts of new activities.
3. Designated high quality waters that constitute an outstanding State or national resource shall be maintained and protected.

According to the Montana Surface Water Quality Standards and Procedures (Montana Code Annotated 17.30.610), the mainstem of the Missouri River from the Marias River to Fort Peck Dam is classified as a B-3 water, and the Missouri River drainage from Fort Peck Dam to the Milk River is classified as a B-2 water, and the Missouri River downstream of the Milk River is classified as a B-3 water. Both classifications are to be "maintained suitable for drinking, culinary, and food processing purposes, after conventional treatment; bathing, swimming, and recreation; and agricultural and industrial water supply" (Montana Code Annotated 17.30.624-625). The primary difference between the B-2 and B-3 classifications is that under the B-2 classification, the waters must be maintained for growth and marginal propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers, whereas B-3 waters must be maintained for growth and propagation of non-salmonid fishes.

In accordance with Section 303(d) of the Clean Water Act, each State must identify surface waters that do not meet EPA-approved water quality standards. The states are required to report these impaired water bodies on a list called the 303(d) list. All waters that are placed on this list must

have a total maximum daily load developed (TMDL). A TMDL is a calculation of two things: 1) the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and 2) an allocation of that pollutant amount to its various sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources.

The Missouri River, from Bullwhacker Creek to Fort Peck Lake has been listed on the 303(d) list. The Missouri River in this area has been assessed as partially supporting of aquatic life and warm water fishery use, and was found not to be supporting of drinking water use (Montana DEQ, 2007a). The Missouri River from Fort Peck Dam to the Milk River was found to be fully supporting of agricultural, drinking water, industrial, and primary contact recreation uses. In addition, it was found to be partially supporting of aquatic life and cold water fishery uses (Montana DEQ, 2007a). The listed probable causes, probable sources and associated beneficial uses which they affect for both of these segments of the Missouri River are included in Table 2-7.

The Missouri River, from the Milk River to the Poplar River and from the Poplar River to North Dakota, has been listed on the 303(d) list. The River in this area has been assessed as partially supporting of aquatic life and warm water fishery.

Fort Peck Lake has also been listed on the 303(d) list. The Lake has been assessed as not supporting drinking water and partially supporting primary contact recreation. The State of Montana has also issued a fish consumption advisory for Fort Peck Lake because of mercury concerns. This is discussed further below.

According to the EPA National Assessment Database, the 2004 assessment data for the Fort Peck Lake Watershed indicates the following stated causes of impairment for water bodies within the watershed, including the reservoir itself (see Table 2-8).

In addition to the stated causes of impairment listed above, probable sources contributing to impairment have been assigned to the watershed. Agriculture, impacts from abandoned mine lands, livestock (grazing or feeding operations), and resource extraction have been listed as the primary probable sources contributing to the impairment of rivers, streams and creeks in the Fort Peck Lake Watershed (U.S. EPA, 2004). Agriculture, atmospheric deposition, historic bottom deposits, impacts from abandoned mine lands, and resource extraction have been listed as the primary probable sources contributing to impairment of Fort Peck Lake itself. The State of Montana has placed Fort Peck Lake on the State's list of impaired waters because of impairment to the uses of drinking water supply and primary contact recreation because of the presence of the following pollutants: lead, mercury, metals and noxious aquatic plants (Montana DEQ, 2007a).

Additional information on existing water quality of Fort Peck Lake can be found in the Existing Water Quality Conditions section in this chapter.

WATER QUALITY MANAGEMENT PLANNING

The Omaha District's Water Quality Management Program is categorized into four functional areas: 1) water quality monitoring and assessment, 2) project water quality management planning, 3) technical support, and 4) program development and evaluation (Corps, Omaha District, 2007b).

Table 2-7. Probable Causes, Probable Sources, and Associated Beneficial Uses for Pertinent Segments of the Missouri River

Probable Causes	*Probable Sources*	*Associated Uses*	*TMDL Completed*
Missouri River, Bullwhacker Creek to Fork Peck Reservoir (MT40E001_010) – 49.8 miles in length			
Alteration in stream-side or littoral vegetative covers	Agriculture grazing in the riparian or shoreline zones Impacts from abandoned mine lands	Aquatic Life Warm Water Fishery	No
Arsenic	Impacts from abandoned mine lands	Aquatic Life Drinking Water Warm Water Fishery	No
Copper	Impacts from abandoned mine lands	Aquatic Life Warm Water Fishery	No
Missouri River, Fort Peck Dam to the Milk River (MT40S001_011) – 3.3 miles in length			
Alteration in stream-side or littoral vegetative covers	Impacts from Hydrostructure Flow Regulation/Modification	Aquatic Life Cold Water Fishery	No
Other flow regime alterations	Impacts from Hydrostructure Flow Regulation/Modification	Aquatic Life Cold Water Fishery	No
Temperature, water	Impacts from Hydrostructure Flow Regulation/Modification	Cold Water Fishery	No
Missouri River, Milk River to the Poplar River (MT40S001_012) – 84.3 miles in length			
Alteration in stream-side or littoral vegetative covers	Loss of Riparian Habitat	Aquatic Life Warm Water Fishery	No
Other flow regime alterations	Impacts from Hydrostructure Flow Regulation/Modification	Aquatic Life Warm Water Fishery	No
Temperature, water	Impacts from Hydrostructure Flow Regulation/Modification	Aquatic Life Warm Water Fishery	No
Missouri River, Poplar River to North Dakota (MT40S003_010) – 94.8 miles in length			
Other Flow Regime Alterations	Dam or impoundment Impacts from Hydrostructure Flow Regulation/Modification	Aquatic Life Warm Water Fishery	No
Temperature, water	Dam or impoundment Impacts from Hydrostructure Flow Regulation/Modification	Aquatic Life Warm Water Fishery	No

Probable Causes	*Probable Sources*	*Associated Uses*	*TMDL Completed*
Fort Peck Lake (MT40E004_010) – 245,000 acres			
Aquatic Plants	Agriculture	Drinking Water	No
Lead	Atmospheric Deposition – Toxics Historic Bottom Deposits (Not Sediment) Impacts from Abandoned Mine Lands (Inactive)	Drinking Water	No
Mercury	Atmospheric Deposition – Toxics Historic Bottom Deposits (Not Sediment) Impacts from Abandoned Mine Lands (Inactive)	Drinking Water	No
Aquatic Plants	Agriculture	Primary Contact Recreation	No
Lead	Atmospheric Deposition – Toxics Historic Bottom Deposits (Not Sediment) Impacts from Abandoned Mine Lands (Inactive)	Primary Contact Recreation	No
Mercury	Atmospheric Deposition – Toxics Historic Bottom Deposits (Not Sediment) Impacts from Abandoned Mine Lands (Inactive)	Primary Contact Recreation	No

Source: Montana DEQ, 2007a (Source: State of Montana's published 2006 303(d) list (Appendix H, Section 3: Category 5 Impaired Waters)

Table 2-8. Impairment Data for Fort Peck Lake Watershed

State Cause of Impairment	*Rivers, Streams, Creeks (miles)*	*Lakes, Reservoir (acres)*
Ammonia (unionized)	96.1	-
Arsenic	51.8	-
Cadmium	63.0	-
Copper	115.8	-
Lead	50.6	245,000
Mercury	64.0	245,000
Metals	115.8	245,000
Nitrogen, nitrate	121.8	-
Non-native aquatic plants	-	245,000

State Cause of Impairment	*Rivers, Streams, Creeks (miles)*	*Lakes, Reservoir (acres)*
Nutrients	121.8	-
Other habitat alterations	212.2	-
Pathogens	37.6	-
pH	66.0	-
Riparian degradation	212.2	-
Selenium	50.6	-
Zinc	61.0	-

Source: EPA, 2004

The development of project-specific (or reservoir-specific) water quality management objectives for the Missouri River Mainstem Reservoir System is based on a 5-year process, which includes intensive water quality surveys, water quality modeling, preparation of Special Water Quality and Project-Specific Reports, and final development of project-specific water quality management objectives (Corps, Omaha District, 2008). An intensive water quality survey was completed for the Fort Peck Lake between 2004 and 2006, and is discussed in Sections 2.10.3 and 2.10.4, and the results are presented in detail in the Water Quality Special Report: Water Quality Conditions Monitored at the Corps' Fort Peck project in Montana during the 3-Year Period 2004 through 2006 (Corps, Omaha District, 2008).

The schedule for future water quality planning activities for Fort Peck includes application of the CE-QUAL-W2 hydrodynamic and water quality model during the 2007-2008 timeframe. This model is a tool that can assist in addressing water quality management issues at the reservoir. It models basic physical, chemical, and biological processes such as temperature, nutrient content, dissolved oxygen, and sediment relationships (Corps, Omaha District, 2007b). The model can be used to evaluate how the regulation of the reservoir (i.e., pool levels and dam releases) can affect the overall water quality of the reservoir and in the Missouri River downstream of the dam. Once the modeling is completed, a report will be prepared that will outline the results of the modeling. This report is scheduled for release in 2009. In 2010, a Fort Peck-specific water quality report will be released and reservoir-specific water quality management objectives will be prepared (Corps, Omaha District, 2008).

WATER QUALITY MONITORING

Both the Corps and the U.S. Geological Survey (USGS) perform water quality monitoring on selected stream reaches along the Missouri River Mainstem Reservoir System and the Missouri River Basin. The Corps and USGS monitoring locations found within close proximity to the Fort Peck Dam/Lake are listed in Table 2-9.

The Corps has established five sampling stations to monitor water quality conditions at the Fort Peck project: 1) Fort Peck Lake near the dam, 2) Fort Peck Lake Hell Creek area; 3) Fort Peck Lake Rock Creek area; 4) Missouri River inflow to Fort Peck Lake (near Landusky, Montana), and 5) Fort Peck Powerplant discharge. The three reservoir stations are monitored monthly from May

through September. At the inflow site, water samples are collected monthly from April through September, and water temperature is continuously recorded at the USGS gaging station (06115200). Water samples are collected monthly and water temperature, dissolved oxygen, and conductivity are recorded hourly at the powerplant station year-round. Corps monitoring is conducted by personnel from the District's Water Control and Water Quality Section in Omaha, NE. The USGS also collects and analyzes water samples of the Fort Peck inflows four times a year from a sampling station near Zortman, Montana. Continual remote monitoring conducted in 6-hour intervals of dissolved oxygen, conductivity, pH, and temperature is conducted on the water releases downstream from the dam.

Table 2-9. Water Quality Monitoring Stations at Fort Peck Dam/Lake

Monitoring Agency	*Location*	*Type*
Corps	Fort Peck Lake at Hell Creek	Ambient lake
Corps	Fort Peck Lake near dam	Ambient lake
Corps	Fort Peck Lake at Rock Creek	Ambient lake
USGS	Missouri River below Fort Peck Dam	Ambient stream
Corps	Missouri River above Fort Peck Lake (near Landusky, MT)	Ambient stream
Corps	Monitor at Fort Peck Powerplant	Ambient lake/Dam release

Source: Corps, Northwestern Division, 2004

Water quality monitoring has detected parameters that have exceeded Montana water quality standards and/or EPA criteria during the period from 1999-2004. These parameters include: silver, beryllium, sulfate, arsenic, copper, iron, manganese, nickel, mercury, cadmium, chlordane, phosphorus, lead, dissolved oxygen, and pH (Corps, Omaha District, 2004). Most of these exceedences, with the exception of pesticides and agriculturally associated nutrients, are believed to arise from natural sources within the basin, and are only detected periodically and therefore do not indicate chronic or severe water quality problems (Corps, Omaha District, 2004).

More recent water quality surveys were conducted at the Fork Peck Lake by the Omaha District of the Corps during 2004-2006. The monitoring objectives of these surveys were to collect water quality data to describe water quality conditions present in the Fort Peck Lake during the late spring and summer, as well as to collect data for use in water quality modeling (Corps, Omaha District, 2006). The water quality surveys were conducted at six reservoir sites in the deepwater areas on the Missouri River and Dry Creek Arms of the reservoir; three inflow sites on the Missouri River, Musselshell River, and Big Dry Creek; and one outflow site. The three inflow sites were chosen to represent water quality conditions of water flowing into the Fort Peck Lake (Corps, Omaha District, 2006). Samples were taken monthly at the reservoir and inflow sites, from June through September. Table 2-10 provides the location and description of these monitoring stations.

The water quality monitoring at the reservoir sites included measurements for temperature, dissolved oxygen, pH, conductivity, oxygen-reduction potential (ORP), chlorophyll *a*, total

suspended solids, total phosphorus, metals, turbidity and others (Corps, Omaha District, 2006). Monitoring at the inflow sites included measures for temperature, dissolved oxygen, pH, conductivity, turbidity, nitrate/nitrite, total ammonia, total phosphorus, total suspended solids, and other parameters (Corps, Omaha District, 2006). The outflow site included the same parameters as the inflow sites.

Table 2-10. Location and Description of Monitoring Stations Sampled during 2004-2006

Station Number	*Station Alias*	*Name*	*Location*	*Station Type*
FTPNFMORR1	NF1	Missouri River near Landusky, MT	At US Highway 191 bridge crossing south of Landusky, MT	Inflow
FTPNFMSLR1	NF2	Musselshell River at Mosby, MT	At MT Highway 200 bridge crossing at Mosby, MT	Inflow
FTPNFBDCK1	NF3	Big Dry Creek near Jordan, MT	At County Rd 462 bridge crossing east of Jordan, MT	Inflow
FTPPP1	OF1	Fork Peck Powerhouse	In powerhouse – water drawn from raw water supply loop	Outflow
FTPLK1772A	L1	Fort Peck Lake – Near Dam	Reservoir, deepwater	Reservoir
FTPLK1778DW	L2	Fort Peck Lake – Skunk Coulee Bay	Reservoir, deepwater	Reservoir
FTPLK1789DW	L3	Fort Peck Lake – The Pines Recreation Area	Reservoir, deepwater	Reservoir
FTPLK1805DW	L4	Fort Peck Lake – Hell Creek Bay	Reservoir, deepwater	Reservoir
FTPLKBDCA01	L5	Fort Peck Lake – Lower Big Dry Creek Arm	Reservoir, deepwater	Reservoir
FTPLKBDCA02	L6	Fort Peck Lake – Rock Creek Bay	Reservoir, deepwater	Reservoir

Source: Corps, Omaha District, 2007a

EXISTING WATER QUALITY CONDITIONS

Dams create lakes which serve as effective sediment traps, as discussed in Section 2.8. Sediment loads that are carried by the Missouri River are deposited in the lake, where the stream velocity is lower. The lakes also function as sinks for pollutants that have bonded to the sediment particles (Corps, Northwestern Division, 2004).

Direct water quality impacts from the Corps' dam operations have been documented. The majority of the water quality degradation that is a direct result of the Corps' dam operations has occurred and

is occurring in the upper portion of the Missouri River Basin. These direct water quality impacts include the following (Corps, Northwestern Division, 2004):

- Thermal, in the form of cold water, discharges from the dams;
- Sediment erosion and bank cutting below the dam releases;
- Alteration of habitat because of stream channel alterations; and
- Coldwater fish habitat impacts because of reduced lake levels.

Water temperature is an important water quality factor affecting the fishery population in the river segments downstream of the dam. Because the discharges from the Fort Peck Dam are much colder than the historical natural conditions, impairments in the State-designated warmwater fisheries uses downstream have resulted (Corps, Northwestern Division, 2004). A TMDL analysis will be initiated during the 2009-2012 period in the Missouri River segment below Fort Peck to address the impacts of the coldwater discharges on warmwater fisheries, as well as the impacts of lower concentrations of suspended solids (Montana DEQ, 2006). The most recent monitoring results indicate that the water temperature of the discharge from Fort Peck Dam is too cold to support the warm water habitat needs of the endangered pallid sturgeon in the Missouri River downstream of Fort Peck Dam.

In addition to colder temperatures, releases from Corps dams also contain low concentrations of suspended solids, because the sediment entering the reservoir has been deposited upstream of the dam, and therefore sediment deprived water is released and discharged downstream at high velocities. An area directly below the dam is thus scoured out because of these flows and results in erosion of the river.

With significant reductions in both the level and volume of water in the lakes of the Missouri River Mainstem System, particularly during drought conditions, there can be impacts on lake temperature levels and dissolved oxygen concentrations (Corps, Northwestern Division, 2004). Temperature and dissolved oxygen are critical for coldwater fish that can be found occupying the deeper portions of the lakes. The coldwater fish require a habitat characterized by low water temperatures and high dissolved oxygen concentrations (Corps, Northwestern Division, 2004).

The Montana Department of Public Health and Human Services, in conjunction with Montana Fish, Wildlife, and Parks, has issued fish consumption advisories for fish caught in the Fort Peck Lake because of mercury contamination. Specific limitations per month have been set for the following species: Chinook salmon, walleye, northern pike, and lake trout (Montana Department of Public Health and Human Services, 2005).

Water quality conditions were monitored in Fort Peck Lake from May through September during the 5-year period 2002 through 2006 (Corps, Omaha District, 2007a). These monitoring results indicated no significant water quality concerns. On a few occasions measured dissolved oxygen concentrations were below the state water quality standards criterion of 5 mg/l. The measured low dissolved oxygen concentrations occurred in the hypolimnion near the reservoir bottom during the later part of the summer thermal stratification period.

a. Results of the 2004-2006 Water Quality Survey. The water quality monitoring of the Fort Peck Lake conducted during 2004-2006 indicated overall good water quality in the reservoir

and no major water quality concerns were found with respect to exceeding State water quality standards (Corps, Omaha District, 2007b). Dissolved oxygen levels within the reservoir, however, slightly exceeded State standards. The water quality conditions of the inflows to the Fort Peck Lake also did not indicate any major water quality concerns. However, it was found that all three inflow sites showed very high levels of total iron and manganese, but these elevated levels are believed to be a natural condition associated with the geology and soils of the region (Corps, Omaha District, 2007b). Water discharged through the Fort Peck Dam exhibited good water quality during the monitored years. Water temperatures have been monitored in the Missouri River downstream of Fort Peck Dam over the past several years as part of a larger effort to study the federally endangered pallid sturgeon population in the Missouri and Yellowstone Rivers. A late spring/early summer water temperature of 18° C or more in the Missouri River at Frazier Rapids, approximately 25 miles downstream of the Fort Peck Dam, is critical for pallid sturgeon spawning and recruitment within that reach of the river (Corps, Omaha District, 2007b). The temperature of the discharged water was found to be below the pallid sturgeon requirement: the temperature of the water discharge in late spring/early summer stayed below 14° C, and water temperatures only rose to near 18° C during the late summer/early fall (Corps, Omaha District, 2007b).

b. Cabin Sites and Water Quality Issues. The cabin areas around Fort Peck Lake contribute to water quality issues because of their reliance on septic systems. At the Fort Peck Lake cabin area, nearly all of the lessees have a septic system in place; however, many are older systems that may not satisfy current Valley County or State of Montana Water Quality Standards (Corps, Omaha District, 2004). Many lessees have worked with Valley County and the Fort Peck project office to provide for the installation of permitted systems; however, only 31 percent of the lessees in the Fort Peck cabin area have proof of the adequacy of their systems or are in the process of obtaining such documentation (Corps, Omaha District, 2004).

At the Rock Creek cabin area, a visual inspection indicated that most lessees have septic systems in place to manage wastewater, but the status and design of the system in use was difficult to determine. A small number of the lessees were found to have no system in place or had only gray water discharges (Corps, Omaha District, 2004). Most of the cabins at Rock Creek have sufficient space and adequate soils for the use of septic systems. Because of the drought, some water supply wells in the Rock Creek cabin area are dry and residents have been hauling drinking water to the cabins.

Within the Hell Creek area, lessees will most likely be unable to install new approved septic systems that meet Montana standards because the Hell Creek cabin site is located on a steep grade, and lot size and slope limitations exclude the use of septic systems (Corps, Omaha District, 2004). Currently only 18 percent of the cabin sites at Hell Creek have county approved sanitation systems.

The cabin sites at The Pines employ a variety of wastewater management systems. Twenty-one percent of the lessees have obtained permits from Valley County for the installation of approved septic systems, although others are assumed to rely on older septic systems, and 16 percent of the lessees are thought to utilize only gray water systems (Corps, Omaha District, 2004). No potable water source currently exists at The Pines. Some cabins have cisterns and haul water.

The Corps is in the process of selling the cabin sites to cabin owners. The sales process will include inspections for compliance with septic standards. See additional information on cabin sales in Chapter 3.

MANAGEMENT MEASURES TO PRESERVE COLD WATER HABITAT

The Fort Peck Lake maintains a "two-story" fishery that is comprised of both warmwater and coldwater species (Corps, Omaha District, 2006). The "two-story" fishery is possible because of the reservoir's thermal stratification in the summer, which results in a colder bottom region and a warmer surface region. The coldwater species present in the Fort Peck Lake are Chinook salmon, which are maintained through regular stocking, lake trout, and cisco (Corps, Omaha District, 2006). Since these cold water species currently exist in For Peck Lake, it is believed that a cold water fishery is an "existing use" of the lake pursuant to the anti-degradation policy of the State of Montana's water quality standards and the Federal Clean Water Act. At the present time, the State water quality standards do not designate a cold water fishery use to Fort Peck Lake. However, until deemed otherwise, a cold water fishery use is considered an existing use of Fort Peck Lake, and as such, water quality in the lake is required to be managed to protect a cold water fishery use.

Coldwater habitat is defined by Montana Water Quality Standards as water having a temperature less than or equal to 19.4° C and a dissolved oxygen concentration greater than or equal to 5.0 mg/l. The occurrence of coldwater habitat in Fort Peck Lake is dependent upon the annual thermal regime of the reservoir. It is also determined by the interaction of water temperature and dissolved oxygen concentrations as they vary with reservoir depth (Corps, Omaha District, 2007b). Early in the winter ice-cover period, the entire reservoir will be supportive of coldwater habitat, however, as the ice-cover period continues, lower dissolved oxygen concentrations can occur near the bottom of the reservoir as organic matter decomposes and the waters of the reservoir are prevented from mixing because of the ice cover. As the dissolved oxygen concentrations near the bottom fall to below the threshold value of 5 mg/l, coldwater habitat will no longer be supported (Corps, Omaha District, 2007b). During the spring, when the water temperature reaches a more stable point, both water temperature and dissolved oxygen levels in the entire reservoir will again be supportive of coldwater habitat. As the summer season begins, the reservoir will begin to warm, and the coldwater habitat will progressively decrease. During mid-summer, coldwater habitat is only supported in the bottom zone of more dense, colder water that is relatively inactive (Corps, Omaha District, 2007b). The most critical period for the support of coldwater habitat in the reservoir occurs as it begins to cool in late summer, as the volume of the bottom coldwater zone decreases along with a decrease in dissolved oxygen levels and the upper, less dense water levels are not yet cold enough to support coldwater habitat. With the arrival of fall, the upper levels of the reservoir cool and the dissolved oxygen levels increase to be supportive of coldwater habitat.

During the 3-year period between 2004 and 2006, coldwater habitat ranged from the entire reservoir volume, greater than 9 MAF, to 2.7 MAF on the low end (Corps, Omaha District, 2007b).

The ongoing drought conditions in the western United States have reduced the amount of coldwater habitat available in the Fort Peck Lake. When there are lower water levels, the amount of coldwater habitat available at lower reservoir depths during summer stratification is reduced, and there can also be a decreased amount of dissolved oxygen present at lower depths as organic matter is decomposed. The combination of these two factors, reduced volumes of colder water and lower dissolved oxygen levels, can result in a limitation in the overall coldwater habitat available (Corps, Omaha District, 2007b).

Because of the low water levels in the reservoir, management measures to preserve cold water habitat are currently limited. The intake structure for Fort Peck Lake is on the bottom of the lake and therefore limits withdrawal options that may reduce impacts to cold water habitat. Please refer

to High Low Pool section of Chapter 3 for further information regarding management actions regarding water levels.

VEGETATION ASSOCIATIONS

REGIONAL VEGETATION ASSOCIATIONS AT FORT PECK

The native vegetation around the Fort Peck project consists primarily of short grasses, pine, juniper, and sagebrush. Most of the immediate vicinity of the lake is occupied by plant communities whose extent is controlled more by local characteristics of topography and soils than by the regional climate. Tree cover is variable. Although the Big Dry Creek Arm of the reservoir is practically void of trees, other areas support tree cover ranging from sparsely scattered in the Hell Creek region to moderately dense in the upper reaches of the reservoir near the James Kipp Recreation Area. The area downstream from the dam has some large plains cottonwoods (*Populus deltoides*). In general, trees flourish in such areas as protected ravines and tributary valleys where natural moisture is more available.

With a few exceptions, such as rabbitbrush (*Chrysothamnus nauseosus*), sagebrush (*Artemisia sp*.), and greasewood (*Sarcobatus vermiculatus*), shrubs are found on sites with above-average available soil moisture and low or normal soil salt levels. Because soils derived from the Bearpaw Shale Formation are characterized by low permeability, high water retention, and elevated soluble salt contents; the shrub component of the vegetation is limited to a few species. Good shrub stands are more often found in the Hell Creek, Fort Union, Fox Hills, and Judith River Formations. Shrubs are most common in draws and on uplands overlying fractured substrata. The rugged nature of the land adjacent to the reservoir is not suited for intensive agricultural development; however, livestock grazing and haying are practiced.

The short-grass prairie community around the project area is intermixed with sagebrush and has occasional intermittent streams traversing the landscape. In the areas where grassland predominates, the key species are perennial grasses such as bluebunch wheatgrass (*Pseudoroegneria spicata*), western wheatgrass (*Pascopyrum smithii*), and green needlegrass (*Nassella viridula*). The CMR is one of the few remaining areas in the U.S. with very large, intact blocks of short-grass prairie habitat.

Five major vegetative associations are located on project lands:

- Sagebrush-greasewood-grassland,
- Ponderosa pine-juniper,
- Deciduous shrub, grassland,
- Riparian-deciduous river bottoms, and
- Wetlands.

The general location of the vegetative associations is shown in Plate 2. Wetland areas are not shown on the map because of their dispersed locations.

a. Sagebrush-Greasewood-Grassland. On the loose shale of steep slopes in the project area, there is a longleaf sagebrush-dominated community. Species such as sand reedgrass (*Calamagrotis sp.*), greasewood, Rocky Mountain juniper (*Juniperus scopulorum*), skunkbush sumac, prairie rose (*Rosa arkansana*), goldenrod (*Solidago rigida*), and desert wirelettuce (*Stephanomeria runcinata*) also are present. The sagebrush communities are found primarily in the areas downstream from the dam, north of Duck Creek Bay, and in the southern portion of the reservoir from the area around the southern half of the Big Dry Creek Arm to Hell Creek. The greasewood communities are located in the central portion of the project area on very clayey soils that have become saline or alkaline. The vegetation in this area is sparse and is dominated by greasewood with varying quantities of western wheatgrass, big sagebrush (Artemisia tridentate), fanweed (*Thlaspi arvense*), spindle plantain (*Plantago sp.*), wild onion (*Allium textile*), and cocklebur (*Xanthium italicum*). Scattered throughout the project area are grasslands comprised of western wheatgrass, needle-and-thread (*Stipa comata*), green needlegrass, bluegrama (*Bouteloua gracilis*), Junegrass (*Koeleria macrantha*), Sandberg bluegrass (*Poa secunda*), plains muhly (*Muhlenbergia cuspidate*), and bluebunch wheatgrass.

b. Ponderosa Pine-Juniper. This vegetative type is somewhat confined to steep south- and southeast-facing slopes but is also found on gentle north- and northeast-facing slopes. Within this vegetative type, four coniferous species are indigenous to the Fort Peck project. These species are ponderosa pine (*Pinus ponderosa*), limber pine (*Pinus flexilis*), Douglas fir (*Pseudotsuga menziesii*), and Rocky Mountain juniper and are found on some of the poorer soils in the area.

Ponderosa pine is primarily found in the western portion of the project area, from the area around Seven Blackfoot Creek to the downstream end of the project. However, there is a small ponderosa pine community southwest of Duck Creek Bay on Fourth, Fifth, and Sixth Ridges. The Pines Recreation Area is unique as a pine forested area and was noted by the Lewis and Clark Expedition on its westbound journey on May 11, 1805. "Saw today some high hills on the Stard. Whose summits were covered with pine" (M. Lewis in Moulton, 1987). Ponderosa pine offers the greatest potential for establishment of new forest habitat. It is the most abundant, fastest growing, and best adapted coniferous species. However, it is difficult to establish except in areas known to have supported conifers in the past because of the extensive competition with the native grasses for available soil moisture.

Limber pine is found principally on sandstone-derived soils in the Gilbert Creek Bay vicinity. There is no evidence that a viable population can be maintained on project lands except as a pre-climax species in the Gilbert Creek Bay vicinity. Limber pine species are usually found at elevations of 4000 to 10,000 feet, however, in the Fort Peck project area, these species are unique in that they are found at elevations as low as 2250 feet msl.

Other species of importance within the pine vegetative type include skunkbush sumac and common snowberry (*Symphoricarpos albus*) with occasional stands of chokecherry (*Prunus virginiana*) and greasewood. Herbaceous species include bluebunch wheatgrass, ticklegrass (*Agrostis scabra*), yarrow (*Achillea millefolium*), white sage (*Salvia apiana*), prickly pear (*Opuntia macrorhiza*), and goatsbeard (*Tragopogon sp.*).

Douglas fir is most often encountered west of the Musselshell River. Associated with this species is a shrubby undergrowth of Rocky Mountain juniper, chokecherry, wolfberry (*Lycium sp.*), skunkbush sumac, western red currant (*Ribes cereum*), rabbitbrush, and silver sagebrush (*Artemisia*

cana). Herbaceous undergrowth in these stands includes slender wheatgrass (*Elymus trachycaulus*), ticklegrass, bluebunch wheatgrass, little clubmoss (*Selaginella densa*), and yarrow. In general, there is less herbaceous undergrowth in the Douglas fir-dominated stands than in the more open pine-dominated vegetation. There are undoubtedly many sites that Douglas fir could occupy farther east; however, sites suitable for this species in the more recently glaciated eastern areas are usually separated by sizable areas unsuitable for the species. These barriers may limit the distribution of Douglas fir on project lands.

c. Deciduous Shrub-Grassland. This community is found primarily in areas having above average available soil moisture and low or normal soil salt levels. Species of this type comprise only 1.8 percent of the land base and are located primarily in the extreme eastern portion of the project area around the Big Dry Creek Arm of Fort Peck Lake and east of the Timber Creek drainage. The species include shrub communities of high importance to wildlife, especially sharp-tailed grouse. In areas where grassland predominates, the key species are perennial grasses such as bluebunch wheatgrass, western wheatgrass, and green needlegrass. Prairie forbs include sagewort (*Artemisia frigida*), wild licorice (*Glycerrhiza lepidota*), sunflower (Helianthus sp.), dandelion, yellow sweetclover (*Melilotus officinalis*), vetch (*Vicia sp.*), phlox (*Phlox sp.*), and prairie thermopsis (*Thermopsis rhombifolia*), plus many others. Arkansas rose, common snowberry, chokecherry, western serviceberry (*Amelanchier alnifolia*), and buffaloberry (*Shepherdia argentea*) are important shrub components of this vegetative type.

d. Riparian-Deciduous River Bottoms. This community is comprised of several woody plant species, including plains cottonwood (*Populus deltoids*) with peach-leaf willow (*Salix amygdaloides*), green ash (*Chrysothamnus nauseosus*), boxelder (Acer negundo) as less common associates (Scott and Auble, 2002). Understory shrubs include yellow willow (Salix lutea), sand-bar willow (*Salix exigua*), western snowberry (*Symphoricarpos occidentalis*), Wood's rose (*Rosa wodsii*), silver sagebrush (*Artemesia cana*), common chokecherry (*Prunus virginiana*), and rarely red osier dogwood (*Cornus stolonifera*). There are also several small stands of quaking aspen in some riparian areas. The riparian community provides one of the most important and productive wildlife habitats. The majority of the riparian areas are located at the upstream end of the project near James Kipp Recreation Area and at the confluence of Fort Peck Lake with both Siparyann Creek and Rock Creek.

Plains cottonwood was abundant along the river bottoms before inundation by Fort Peck Lake. Most of the cottonwood habitat is now gone, and only a marginal potential exists to reestablish this species. Cottonwood habitat is limited to the old river bottoms, tributaries, and fluvents, particularly the wet phases. This habitat is particularly suitable because cottonwood depends on moisture from ground water to survive. Because water level fluctuations are common in the reservoir, cottonwoods are not colonizing the reservoir's edge to any significant degree.

e. Wetlands. Several different wetlands occur on the Fort Peck project. These include extensive open shallows of the lake, nearly barren beaches and sandbars, small ponds, and periodically flooded riparian areas.

The open shallows of the lake include open water areas that are less than 6 feet deep. These areas are found along the shoreline, especially in embayments, which are silting in, and in the natural river reach of the project between the Musselshell River and James Kipp Recreation Area.

During periods of low water, barren beaches fringe most of the lake. Wetland vegetation becomes naturally established in isolated areas. This vegetation requires an area that provides protection from waves. Established species include willows, cottonwood, and cattail. Areas with wetland vegetation cover include Hell Creek Bay, Gilbert Creek Bay, Musselshell Bay, and numerous small bays and inlets around the lake that are somewhat protected from high winds and excessive wave action.

A number of stock watering reservoirs were constructed in areas within and adjacent to the Fort Peck project during the last 60 years by both the private sector and public agencies. However, many of these small ponds have washed out or are in need of maintenance work. When constructed in areas of suitable soils and upland vegetation types, these reservoir complexes have been productive for waterfowl. Many of the remaining reservoirs continue to provide an important contribution to waterfowl production and associated recreational opportunities.

Periodically flooded riparian lands are located primarily in the upper reaches of the reservoir. These areas receive periods of natural flooding in the spring and all support stands of cottonwood and willow (with an understory of wheatgrass, bluestem, and needlegrass).

FISH AND WILDLIFE

Fish and wildlife resources are key components of management and development considerations at the Fort Peck project. Several groups of fish and wildlife are important for ecological, recreational, economic, cultural, and esthetic reasons.

FISH

The fishery resource at the Fort Peck project includes Fort Peck Lake, the Dredge Cuts, the Missouri River upstream from the lake and downstream from the dam, the Musselshell River, and stocked ponds. Common sport fish include northern pike (*Esox lucius*), walleye (*Stizostedion vitreum*), lake trout (*Salvelinus namaycush*), shovelnose sturgeon (*Scaphirhynchus platorynchus*), sauger (*Stizostedion canadense*), smallmouth bass (*Micropterus dolomieu*), Chinook salmon (*Oncorhynchus tshawytscha*), burbot (*Lota lota*), paddlefish (*Polyodon spathula*), and channel catfish (*Ictalurus* punctatus). The pallid sturgeon (*Scaphirhynchus albus*), a federally listed endangered species, is discussed in Section 2.13, Threatened and Endangered Species.

The MFWP (2002c) estimates that recent fishing use in the Fort Peck Lake is approximately 112,000 angler days per year. The fishery in the Fort Peck project area is diverse with approximately 50 different fish species, most of which are native to the Missouri River. Sixteen species, mostly game fish, have been introduced to develop sport-fishing opportunities. In 1951, walleyes and northern pike were both introduced. Lake trout were later introduced in the mid 1950s. In 1981, smallmouth bass were introduced, followed by Chinook salmon in 1983. Also in the 1980s was the introduction of new species of forage fish, including cisco (*Coregonus artedi*) and spottail shiners (*Notropis hudsonius*).

Fisheries management includes stocking operations from State and Federal hatcheries. Fishery crews have collected approximately 85 million walleye eggs annually (10-year average) in the Big

Dry Arm of the reservoir. These eggs are transferred to the Fort Peck and/or Miles City Hatchery for hatching and rearing. Seventy-five percent of all of the walleye production at these two hatcheries is used to stock Fort Peck Lake. The reservoir does not provide suitable spawning habitat to sustain the population and future maintenance and expansion will depend on stocking. An estimated 2 million walleye fingerlings are released in Fort Peck Lake annually (Wiedenhaft, MFWP, 2007).

During the spring, walleye fishing is usually best in the Big Dry Creek Arm and in the upper reaches of the lake. By summer, walleye are active throughout the lake. Areas in the Big Dry Creek Arm that feature gravel and sand substrates attract walleye. However, because of the lack of suitable substrate, natural spawning success is still very limited.

Walleye tournaments on the reservoir began in 1985, when Walleyes Unlimited of Montana hosted its first Montana walleye tournament on the Big Dry Creek Arm of Fort Peck Lake. The Rock Creek Walleye Tournament is held annually in June. Two other walleye tournaments, the Jordan/Hell Creek Walleye Tournament and the Montana Governor's Cup Walleye Tournament, are now held annually during the month of July.

Most fishing activity for lake trout occurs during spring and fall in the vicinity of Fort Peck Dam. This species has probably benefited most from the abundant cisco population introduced to the lake. After the introduction of cisco, the average weight and overall health of lake trout improved steadily. Fishing for lake trout in shallow areas typically occurs in May and again in October, when upper water temperatures are cool. As spring gives way to summer temperatures, the lake trout move to the deeper areas of the lake. Although lake trout are found extensively throughout the reservoir, the face of the dam, Bear Creek, Haxby Point, and some areas near Duck Creek remain the most popular spots. Lake trout populations are also supplemented by stockings from the Miles City Hatchery. Lake trout are caught in gill nets near the dam, eggs are taken to the hatchery, and the fingerlings are released back into Fort Peck Lake.

Northern pike have had variable success in the Fort Peck Lake since their initial stocking. The northern pike fishery was abundant following rising water levels in the late 1950s and early 1960s that flooded shoreline vegetation. However, in the mid 1960s to the early 2000s, recruitment was variable, often fluctuating with the rise and fall of reservoir levels. These fluctuating water levels have resulted in boom or bust production cycles (MFWP, 2002a). Approximately 250,000 northern pike fingerling are produced at the Fort Peck Hatchery and transported annually to Fort Peck Lake (Wiedenheft, MFWP, 2007).

Chinook salmon do not reproduce naturally in the reservoir and require annual stocking to maintain the population. The average size and the condition of the salmon have improved since the cisco introduction in 1984. The largest salmon, caught off the face of Fort Peck Dam in 1991, weighed 31 pounds 2 ounces, a Montana record.

Sauger abundance seems to have declined in recent years in portions of the mid-Missouri River and adjoining Fort Peck Lake. Sauger were added to Montana's list of Species of Special Concern, as described later in this chapter. The specific cause of the sauger decline is not currently known, however some researchers attribute it to droughts in the late 1980s and early 1990s. Adult sauger are most abundant in the upper Missouri arm of Fort Peck Lake and young-of-year have been captured primarily in this area. Adult and young sauger drift downstream from the Missouri River

above the reservoir, where more suitable riverine-type habitat is available for spawning (MFWP, 2002a).

Successful natural reproduction has made the smallmouth bass the most common game fish observed during fall seining. The average weight of smallmouth bass caught by anglers is two to three pounds; however, the largest smallmouth bass, caught in the reservoir in 2002, weighed 6.66 pounds, a Montana record. Although they occur widely throughout the reservoir, smallmouth bass are most often sought after from the rocks off the face of the dam and in the area between Hell Creek and Fourchette Bay, particularly in the Snow Creek area. In that reach on the south side of the reservoir, sandstone shelves, blocks, and large rubble provide the best habitat for this species. A smallmouth bass tournament is held annually in early June at Hell Creek.

Two paddlefish populations are associated with the Fort Peck project area. The paddlefish located in the Dredge Cuts are part of a population that inhabits Garrison Reservoir and migrates up the Missouri and Yellowstone Rivers to spawn. The second population of paddlefish is located in the far upper, free-flowing reaches of the reservoir. Because these fish feed primarily on zooplankton, standard fishing baits and techniques do not work, and anglers must resort to snagging or archery to take this species. Most of the paddlefish harvest occurs from mid-March to mid-June. The MFWP regulates all fishing on Fort Peck Lake.

MAMMALS

At least 45 mammalian species inhabit the project area. These species range in size from shrews to Rocky Mountain elk.

The primary big game species in the region include mule deer (*Odocoileus hemionus*) (over much of the project area) and some white-tailed deer (*Odocoileus virginianus*) (along the bottomlands adjacent to running streams). Mule deer exceed all other ungulate wildlife in number and distribution. In the Fort Peck area, they are non-migratory, although some local movement does occur with seasonal changes in food and range use habits. The mule deer population is greatest on the more open areas north of the reservoir and also south of the reservoir from the Musselshell River to and including the Big Dry Creek Arm. The deciduous river bottoms of the Missouri and Musselshell Rivers that have not been inundated by Fort Peck Lake are inhabited by white-tailed deer. Small numbers of white-tailed deer also occur along the lake near The Pines and the Fourchette Bay-Telegraph Creek area.

Although Rocky Mountain elk (*Cervus elaphus*) are native to the Fort Peck project area, the last native elk vanished around the turn of the 20th century. In 1951 and 1952, elk from the Yellowstone National Park were released into the Missouri River Breaks area. Good habitat for elk is located throughout the project area, but the highest concentration of elk appears to be in the area south of the reservoir from the Musselshell River to the Fred Robinson Bridge (U.S. Highway 191). Because these animals are highly mobile and readily swim both the river and the reservoir in narrow areas, population numbers are hard to obtain. However, data compiled by the MFWP estimate that the elk population in and around the Missouri River Breaks area totals approximately 4,000. Elk hunting pressure is high throughout the project area, but especially in the southwestern portion of the project between the Musselshell River and U.S. Highway 191. The area is managed for trophy bull elk, and harvest is regulated by special permits. Approximately 12 percent of the hunters holding a rifle permit can take at least a 6-point bull.

Two known populations of bighorn sheep (*Ovis candensis*) are located in the Fort Peck project area north of the reservoir. One herd inhabits the area from UL Bend east to Timber Creek Bay, although its range continues to expand to the east. This herd contains approximately 125 to 150 head. Only five rifle-hunting permits are issued for this area, with the majority of the hunters able to take at least a 3/4-curl ram. A second population of bighorn sheep occupies the area from Bell Bottom, just east of the Fred Robinson Bridge, west to Cow Creek. This herd ranges in size from 100 to 125 head. There are no known populations of bighorn sheep south of the reservoir.

Pronghorns (*Antilocapra americana*) in the project area are located primarily to the south of the reservoir in the areas of sagebrush prairie. However, during severe winter storms, pronghorns move into the Missouri River Breaks for food and shelter. Although no population estimates exist for the entire Fort Peck project area, several thousand pronghorns are known to inhabit the sagebrush prairie area west of the Musselshell River north of the Missouri River Breaks. This particular area experiences considerable hunting pressure.

Common furbearing animals in the Fort Peck project area are the beaver (*Castor canadensis*), mink (*Neovison vison*), muskrat (*Ondatra zibethicus*), badger (*Taxidea taxus*), and striped skunk (*Mephitis mephitis*). Predatory species include the coyote (*Canis latrans*), fox (*Vulpes spp*.), bobcat (*Lynx rufus*), and weasel (*Mustela spp.*). Prairie dogs (*Cynomys spp.*), ground squirrels (*Spermophilus spp.*), porcupine (*Erethizon dorsatum*), jackrabbits (*Lepus sp*p.), and cottontails (*Sylvilagus spp.*) can also be found on project lands.

Black-tailed prairie dogs (*Cynomys ludovicianus*) are fairly common on Fort Peck project lands. Prairie dogs occupy 112 widely scattered towns on these lands, covering about 5,240 acres. These towns appear to be concentrated west of Sutherland Creek on the north side of the reservoir and from UL Bend west on the south side of the reservoir. A large population of prairie dogs is also located in the Nelson Creek area of the Big Dry Creek Arm. Although the prairie dog is no longer found in most of its historic range, it is an integral component of the prairie. Habitat provided by prairie dog towns is critical to the survival and recovery of the endangered black-footed ferret (*Mustela nigripes*). The black-footed ferret, a federally listed endangered species, is further discussed in the Threatened and Endangered Species section of this chapter.

BIRDS

The diverse habitat in the project area attracts a large variety of birds. Over 240 species have been recorded on the CMR, of which 41 percent nest locally, and 15 percent are year-round residents. Upland sandpipers (*Bartramia longicauda*), mountain plovers (*Charadrius montanus*), long-billed curlews (*Numenius americanus*), and burrowing owls (*Athene cunicularia*) are among the more unique birds inhabiting the grassy benchlands; mountain plovers and burrowing owls are commonly associated with prairie dog towns in the area. Cottonwood trees partly inundated by the reservoir support rookeries of double-crested cormorants (*Phalacrocorax auritus*) and great blue herons (*Ardea herodias*), as well as nests of several pairs of osprey (*Pandion haliaetus*). Osprey also use artificial nesting structures erected by the USFWS at Hell Creek, The Pines, and near the dam. Prairie falcons (*Falco mexicanus*) and golden eagles (*Aquila chrysaetos*) are common nesting residents on cliffs of the more rugged and inaccessible portions of the Missouri River Breaks.

The most common upland game bird in the project area is the sharp-tailed grouse (*Tympanuchus phasianellus*). Because these birds must have considerable grass and low brushy cover during the

brooding season, populations are extremely sensitive to grazing by livestock. Sharp-tailed grouse perform elaborate mating displays on communal grounds called leks, returning to the same site each year. These leks are scattered throughout the Fort Peck project area. The Corps has been involved in a cooperative effort with the USFWS to provide opportunities for the public to view these courtship displays at one of the leks.

Sage grouse (*Centrocercus urophasianus*), ring-necked pheasant (*Phasianus colchicus*) and Hungarian partridge (*Perdix perdix*) are found in the area. Wild turkey (*Meleagris gallopavo*) is also present, but its distribution is limited.

The populations of most game birds fluctuate greatly. Distribution, accessibility, and interest are important factors in the harvest and hunting potential. The potential for increased harvests of upland game is high.

Several species of nongame birds use the grasslands and woodlands on project lands as nesting habitats, a food source, or winter cover. Birds considered common in the area and occurring in large numbers during one or more seasons include red-tailed hawks (*Buteo jamaicensis*), northern harriers (*Circus cyaneus*), common nighthawks (*Chordeiles minor*), eastern kingbirds (*Tyrannus tyrannus*), prairie horned larks (*Eremophila alpestris*), bank swallows (*Riparia riparia*), black-billed magpies (*Pica hudsonia*), pinyon jays (*Gymnorhinus cyanocephalus*), mountain bluebirds (*Sialia currucoides*), bohemian waxwings (*Bombycilla garrulus*), and other songbirds.

Fort Peck is in the Central Flyway. Area waterfowl are both migratory and resident. Waterfowl habitat occurs throughout the area. Waterfowl that nest in the project area include Canada geese (*Branta canadensis*), mallards (*Anas platyrhynchos*), northern pintails (*Anas acuta*), gadwalls (*Anas strepera*), green-winged teal (*Anas crecca*), American wigeons (*Anas americana*), ruddy ducks (*Oxyura jamaicensis*), and coots (*Fulica americana*). Several other species, such as the white-fronted goose (*Anser albifrons*), snow goose (*Chen caerulescens*), grebes (*Aechmophorus spp., Podiceps spp., Podilymbus podiceps*), merganser (*Mergus spp., Lophodytes cucullatus*), canvasback (*Aythya valisineria*), scaup (*Aythya affinis*), and other diving ducks, also use this area during their migrations.

The piping plover (*Charadrius melodus*), a federally listed threatened species, and the interior least tern (*Sterna antillarum*), a federally listed endangered species, are addressed in the Threatened and Endangered Species section of Chapter 2.

AMPHIBIANS AND REPTILES

Amphibians and reptiles in the area are somewhat limited in terms of species diversity. During impoundment, they were adversely impacted by the loss of riverine habitat, especially the backwater sloughs and marshes. The only venomous snake in the project area is the prairie rattler (*Crotalus viridis*). Other snakes that occur in the area are the western garter snake (*Thamnophis spp.*), the bull snake (*Pituophis catenifer sayi*), and the western hognose snake (*Heterodon nasicus*). The snapping turtle (*Chelydra serpentina*) and a species of painted turtle (*Chrysemys picta*) also occur in the region, but are not common. Amphibians are uncommon around Fort Peck, but the tiger salamander (*Ambystoma tigrinum*), Great Plains toad (*Bufo cognatus*), leopard frog (*Rana pipiens*), and bullfrog (*Rana catesbeiana*) do occur.

THREATENED AND ENDANGERED SPECIES

FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES

Fish and wildlife species list as either threatened or endangered under the Endangered Species Act (ESA) are listed in Table 2-11. Under the ESA, an "endangered" species is "any species which is in danger of extinction throughout all or a significant portion of its range." A "threatened" species is "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."

Table 2-11. Threatened and Endangered Species in the Fort Peck Project Area

Common Name	*Scientific Name*	*Classification*	*Year Listed*
Black-footed ferret	*Mustela nigripes*	Endangered	1967
Interior least tern	*Sterna antillarum*	Endangered	1985
Pallid sturgeon	*Scaphirhynchus albus*	Endangered	1990
Piping plover	*Charadrius melodus*	Threatened	1985
Whooping crane	*Grus americanus*	Endangered	1967

a. Black-footed Ferret. The black-footed ferret is one of the most endangered mammals in North America. The black-footed ferret was initially protected under the Endangered Species Protection Act in 1967 and later under the Endangered Species Act in 1973 (USFWS, 1998a). Black-footed ferrets once occupied most of Montana's grasslands. It has been calculated that if all suitable habitat had been used, as many as 5.6 million black-footed ferrets may have existed in the Great Plains in the late 1800s (USFWS, 1995). Black-footed ferret populations declined drastically in the 1900s, primarily because of the eradication of prairie dogs – their main source of food. The decrease of prairie dog numbers are a result of habitat loss, disease, and purposeful elimination because of grazing conflicts with livestock and feeding on winter wheat crops. Black-footed ferrets also rely on prairie dogs for protection and cover, as they use prairie dog burrows as shelter. Current threats to black-footed ferrets also include disease; predation by golden eagles, great-horned owls, and coyotes; and road kills and trappings.

Breeding takes place from March to May. Young ferrets leave the family group around September. Juvenile males suffer high mortality, a result of their dispersing to new areas (USFWS, 1995). Life expectancies for wild black-footed ferrets are probably less than 5 years. Black-footed ferrets are primarily nocturnal and do not hibernate, but remain active in the winter (USDA/NRCS, 2005).

Black-footed ferrets are totally dependent on prairie dogs for both habitat and prey. Black-footed ferrets live in the burrow systems prairie dogs create. The last known wild population of black-footed ferrets was found at Meeteetse, Wyoming in 1981. This population contained an estimated 126 individuals in 1984, but subsequently crashed because of disease. The remaining 18 individuals were captured and put into a captive breeding facility in 1987. As part of the recovery plan, black-footed ferrets were first released at the CMR in 1994.

A total of 229 black-footed ferrets have been released on the CMR between 1994 and 2005. A minimum of 224 wildborn kits have also been observed, but the spring 2007 population totaled only 9 individuals, 4 males and 5 females. Sylvatic plague, an exotic disease that is fatal to both black-footed ferrets and prairie dogs, was widespread on CMR during 2007 and eliminated nearly 60 percent of the prairie dogs in the Phillips County portion of CMR where ferret recovery has been focused. Despite intensive efforts over the last 14 years, this population of black-footed ferrets is not expected to persist (USFWS, 2007).

b. Interior Least Tern. Least terns are colonial water birds that occupy coastal beaches and river sandbars for nesting and chick rearing. They arrive at breeding sites from late April to early June, where they typically spend four to five months. Pairs go through elaborate courtships that include a variety of postures and vocalizations, as well as courtship feedings. Least terns nest in small colonies on exposed salt flats, river sandbars, or reservoir beaches. Nests consist of eggs being laid in small scrapes in the sand. Clutch size is typically two to three eggs, which hatch after 18 to 20 days of incubation. Both parents feed the young and remain with them until fall migration. Least terns often travel four or more miles from their breeding colonies to feed on fish. The interior population of the least tern uses several major river systems of the United States including the Rio Grande, Mississippi, Red, Arkansas, Missouri and Ohio Rivers and their tributaries during the breeding season. The stabilization of these river systems for navigation, flood control, hydropower generation, and irrigation has led to a loss of much of the sandbar habitat the species requires and led to the degradation of the remaining habitat. Consequently, in 1985, the interior population of the least tern was listed as endangered by the USFWS.

The interior least tern is a resident of the project area during its nesting season from early May to August. The least tern was first documented at Fort Peck Lake in 1987. The most successful breeding year for least terns at Fort Peck was 1994 (MFWP, 2007a). There have been few nesting attempts in recent years. Nesting success is summarized in Table 2-12. Fort Peck Lake is on the edge of the range of least terns (Corps, Northwest Division, 2007d).

Table 2-12. Least Tern Nesting at Fort Peck

Year	*Number of Nests*	*Successful Nests*[1]
1994	8	3
2004	0	0
2005	0	0
2006	2	1
2007	2	1

[1] Number of nests producing fledgling(s).

c. Pallid Sturgeon. The pallid sturgeon, other sturgeon species, and the paddlefish are the only living descendants of an ancient group of Paleozoic fishes. These species are adapted to large, turbid, warm-water rivers. Within the Missouri River basin, very few wild pallid sturgeons exist; and exact numbers are not known (Jordan, 2006). Pallid sturgeons can be found in the upper reaches of Fort Peck Lake and in the 250 miles of river between the lake and Canyon Ferry Dam near Helena, Montana. They have also been found in the Dredge Cuts downstream of the dam.

The pallid sturgeon was listed as endangered in 1990, primarily because of habitat loss. Approximately 28 percent of the pallid sturgeon's riverine habitat has been impounded, which has created unsuitable lake-like habitat; 51 percent has been channelized into deep, uniform channels; the remaining 21 percent is downstream of dams, which have altered the river's hydrograph, temperature and turbidity. Other threats to the pallid sturgeon include fishing and environmental contaminants (USFWS, 1998b).

Pallid sturgeons feed on small fishes, mollusks, and aquatic insects. Their exact requirements for spawning are not yet known, however, it is believed that spawning occurs over gravelly or other hard surfaces in the months of May or June (USFWS, 1995).

The pallid sturgeon's habitat requirements are still being investigated; however, some evidence can be deduced from areas where most pallid sturgeon (and the shovelnose sturgeon, a closely-related species) have been captured. In Montana, they have been frequently captured in waters with velocities between 1.3 and 2.9 cubic feet per second. In the Missouri River below Fort Peck Dam and the Yellowstone River below Intake Diversion, pallid sturgeon utilize depths between 1.97 and 47.57 feet (Tews and Clancy, 1993). Pallid sturgeons are most often caught over sandy substrates.

The 2003 Amended Biological Opinion proposes recovery strategies for the pallid sturgeon that require a coordinated watershed-level approach, and entails habitat creation and restoration, test rises along the river, and implementation of an aggressive adaptive management and monitoring program (King, 2006). The Corps Omaha District is conducting flow modification studies, temperature data collection, and a multi-level intake structure study. These studies are being conducted to determine what can be down in terms of management of flows from Fort Peck to stimulate sturgeon spawning. The Corps is also funding MFWP to conduct larval drift studies and other research.

d. Piping Plover. The piping plover is a small shorebird that favors coastal beaches, alkali wetlands, lakeshores, reservoir beaches and river sandbars for nesting and chick rearing. The Northern Great Plains population ranges across three Canadian provinces and eight American states. The 2006 International Piping Plover Adult Census found about 4,700 adult plovers in the Northern Great Plains (USGS, 2006).

The western-most breeding piping plovers in the U.S. are found in Montana on sand flats above the west end of the Fort Peck Dam (Valley County), on the shorelines of the Big Dry Arm of Fort Peck Lake (Garfield and McCone counties), and on the saline wetlands near Dagmar and Medicine Lake National Wildlife Refuge (Sheridan County) (USDA, 2005). The piping plover is a resident of the Fort Peck project area during its nesting season from mid-April to early August. Plovers have been known to nest on flat gravel beaches of the lakeshore and islands that are exposed during periods of low lake levels. They have also nested on gravel parking lots around Fort Peck Lake.

Clutch size for piping plovers is normally four eggs, which hatch after a 27- to 31-day incubation period. Adult pairs will typically raise a single brood of chicks during the nesting season. Piping plovers feed primarily on insects and aquatic invertebrates, and soon after hatching the chicks begin foraging for themselves. After fledging (20 to 25 days after hatching), juveniles may remain in the nesting area around Fort Peck Lake for a time but begin their migration to the wintering grounds from early July to mid-August. The wintering grounds include the coastal areas bordering the South Atlantic States, the Gulf Coast, Caribbean islands, and the Bahamas.

During the twentieth century, piping plover habitat was lost through dam construction, river channelization, river flow modification, and loss of wetlands. The resulting decrease in the number of piping plovers led the USFWS in 1985 to list the Northern Great Plains population as threatened.

Piping plovers have nested at Fort Peck in recent years (Corps, Northwest Division, 2007d). Nesting success is summarized in Table 2-13.

Table 2-13. Piping Plover Nesting Success at Fort Peck

Year	*Number of Plovers*	*Number of Nests*	*Nesting Success*[1]
2004	9	4	4
2005	26	11	7
2006	20	7	6
2007	16	8	6

[1] Number of nests producing fledgling(s).

The USFWS designated critical habitat for the Northern Great Plains population of the piping plover, including the Missouri River, in September 2002. This designation includes 183,422 acres of habitat and 1,207.5 river miles in Minnesota, Montana, North Dakota, South Dakota, and Nebraska. Designated areas of critical habitat include prairie alkali wetlands and surrounding shoreline; river channels and associated sandbars and islands; and reservoirs and inland lakes and their sparsely vegetated shorelines, peninsulas, and islands. These areas provide primary courtship, nesting, foraging, sheltering, brood-rearing and dispersal habitat for piping plovers. At Fort Peck, the critical habitat includes Fort Peck Lake adjacent to the dam and extending west and south toward Fort Peck West and most of the Big Dry Arm.

e. Whooping Crane. The whooping crane (*Grus americanus*) is the tallest North American bird, with males reaching 1.5 meters in height. They are omnivorous, feeding on insects, frogs, rodents, small birds, minnows, and berries in the summer; blue crabs and clams in the winter; and occasionally foraging for acorns, snails, crayfish and insects in upland areas.

Whooping cranes are monogamous and form life-long pair bonds. They build nests out of bulrush and lay one to three eggs between late April and early May. The incubation period is typically between 29 and 31 days. Whooping crane pairs share the incubation and brood-rearing duties. Fall migration starts in mid-September, and most birds arrive on the wintering grounds of Aransas National Wildlife Refuge on the Texas Gulf Coast by late-October to mid-November. Whooping cranes migrate singly, in pairs, in family groups or in small flocks, and are sometimes accompanied by sandhill cranes (USFWS, 2005a).

The whooping cranes habitat requirements include lake margins or vegetated marshes and meadows. The water in these wetlands is anywhere from 8 to 18 inches deep. Whooping cranes prefer sites with minimal human disturbance; in fact a human on foot can quickly cause a crane to fly at distances of over a quarter mile. Wetlands provide the whooping crane with protection from terrestrial predators (USFWS, 2005a).

The whooping crane was listed as endangered in 1967 under a precursor to the Endangered Species Act of 1973. Shooting and the loss of large expanses of wetlands were the major factors causing their substantial decrease in numbers. Other threats include potential hurricanes or contaminant

spills affecting their wintering habitat on the Texas coast, collisions with power lines and fences, and disease such as avian tuberculosis, avian cholera, and lead poisoning.

Whooping cranes migrating between Canada and Texas frequently stop in northeastern Montana. In 1994 two whooping cranes were seen near Fort Peck and one in Sheridan County.

SPECIES OF CONCERN

Species of Concern is an informal term, not defined in the Federal Endangered Species Act. The term commonly refers to species that are declining or appear to be in need of concentrated conservation actions. The term encompasses species that have a special designation by organizations or land management agencies in Montana, including: Bureau of Land Management Special Status and Watch species; U.S. Forest Service Sensitive and Watch species; and USFWS Threatened, Endangered and Candidate species. Montana utilizes a standardized ranking system to denote global (G - range-wide) and State status (S) (see Table 2-14). Species are assigned numeric ranks ranging from 1 (critically imperiled) to 5 (demonstrably secure), showing the degree to which they are "at-risk". A number of factors are considered in assigning ranks - the number, size and distribution of known "occurrences" or populations, population trends, habitat sensitivity, and threat. Table 2-15 lists all species of concern that have been recorded to occur within one of the six counties bordering the Fort Peck project area (Garfield, Fergus, McCone, Petroleum, Phillips, and Valley).

Table 2-14. Montana Natural Heritage Program State and Global Ranks

State Ran	***Description***
G1 S1	At high risk because of extremely limited and potentially declining numbers, extent and/or habitat, making it highly vulnerable to global extinction or extirpation in the state.
G2 S2	At risk because of very limited and potentially declining numbers, extent and/or habitat, making it vulnerable to global extinction or extirpation in the state.
G3 S3	Potentially at risk because of limited and potentially declining numbers, extent and/or habitat, even though it may be abundant in some areas.
G4 S4	Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern.
G5 S5	Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable in most of its range.

Source: Montana Natural Heritage Program, 2007.

Table 2-15. Species of Concern in Garfield, Fergus, McCone, Petroleum, Phillips, and Valley Counties, Montana

Common Name	*Scientific Name*	*Global Rank*	*State Rank*
Birds			
American white pelican	*Pelecanus erythrorhynchos*	G3	S3B[1]
Baird's sparrow	*Ammodramus bairdii*	G4	S2B
Bald eagle	*Haliaeetus leucocephalus*	G5	S3
Black tern	*Chlidonias niger*	G4	S3B
Black-crowned night-heron	*Nycticorax nycticorax*	G5	S3B
Bobolink	*Dolichonyx oryzivorus*	G5	S2B
Brewer's sparrow	*Spizella breweri*	G5	S2B
Burrowing owl	*Athene cunicularia*	G4	S2B
Caspian tern	*Hydroprogne caspia*	G5	S2B
Chestnut-collared longspur	*Calcarius ornatus*	G5	S3B
Common tern	*Sterna hirundo*	G5	S3B
Eastern bluebird	*Sialia sialis*	G5	S2B
Ferruginous hawk	*Buteo regalis*	G4	S2B
Flammulated owl	*Otus flammeolus*	G4	S3B
Forster's tern	*Sterna forsteri*	G5	S2B
Grasshopper sparrow	*Ammodramus savannarum*	G5	S3B
Greater sage grouse	*Centrocercus urophasianus*	G4	S3
Interior least tern	*Sternula antillarum athalassos*	G4T2Q[2]	S1B
Lark bunting	*Calamospiza melanocorys*	G5	S3B
Loggerhead shrike	*Lanius ludovicianus*	G4	S3B
Long-billed curlew	*Numenius americanus*	G5	S2B
McCown's longspur	*Calcarius mccownii*	G4	S2B
Mountain plover	*Charadrius montanus*	G2	S2B
Northern goshawk	*Accipiter gentilis*	G5	S3
Piping plover	*Charadrius melodus*	G3	S2B
Red-headed woodpecker	*Melanerpes erythrocephalus*	G5	S3B
Sage thrasher	*Oreoscoptes montanus*	G5	S3B
Sprague's pipit	*Anthus spragueii*	G4	S2B

Common Name	*Scientific Name*	*Global Rank*	*State Rank*
Swainson's hawk	*Buteo swainsoni*	G5	S3B
White-faced ibis	*Plegadis chihi*	G5	S1B
Fish			
Blue sucker	*Cycleptus elongatus*	G3G4	S2S3
Northern redbelly X Finescale Dace	*Phoxinus eos x phoxinus neogaeus*	GNA[3]	S3
Paddlefish	*Polyodon spathula*	G4	S1S2
Pallid sturgeon	*Scaphirhynchus albus*	G1	S1
Pearl dace	*Margariscus margarita*	G5	S2
Sauger	*Sander canadensis*	G5	S2
Sicklefin chub	*Macrhybopsis meeki*	G3	S1
Shortnose gar	*Lepisosteus platostomus*	G5	S1
Sturgeon chub	*Macrhybopsis gelida*	G3	S2
Westslope cutthroat trout	*Oncorhynchus clarkii lewisi*	G4T3[2]	S2
Mammal			
Black-footed ferret	*Mustela nigripes*	G1	S1
Black-tailed prairie dog	*Cynomys ludovicianus*	G4	S3
Dwarf shrew	*Sorex nanus*	G4	S2S3
Fringed myotis	*Myotis thysanodes*	G4G5	S3
Merriam's shrew	*Sorex merriami*	G5	S3
Preble's shrew	*Sorex preblei*	G4	S3
Swift fox	*Vulpes velox*	G3	S3
Townsend's big-eared bat	*Corynorhinus townsendii*	G4	S2
Amphibian			
Northern leopard frog	*Rana pipiens*	G5	S1S3
Reptile			
Milksnake	*Lampropeltis triangulum*	G5	S2
Snapping turtle	*Chelydra serpentina*	G5	S3
Spiny softshell	*Apalone spinifera*	G5	S3
Western hog-nosed snake	*Heterodon nasicus*	G5	S2
Invertebrates			
Berry's mountainsnail	*Oreohelix strigosa berryi*	G5T2[2]	S1S2
Eastern ringtail	*Erpetogomphus designatus*	G5	S1

Common Name	*Scientific Name*	*Global Rank*	*State Rank*
Vascular Plants			
Bractless mentzelia	*Mentzelia nuda*	G5	S1
Chaffweed	*Centunculus minimus*	G5	S2
Double bladderpod	*Physaria brassicoides*	G5	S2
Dwarf woolly-heads	*Psilocarphus brevissimus*	G4	S1
Entire-leaved avens	*Dryas integrifolia*	G5	S1
Few-flowered goldenrod	*Solidago sparsiflora*	G5?	S1
Geyer's milkvetch	*Astragalus geyeri*	G4	S2
Hot spring phacelia	*Phacelia thermalis*	G3G4	S1
Long-sheath waterweed	*Elodea bifoliata*	G4G5	S1
Little Indian breadroot	*Psoralea hypogaea*	G5T4[2]	S2S3
Long-styled thistle	*Cirsium longistylum*	G3	S3
Northern rattlesnake-plantain	*Goodyera repens*	G5	S2S3
Persistent-sepal yellow-cress	*Rorippa calycina*	G3	S1
Poison suckleya	*Suckleya suckleyana*	G5	S1
Roundleaf water-hyssop	*Bacopa rotundifolia*	G5	S1
Sand cherry	*Prunus pumila*	G5	S1
Scarlet ammannia	*Ammannia robusta*	G5	SH
Showy prairie-gentian	*Eustoma grandiflorum*	G5	S1
Slender bulrush	*Scirpus heterochaetus*	G5	S1
Slender-branched popcorn-flower	*Plagiobothrys leptocladus*	G4	S1
Square-stem monkeyflower	*Mimulus ringens*	G5	S1

[1]B = Breeding population in Montana

[2]T = Status of Intraspecific taxa are indicated by a T-rank; Q = Questionable taxonomy that may reduce conservation priority

[3]GNA = Status not available

TERRESTRIAL INVASIVE SPECIES/AQUATIC NUISANCE SPECIES

INVASIVE PLANTS

The terms “invasive plant” and “noxious weed” are often used interchangeably to describe the undesirability and propagation of a given plant; however, in this document, the two terms will be used independently of each other to describe plants. “Invasive plants” will be defined as those that grow and spread rapidly resulting in the replacement of desirable native plants. “Noxious weeds” are undesirable plants that grow or spread very aggressively. The term “noxious” has legal implications in states that have noxious weed regulations.

"Native plants" are plants that have evolved over thousands of years and have adapted to a region's climate, geology, and topography. Native plants in the United States are defined as those occurring prior to European settlement. Weedy plants are native to other regions, however, when brought to America (accidentally or purposefully), without natural enemies some non-native plants become invasive by out-competing native plants. This reduces the diversity and quantity of native plants.

NOXIOUS WEEDS

In the United States, the legislation that defines a noxious weed is the Federal Noxious Weed Act, 1974 (7 U.S.C. Parts 2801-2814). It defines a noxious weed as "any living stage (including seeds and reproductive parts) of a parasitic or other plant of a kind which is of foreign origin, is new to or not widely prevalent in the U.S., and can directly or indirectly injure crops, other useful plants, livestock, poultry or other interests of agriculture, including irrigation, navigation, fish and wildlife resources, or the public health."

The Federal Noxious Weed Act further differentiates between a noxious weed and an "undesirable plant" as a "species classified as undesirable, noxious, harmful, exotic, injurious, or poisonous under State or Federal law, but not including species listed as endangered by the Endangered Species Act, or species indigenous to the area where control measures are to be taken."

Under the Federal Noxious Weed Act, the Federal Government has the authority to prohibit the importation and interstate transportation and sale of species that have been deemed noxious through actions such as inspection and quarantine. The government is allowed to seize, treat, destroy and dispose of items that have been contaminated with a noxious weed.

This Act does not invalidate any State or local laws regulating noxious weeds. States are encouraged to have parallel legislation and to add species that may only be noxious within their areas. Most states have parallel legislation as a part of their agricultural regulation, and many defer to the Federal list and regulatory language. The Federal Noxious Weed Act also allows Federal agencies to cooperate with State agencies to control the spread of noxious weeds.

The Montana Department of Agriculture along with other agencies and associations have created a State Noxious Weed Plan for Montana. The purpose of the Weed Plan is to sustain native vegetation although preventing further spread of noxious weeds. Montana State-listed noxious weeds are listed in Table 2-16.

Table 2-16. Montana State-listed Noxious Weeds

State-listed Noxious Weeds	***State-listed Noxious Weeds***
whitetop/hoary cress (*Cardaria draba)*	meadow hawkweed (*Hieracium pretense)*
Cardaria complex (*Cardaria spp.)*	St. Johnswort (*Hypericum perforatum)*
diffuse knapweed (*Centaurea diffusa*)	yellowflag iris (*Iris pseudacorus)*
spotted knapweed (*Centaurea maculosa*)	Dyer's woad (*Isatis tinctoria)*
Russian knapweed (*Centaurea repens)*	perennial pepperweed (*Lepidium latifolium)*
yellow starthistle (Centaurea solstitialis)	Dalmatian toadflax (*Linaria dalmatica)**

State-listed Noxious Weeds	***State-listed Noxious Weeds***
rush skeletonweed (*Chondrilla juncea)*	yellow toadflax (*Linaria vulgaris)*
oxeye daisy (*Chrysanthemum leucanthemum*)	purple loosestrife (*Lythrum spp)*
Canada thistle (*Cirsium arvense*)	Eurasian watermilfoil (*Myriophyllum spicatum,*
field bindweed (*Convolvulus arvensis*)	sulfur cinquefoil (*Potentilla recta)*
common crupina (*Crupina vulgaris*)	tall buttercup (*Ranunculus acris)*
houndstongue (*Cynoglossum officinal*e)	tansy ragwort (*Senecio jacobaea)*
leafy spurge (*Euphorbia esula*)	saltcedar (*Tamarix spp.)*
orange hawkweed (*Hieracium aurantiacum*)	common tansy (*Tanacetum vulgare)*
meadow hawkweed (*Hieracium floribundum*)	

The following species are present in one or more of the six counties (Fergus, Garfield, McCone, Petroleum, Phillips, and Valley) that border the Fort Peck project area.

a. Whitetop/Hoary cress *(Cardaria draba).* Whitetop (also known as hoary cress) was introduced to the United States from Europe late in the 19th century. It was first observed near seaports on the east and west coasts, indicating that seed may have been in the soil that was used as ballast for sailing ships.

Whitetop is a deep rooted creeping perennial that grows up to 2 feet tall, reproducing from root segments and seeds. Leaves are blue-green in color with the lower leaves being stalked and the upper leaves having two lobes clasping the stem. Plants have many white flowers with four petals, giving the plant a white, flat-topped appearance. Whitetop is a very aggressive plant that will eventually eliminate desirable vegetation. The plant is common on alkaline and disturbed soils.

Whitetop can be effectively controlled with repeated periodic herbicide applications. One application of any herbicide will not completely eliminate whitetop as is the case with most perennial weeds.

b. Diffuse knapweed *(Centaurea diffusa*). Diffuse knapweed originates from Eurasia, and was introduced into the United States in the early 1900s. It spreads by seed, aided by the tumbling of windblown mature plants.

Diffuse knapweed is an 8 to 40 inch tall, biennial or short-lived perennial species, with a long tap root. It has a single upright stem that produces several spreading branches. The basal leaves are short-stalked and divided into lobes on both sides of the center vein. Diffuse knapweed flowers are usually white (sometimes pink or lavender), and occur in urn-shaped heads that grow in clusters at the ends of the branches.

Diffuse knapweeds are prolific seed producers and are quick to colonize new sites. They tolerate a wide range of conditions and climate and can successfully invade non-disturbed areas. It is believed that non-disturbed, moist areas might be more susceptible to knapweed invasions than non-disturbed dry areas. Hand-pulling and herbicide application are the most effective methods of managing diffuse knapweed.

c. Spotted knapweed *(Centaurea maculosa*). Spotted knapweed was introduced from Eastern Europe into North America in the early 1900s as a contaminant in crop seed. It now infests several million acres of grazing land in the northwestern United States and Canada.

Spotted knapweed is an aggressive, introduced species that rapidly invades pasture, rangeland and fallow land and causes decline in forage and crop production. The plant is a prolific seed producer with 1,000 or more seeds per plant. Seeds remain viable in the soil for five years or more; so infestations may occur a number of years after vegetative plants have been eliminated. Spotted knapweed has few natural enemies and is consumed by livestock only when other vegetation is unavailable. The plant releases a toxin that reduces growth of forage species.

Spotted knapweed infestations in Montana have been found primarily along highways, waterways, railroad tracks and pipelines. It is generally is a short-lived perennial, reproducing solely by seeds. The plant grows 2 to 4 feet tall and bears alternate, pale green leaves, which are 1 to 3 inches long. The upper leaves are linear in shape. Stems are erect and rough, with slender branches. The flowers are pink to light purple and are borne on tips of terminal or axillary stems. Herbicide application and hand-pulling plants are relatively effective methods in controlling spotted knapweed.

d. Russian knapweed *(Centaurea repens).* Russian knapweed was originally introduced to the United States through alfalfa seed brought in from Turkestan near the turn of the 20th century. Once imported, it was spread via domestically produced alfalfa containing Russian knapweed.

Russian knapweed is a bushy, branched perennial that grows to heights of 1 to 2 feet tall and forms clones or colonies from its vigorous, spreading root system. The stems are erect and hairy, and branch from above the middle or not at all. Although young plants may have whitish and woolly stems, older plants will turn dark brown to black. The basal leaves are deeply notched and gray-green in color, although the upper leaves are smaller and linear with broken edges. The flowers are pink to purple and grow in solitary heads at the tips of leafy branches. Herbicide has proven to be an effective method of managing Russian knapweed.

e. Oxeye daisy *(Chrysanthemum leucanthemum).* Oxeye daisy was introduced to the United States from Europe as a contaminant in seed and as an ornamental plant. It quickly escaped cultivation and has since become a common weed throughout most of Montana.

Oxeye daisy is a perennial member of the Asteraceae family, the same family as sunflower. Flowers are 1.5 to 2 inches across, with yellow centers, and 20 to 30 white petals radiating from the center. Stems grow 1 to 3 feet tall and are smooth, frequently grooved and sometimes branch near the top. Leaves progressively decrease in size upward on the stem. Basal and lower leaves are lance-shaped with toothed margins and petioles that may be as long as the leaves. The upper leaves are alternately arranged, narrow and often clasp the stem. Seeds are brown to black in color and have eight to ten white ridges down the side. The plant has branched rhizomes and strong roots.

The greatest impact of oxeye daisy is on forage production of infested pastures and meadows. Cattle avoid oxeye daisy and therefore any pasture infested with dense stands of oxeye daisy will decrease forage available for grazing. Dense stands of oxeye daisy can decrease plant diversity and increase the amount of bare soil in an area. Persistent mowing, chemical applications and grazing

can be effective methods to control oxeye daisy. Integrating various techniques will give the best success of control.

f. Canada thistle *(Cirsium arvense).* Canada thistle originates in the temperate regions of Eurasia and was introduced to the United States in the early 1600s. By 1954, it had been declared a noxious weed in 43 states.

Canada thistle is a herbaceous perennial. It has 1.5 to 4 foot tall stems, prickly leaves, and an extensive creeping rootstock. The stems are branched, slightly hairy, and ridged. Leaves are lance-shaped and irregularly lobed with spiny, toothed margins. The flowers are purple, lavender, or white and occur in rounded, umbrella-shaped clusters. Canada thistle has a fibrous taproot capable of sending out lateral roots as deep as 3 feet below ground, and from which shoots sprout up at frequent intervals.

As Canada thistle establishes itself in an area, it crowds out and replaces native plants by shading, competing for soil resources, and possibly releasing chemical toxins poisonous to other plants. Inevitably, this changes the structure and species composition of native plant communities, and reduces plant and animal diversity.

Management of Canada thistle can be achieved through hand cutting, mowing, controlled burning, and chemical means, depending on the level of infestation and the type of area being managed. Because of its perennial nature, entire plants must be removed or killed in order to prevent regrowth from rootstocks.

g. Field bindweed *(Convolvulus arvensis).* Field bindweed was introduced to North America from Europe and Asia in the 18th century. It is a perennial plant that spreads from an extensive rootstock as well as from seed. Seed leaves are nearly square with a shallow notch at the tip. Plants sprouting from rhizomes lack seed leaves. Stems may be several feet long and trail along the ground or climb on upright plants such as shrubs. The flowers are trumpet-shaped and are white to purplish in color.

Field bindweed is one of the most persistent and difficult-to-control weeds in ornamentals, orchard and vine crops, and field crops. It has a vigorous root and rhizome system that makes it almost impossible to control with cultivation. Its seed has a long dormancy and may last in soil for up to 60 years. It has a climbing habit that allows the plant to grow through mulches. Field bindweed is also very drought tolerant and once established is almost impossible to control with herbicides.

h. Houndstongue *(Cynoglossum officinale).* Houndstongue is a biennial plant that grows to heights of 1.5 to 3 feet tall. This plant is native to Europe. Houndstongue has heavy, tongued shaped leaves alternate up the stem and are about 4 to 12 inches long. The leaves are hairy and rough and the flowers are reddish purple. The seed pods are 1/3 of an inch across and covered with barbs that enable them to stick to hairs, clothing etc., which is how they spread. It grows in many places such as pastures and roadsides.

Houndstongue contains pyrrolizidine alkaloids. Horses and cattle are most susceptible to poisoning from these alkaloids, although sheep are relatively tolerant of the alkaloids. The alkaloids in houndstongue has a cumulative effect on the liver and can induce fatal poisoning once 5 to 10 percent of an animal's body weight in green plant has been consumed over a period. Death from

houndstongue poisoning is because of severe, irreversible liver failure. This poisoning often occurs in horse pastures when the plant is abundant or adequate forage is not available. Herbicide application, hand-pulling, and cultivation are all moderately effective methods in managing houndstongue.

i. Leafy spurge *(Euphorbia esula).* Leafy spurge is a long-lived plant that has a very deep root system. It is believed that it was first introduced to North America in the 19th century as an ornamental plant or accidentally imported through ballast water or grain. Leafy spurge is widespread throughout the United States and southern Canada. It is present in every single county in Montana.

Leafy spurges have small green flowers, surrounded by a pair of greenish-yellow heart-shaped leaves. Their stems are light-green and hairless, and can reach 32 inches tall, and their leaves are linear and alternate. Leafy spurges can occupy various environments: wet or dry and high or low altitudes; although they frequently grow in rough terrain, hindering access for management.

Leafy spurge affects the environment it infests by reducing, or totally displacing native plant communities. It impacts the properties of the soil and the diversity of plant and animal communities.

Management of leafy spurge has proven very difficult. Mowing and hand pulling have demonstrated to be ineffective. Because of its extensive root system, herbicide management has been found to be only moderately effective; however, it is very costly and requires repeated periodic application. The use of domestic animals, primarily grazing sheep and goat, has shown to be an effective method in the long-term containment of the plant.

j. St. John's wort *(Hypericum perforatum).* St. John's wort was introduced for ornamental and medicinal purposes and has since invaded the western rangelands. St. John's wort poses a threat to the ecology of these lands by displacing desirable wildlife habitat and livestock forage plants.

St. John's wort is an erect herb with opposite leaves, and bright yellow flowers commonly found in dry areas at low elevations. It is a taprooted perennial plant, which reproduces by seeds and short runners. Plants can grow from 1 to 5 feet tall with numerous, rust-colored branches that are woody at the base. Ingestion of St. John's wort has been known to cause animals to be highly sensitive to sunlight (photosensitivity). Animals that eat St. John's wort and then are exposed to direct sunshine develop severe sunburns that are seen as skin irritations in non-haired or white areas. Young cattle and sheep are most often affected, but almost all white-skinned cattle, sheep, and horses react to eating the plant. Severe lesions often develop in the udders and teats of affected cows. This causes them to quit lactating and wean their calves. Recently sheared sheep are especially susceptible. Although St. John's wort seldom kills, it causes severe economic losses. Applying herbicide in the fall has proven to be an effective method of managing St. John's wort.

k. Perennial pepperweed *(Lepidium latifolium).* Pepperweed probably entered the U.S. prior to 1940 in a shipment of beet seed from Europe. Perennial pepperweed occurs in riparian areas, coastal wetlands, marshes, roadsides, railways, ditches, hay meadows, pastures, cropland, and waste places.

Perennial pepperweed plants are multiple stemmed and grow in stiffly erect masses up to 5 feet tall. Leaves are lanceolate, bright green to gray green, and entire or toothed. Abundant small white four-petaled flowers are borne in dense clusters near the stem tips.

Perennial pepperweed is highly invasive. It can invade a wide range of habitats including riparian areas, wetlands, marshes, and floodplains. It adapts readily to natural and disturbed wetlands. As it establishes and expands, the plants create large monospecific stands that displace native plants and animals. Deep-seated rootstocks make pepperweed difficult to control. With the exception of continual flooding, no non-chemical treatments have been found to effectively control this weed as a sole control option.

l. Dalmatian toadflax *(Linaria dalmatica).* Dalmatian toadflax was brought to North America in 1874 as an ornamental plant. It is a perennial herb, which spreads by horizontal rhizomes. The leaves are ovate to lanceolate, and the flowers are bright yellow with a white to orange bearded center. Dalmation toadflax is common in roadsides, fields, waste areas, and pastures.

Dalmatian toadflax regenerates early in the spring from buds on the root. Vegetative shoots emerge before other desired species and effectively use existing moisture, competing with native vegetation even on rangeland that is in excellent condition. The aggressive nature of this plant allows it to outcompete other plants, including natives. Its rhizomatous habit makes the eradication of the species difficult.

m. Yellow toadflax *(Linaria vulgaris).* Yellow toadflax was introduced from Europe as an ornamental in the mid-1800s and has now become a serious problem to rangeland and mountain meadows. It is a perennial reproducing from seed, as well as from underground root stalks. The stems of yellow toadflax are from 8 inches to 2 feet tall and leafy. Leaves are pale green, alternate, narrow, and pointed at both ends. The flowers are bright yellow with deep orange centers. These flowers are about 1 inch long and blossom in dense clusters along the stem as it lengthens and grows. Yellow toadflax contains a poisonous glucoside that may be harmful to livestock

On very small patches, hand pulling of individual plants can prevent seed production if the lateral roots are removed to prevent growth of new plants from these roots. Because of its early vigorous growth, extensive underground root system, and effective seed dispersal methods, yellow toadflax is difficult to control on a large scale.

n. Purple loosestrife *(Lythrum saliaria).* Purple loosestrife is a wetland invader that was imported from Europe in the early 19th century for its medicinal value and for the beautiful purple spikes of the blooming plant. By the middle of the 20th century, it had spread throughout the northeastern and north central regions of the United States and southern portion of Canada. Twenty-four states, including Montana, have listed it as a noxious weed and prohibit its sale.

Purple loosestrife typically grows 1 to 8 feet tall. Its stems are four sided and multi-branched. The leaves are up to 4 inches long and are lance-shaped and pointed. Purple loosestrife is most recognizable by its magenta-colored flowers that are 1 inch in diameter and have five to seven wrinkled petals.

Purple loosestrife is extremely difficult to eradicate, although a recent suite of biological controls (i.e., beetles and weevils) show some promise in suppressing the plant. The Montana Purple Loosestrife Task Force has developed a statewide management plan for this species and active eradication programs are currently underway in a number of counties throughout the State.

o. Sulfur cinquefoil *(Potentilla recta).* Sulfur cinquefoil was brought to North America from Europe, sometime before 1900. Sulfur cinquefoil is a perennial species with a woody rootstock. It produces several erect stems, which can reach 1 to 3 feet in height. The stout, leafy, hairy stems are unbranched up to the inflorescence. The leaves, which are also rough and hairy, have five to seven toothed, palmately arranged leaflets that are 2 to 4 inches long by 0.5 to1 inches wide. The flat-topped inflorescences are 3 to 6 inches across, and each flower has five light yellow petals surrounding a dark yellow center.

Sulfur cinquefoil reproduces by seed, but can be spread by roots if they are moved by tillage or on soil-moving equipment. The most effective method in managing this plant is by repeated periodic herbicide application.

p. Tall buttercup *(Ranunculus acris).* Tall buttercup is a perennial plant native to Europe that reproduces by seed. Stems are erect, hairy, 1 to 3 feet tall, branching at the top. Leaves are alternate, and divided into narrow segments and usually three-cleft. Leaves are covered with hairs. Flowers have five to seven shiny, oblong petals that are bright yellow, but may sometimes be cream-colored. Flower size varies from one-eighth to 1 inch in diameter.

Tall buttercup contains a bitter, irritating oil called protoanemonin that is toxic to grazing livestock and other animals (especially cattle). Toxicity varies with plant age, growing conditions, and freshness of foliage. The toxic oil is released when fresh leaves and stems are grazed, causing irritation and blistering of the skin and the lining of the mouth and digestive tract. In severe cases, gastric irritation progresses to paralysis, convulsions, and death. Because the fresh foliage of tall buttercup is distasteful, animals tend to avoid it if better forage is available. The toxic oil evaporates quickly, so hay containing dried buttercup foliage is not harmful. Herbicides are generally recommended for propagation control; however, this and other management methods prove to be a challenge in eradicating tall buttercup.

q. Saltcedar *(Tamarix ramosissima).* Saltcedar originates from Europe and was first introduced into the United States in the 19th century as a means of streambank stabilization. Saltcedar is known to invade riparian areas, and is capable of consuming large volumes of water. In fact, a single plant can absorb up to 200 gallons of water per day. This high water consumption can often stress native vegetation by lowering groundwater levels and dry up springs and marshes. Additionally, mature saltcedar stems and leaves secrete salt, which accumulates in the soil, further inhibiting the growth of native plants. The infestation of saltcedar degrades the shoreline aesthetics, as well as destroys nesting critical habitat of the threatened piping plover and the endangered interior least tern. Infestations also have detrimental effects on other wildlife species. Saltcedar

seeds have very little nutritional value, having almost no protein content. They are also too small to be eaten by most animals.

Saltcedar is a deciduous shrub ranging from 5 to 20 feet tall. It has white to dark pink flowers. Saltcedar seeds can germinate in water or in moist soil. Once germinated, a taproot rapidly develops, sometimes growing to depths of up to 50 feet.

Satlcedar is a difficult and expensive plant to control. Once established, chemical control is often the preferred method. After applying chemicals, it is recommended to not remove the top growth for three years. Otherwise, resprouting may occur.

r. Common tansy (*Tanacetum vulgare*). Common tansy is a perennial herb that was first introduced to the United States from Europe for use in folk remedies and as an ornamental plant. Common tansy contains alkaloids that are toxic to both humans and livestock if consumed in large quantities. Cases of livestock poisoning are rare, though, because tansy is unpalatable to grazing animals. In addition, hand pulling of common tansy has been reported to cause illness, suggesting toxins may be absorbed through unprotected skin.

Common tansy is an invader of disturbed sites and is commonly found on roadsides, fencerows, pastures, streambanks and waste areas throughout North America. It may threaten the ecological health of these areas through reduction in livestock forage, wildlife habitat and species diversity.

Mature common tansy plants can be identified by their flat-topped clusters of small, button-like, yellow flowers. Common tansy spreads mainly by seeds, and less frequently by rhizomes, forming dense clumps of stems.

The key to common tansy management is preventing the establishment and spread of the plant. This can be achieved by limiting disturbance of weed-free lands. Grazing should be limited to less than 60 percent defoliation of desirable grasses. Once established, hand pulling and mowing can achieve good results.

AQUATIC NUISANCE SPECIES

Aquatic nuisance species (ANS) is a legal definition for aquatic plants, animals and pathogens that when introduced into new ecosystems have harmful impacts in the way the ecosystem functions. ANS ultimately reduce the recreational and functional value of aquatic resources.

ANS have sprung up across Montana because of intentional and unintentional actions. Ballast water discharge from ships is the most significant source of unintentional introductions of ANS to U.S. coastal and estuarine waters. Although ballast water is not a problem specifically in Montana, animals, plants, and pathogens introduced into the United States through ballast water can then be transported to Montana via smaller watercraft or attachment to fishing gear. Other pathways by which ANS can be introduced include 1) water diversion allowing fish to enter new drainages, 2) importation of non-native species through the aquarium trade, and 3) the intentional and illegal release of non-native species to Montana waters.

The MFWP (2007b) has developed ANS priority classes to define the distribution and propagation of ANS species, and they are:

- Priority Class 1. These species are not known to be present in Montana, but have a high potential to invade and there are limited or no known management strategies for these species. Appropriate action for this class includes prevention of introductions and eradication of pioneering populations.

- Priority Class 2. These species are present and established in Montana and have the potential to spread further and there are limited or no known management strategies for these species. These species can be managed through actions that involve mitigation of impact, control of population size, and prevention of dispersal to other waterbodies.

- Priority Class 3**.** These species are not known to be established in Montana and have a high potential for invasion and appropriate management techniques are available. Appropriate management for this class includes prevention of introductions and eradication of pioneering populations.

- Priority Class 4**.** These species are present and have the potential to spread in Montana, but there are management strategies available for these species. These species can be managed through actions that involve mitigation of impact, control of population size, and prevention of dispersal to other waterbodies.

Tables 2-17 to 2-22 list the fish, plants, crustaceans, molluscs, mammals, and parasites and pathogens listed on the Montana ANS list.

Table 2-17. Montana Aquatic Nuisance Species—Fish

Fish Species	***Montana Priority Class***	***Notes***
Bighead carp (*Hypophthalmichthys nobilis*)	Class 1	Bighead carp was imported from China to help control aquatic weeds. They feed primarily on plankton, and are capable on consuming 40 percent of their body weight – competing with larval fish and paddlefish for food resources.
Black carp (*Mylopharyngodon piceus*)	Class 1	Black carp were imported from Asia in the 1980s to help control yellow grub and snails in catfish ponds. They have spread as a result of pond escapement or deliberate release. They grow very quickly and feed extensively on snails, mussels, and aquatic insects. If introduced to Montana, they would severely impact the native mussel and snail communities.
Grass carp (*Ctenoparyngodon idella*)	Class 1	Grass carp were imported from eastern Asia in 1963 for aquatic vegetation control in aquaculture ponds. They spread accidentally from aquaculture facilities and have also been introduced intentionally to canals for vegetation control. Grass carp are voracious consumers of vegetation and can eradicate habitat for native fishes and forage for waterfowl.
Silver carp (*Hypophthalmichthys molitrix*)	Class 1	Silver carp were imported from Asia in 1973 to help control algae blooms in ponds. They are capable of tolerating a wide range of environmental conditions and feed heavily on plankton, competing with larval fish and paddle fish for food resources.
Round goby (*Neogobius melanostomus*)	Class 1	Round goby are native to Europe and were first introduced to the U.S. by way of ballast water. They are aggressive bottom-dwellers and quickly dominate fisheries by spawning several times per year.

Fish Species	*Montana Priority Class*	*Notes*
Eurasian ruffe (*Gymnocephalus cernuus*)	Class 1	Eurasian ruffe are small perch-like fish first introduced to the Great Lakes by way of ballast water. They tend to outcompete perch for food, having reduced perch populations in Lake Superior by 75 percent.
Tench (*Tinca tinca*)	Class 1	Tench was first introduced into Idaho in 1880s. They have high reproductive potential and tend to grow quite large (15 inches). It is believed that they would compete with native cyprinids and game fish.
Zander (*Sander lucioperca*)	Class 1	Zander are closely related to walleye and native sauger. They were introduced into North Dakota from Finland in 1989. It is believed that zander are present in the Missouri River. Potential impacts include displacement, predation, and hybridization with walleye and sauger.
Northern snakehead (*Channa argus*)	Class 1	Northern snakehead are voracious predators that feed on other fish, crustaceans, frogs, reptiles, birds, and small mammals. They can survive underneath ice and can tolerate hypoxic conditions as they are capable of breathing air from late juvenile stages. They can grow to approximately 33 inches in length.

Table 2-18. Montana Aquatic Nuisance Species—Plants

Plant Species	*Montana Priority Class*	*Notes*
Egeria (Egeria densa)	Class 1	Egeria are aquatic plants imported from South America from the aquarium trade. They have few natural predators to keep their growth in check. This plant tends to form dense mats that displace native aquatic plants.
Hydrilla (*Hydrilla verticillata*)	Class 1	Hydrilla was introduced from Asia by way of the aquarium trade. This plant spreads by fragmentation, dispersing via boats, fishing gears, and aquarium release. Hydrilla grows thick mats, particularly in shallow water, and can clog irrigation canals.
Eurasian watermilfoil (*Myriopyllum spicatum*)	Class 3	Eurasian watermilfoil also spreads by fragmentation and transport by boats, fishing nets, and other gear. It grows in waters less than 15 feet deep and is nearly impossible to eradicate.
Curley pondweed (*Potamogeton crispus*)	Class 4	Curley pondweed is a perennial, rooted, vascular plant native to Eurasia, Africa, and Australia. It forms dense mats which interfere with recreation and limit the growth of native aquatic plants. It has the ability to alter nutrient dynamics in a body of water, causing algal blooms in summer months.
Flowering rush (*Butomus umbellatus*)	Class 4	Flowering rush was introduced as an ornamental plant that can grow in emergent and submergent forms. It is present in northwestern Montana, and is reported to be outcompeting the native willows and cattails.
Purple loosestrife (*Lythrum salicaria*)	Class 4	See the description in Section 2.14.2.14.
Saltcedar (*Tamaricaceae* spp.)	Class 4	See the description in Section 2.14.2.18.

Plant Species	*Montana Priority Class*	*Notes*
Yellow flag iris (*Iris pseudacorus*)	Class 4	Yellow flag iris propagates by both seed and underground rhizomes and are highly drought tolerant. They grow very quickly and spread fast, creating impenetrable thickets. It was initially brought to the U.S. as an ornamental, and has also been used for erosion control.

Table 2-19. Montana Aquatic Nuisance Species—Crustaceans

Crustancean Species	*Montana Priority Class*	*Notes*
Rusty crayfish (*Orconectes rusticus*)	Class 1	Rusty crayfish are a common aquarium species that has spread by way of bait buckets, ballast water and aquarium dumping. Native crayfish populations have been eliminated by the rusty crayfish through competition and disease.
Spiny waterflea (*Bythotrephes cederstroemi*)	Class 1	Spiny waterflea was introduced to the Great Lakes in the 1980s via ballast water. It is a native species to Europe. They compete with juvenile fish for food resources.

Table 2-20. Montana Aquatic Nuisance Species—Mollusks

Molluscs Species	*Montana Priority Class*	*Notes*
Zebra mussel (*Dreissena polymorpha*)	Class 1	Zebra mussel are known to change the ecological composition in freshwater ecosystems. Once established, zebra mussels cause mortality of native clams and mussels and dramatically alter the phytoplankton and microzooplankton populations. They encrust and foul dams, fish ladders, power plants, and other industrial facilities.
New Zealand mudsnail (*Potamopyrgus antipodarum*)	Class 2	New Zealand mudsnail reproduce quickly and amass in high densities (up to 750,000 per square meter). They impact the natural food chain for trout and other fish by consuming algae that would normally be food for cadddis and stonefly larvae. Mudsnails can withstand desiccation and can easily be transported by anglers, swimmers, pets, etc.

Table 2-21. Montana Aquatic Nuisance Species—Mammals

Mammal Species	*Montana Priority Class*	*Notes*
Nutria (*Myocastor coypus*)	Class 1	Nutria is a large rodent from South America that can grow to be 20 pounds and 25 inches in length. They were initially introduced for fur farms. They are very destructive to marsh vegetation, eating up to 25 percent of their body weight per day.

Table 2-22. Montana Aquatic Nuisance Species—Parasites and Pathogens

Parasite or Pathogen Species	*Montana Priority Class*	*Notes*
Heterosporosis (*Microsporidean*)	Class 1	Heterosporosis is a protozoan that infects and degrades the muscle fibers of wild fish.
Infectious Hematopoietic Necrosis (IHN) virus	Class 1	IHV infects salmon and causes lethargy, anorexia, popeye, pale gills, darkening of the body, and abdominal destention.
Whirling disease (*Myxobolus cerebralis*)	Class 2	Whirling disease is native to Europe and was introduced in Montana in 1994. It is caused by a myxozoan parasite. The parasites digest the cartilage of young trout. The deformities that result from infection impair swimming and feeding ability.
Asian tapeworm (*Bothriocephalus acheilognathi*)	Class 3	Asian tapeworm is a cestode that infects the interior intestine of fish.

MANAGEMENT OF INVASIVE SPECIES

The Fort Peck project office works with the multi-State and multi-agency saltcedar task force on the control of saltcedar. They also work with State agricultural committees, county invasive weed boards, and the USFWS to manage saltcedar and other invasive species. Additional information on invasive species and low water levels can be found in the high and low pool management issues and strategies section in Chapter 3.

AIR QUALITY

DEFINITIONS

The air quality at a location is typically described in terms of the concentrations of various pollutants in the atmosphere. The significance of impacts to air quality, measured in terms of ground level pollutant concentrations, is determined by comparisons with Federal and State ambient air quality standards (AAQS).

MONTANA AIR QUALITY

The State of Montana has relatively clean air. The Montana Department of Environmental Quality (MDEQ) regularly monitors ambient air quality at locations throughout the State where there are known air quality concerns to collect data on pollutant concentrations. No air quality monitoring stations are located at or in the general vicinity of Fort Peck Lake (MDEQ, 2007b). For this region of Montana, including all counties within which Fort Peck Lake project area is located, all parameters are in attainment of the Federal and State AAQS (EPA, 2007; MDEQ, 2007b).

NOISE

NOISE REGULATIONS

Under the Noise Control Act of 1972 and its amendments (Quiet Communities Act of 1978; USC, Title 42, Parts 4901-4918), states have authority to regulate environmental noise, and governmental agencies are directed to comply with local community noise policies and regulations.

NOISE CONDITIONS

Noise conditions in the Fort Peck Lake project area vary depending on recreational usage. Because of the distance from populous areas and the limited access to some recreation areas, visitation at the Fort Peck Lake project area is relatively low. The noise condition is, therefore, generally very low and characteristic of a natural setting where intrusion of man-made noise is infrequent and typically of short duration.

Some recreation activities with the potential to produce enough noise to disturb other recreationists include hunting, boat cruising, and waterskiing. Although off-road vehicle (ORV) use is prohibited at Corps recreation areas, it is permitted on numbered roads in the CMR. The Corps allows ORV use on designated roads and trails and has coordinated with CMR staff to identify those roads and trails by number. Off-road vehicle noise may be a problem adjacent to those roads. Waterskiing and cruising typically occur throughout Fort Peck Lake and at the Dredge Cuts area. Powerboats are also used to transport hunting parties and sightseers to remote areas. Although RV generator noise has generally not been a problem at Fort Peck, there have been some complaints of noise disturbing campers at remote low-density recreation areas. The posting of quiet hour signs at campgrounds seems to have reduced the noise complaints.

VISUAL QUALITY

Visual quality describes the aesthetic traits of an area based on the natural and artificial features of its environment. The compatibility of the project with existing structures and environment is known as ‘landscape characteristics’. Landscape characteristics define whether the project blends with the existing features of the area, or contrasts with the setting and appears out of place. Visual sensitivity includes public values, goals, awareness, and concerns regarding visual quality.

LANDSCAPE CHARACTERISTICS

Fort Peck Lake is the largest body of water in the State of Montana and, as such, adds significant visual diversity to the northeastern Montana area. For some residents and visitors, the Fort Peck project, especially the dam structure and powerhouses, is an impressive manmade feature. The surrounding landscape is open so the dam is visible from a considerable distance. From the dam area there are extensive views across Fort Peck Lake and down the Big Dry Creek Arm.

Fort Peck Lake is enhanced by an unusually rugged and scenic shoreline, which makes the lake an attractive recreation resource. The pristine atmosphere in many of the areas along the lake attracts campers and sportsmen alike. Before the construction of Fort Peck Dam, the Missouri River floodplain was covered with dense stands of trees. The uplands were characterized by rolling prairie. Today, the dense stands of trees have been replaced by the open water of the reservoir, fringed by rugged bluffs. The lake is surrounded by prairie grasslands and shrubs. Dense stands of trees are found only in the upstream reaches of the project, on adjacent uplands, and in a few ravines.

Waterfowl, wading birds, and shorebirds use the protected bays of Fort Peck Lake. Deer, pronghorns, and elk roam the uplands. Many areas are of wilderness quality and provide habitat and food for large and small game. Most visitors to the project have an opportunity to view several species of wildlife. With its 1,700 miles of rolling prairie shoreline largely unspoiled by civilization, Fort Peck Lake retains a frontier, wildland atmosphere and provides an excellent setting for various kinds of outdoor-recreation activities.

VISUAL SENSITIVITY

Many areas near the Fort Peck project have been designated as scenic areas, Research Natural Areas, or wilderness areas.

Two national wildlife refuges are located in the project area – the Charles M. Russell (CMR) National Wildlife Refuge and the UL Bend National Wildlife Refuge. The CMR, established in 1936, is approximately 1,100,000 acres in size and includes the 245,000-acre Fort Peck Lake. The UL Bend National Wildlife Refuge is a “refuge-within-a-refuge" that lies within the CMR and contains 20,000 acres of designated wilderness. It was established in 1967 by the Migratory Bird Conservation Commission to protect wetlands for migratory birds and waterfowl. Both of these refuges provide opportunities for viewing wildlife. Common wildlife species include elk, mule deer, pronghorn, bighorn sheep, sage and sharp-tailed grouse, and bald eagles (USFWS, 2006).

Land uses in the project area include operational, recreational (intensive use), environmentally sensitive, low density recreational, and wildlife management. In general, these land uses do not detract from the aesthetics of the area. The only distractions in the area’s visual quality include large power transmission lines and supporting stations that are located mostly in the vicinity of the dam embankment and powerhouse.

CULTURAL RESOURCES

THE PROGRAMMATIC AGREEMENT AND ITS INTEGRATION INTO THE MASTER PLAN

The 2004 *Programmatic Agreement for the Operation and Management of the Missouri River Mainstem System for Compliance with the National Historic Preservation Act, as amended* (PA) is an attempt to address all problems associated with cultural and historic resource impacts involved with the ongoing operation and maintenance of the Missouri River Mainstem System of dams (Corps, et al., 2004a) (see Appendix B). This document outlines the processes through which affected tribes, agencies and interested parties will consult with the Corps on issues directly

affecting important historic and cultural resources. These processes are essential in order for all aspects of the PA to be integrated into the Master Plan.

The U.S. Department of Defense recognizes its trust responsibilities to federally recognized Indian tribes and has established an American Indian and Native Alaskan Trust policy that directs its agencies, including the Corps, to work with tribes in a manner that incorporates tribal needs, traditional resource, stewardship practices, and the development of viable working relationships. Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, outlines policy and criteria establishing regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies having implications to the tribes. It also strengthens the United States government-to-government relations with Indian tribes. The preparation of this Master Plan included a pre-decisional PA consultation and a pre-decisional consultation on the preliminary draft Master Plan, with tribal comments incorporated or addressed prior to the preparation of the draft Master Plan and its distribution for public review and comment.

Under the PA, affected tribes and Tribal Historic Preservation Officers (THPOs), State Historic Preservation Officers (SHPOs), the Advisory Council for Historic Preservation (ACHP), and other consulting parties shall be provided the opportunity to participate in the development and implementation of agreements, management plans, and activities developed or required under the PA. This process will be followed for the Fort Peck Lake Master Plan to ensure that the concept plans for development and resource management will be able to avoid or minimize (and as a last resort, mitigate for) any potentially significant effects on the quality of the environment. In addition, each new development activity that is included in concept form in the Master Plan will be consulted on with all interested PA representatives when it is proposed for implementation. The pre-decisional consultation will be integral to identifying any potentially significant impacts and determining ways of avoiding, minimizing, and as a last resort, mitigating them. The consultation will be ongoing until a consensus is reached on the proposed development and the appropriateness of a site-specific EA and Finding of No Significant Impact (FONSI). This process will ensure compliance with all environmental laws, regulations, and Executive Orders, including those dealing with cultural resources and Traditional Cultural Properties and access by tribal members to these resources.

The PA provides for the drafting and implementation of a five-year plan that outlines how the Corps will conduct its Mainstem System Cultural Resources Program and various program components individually called for in the PA for the coming five years and following five year periods thereafter. It also provides for the development and implementation of a monitoring program to provide continued oversight of historic properties located on Federal land managed by the Corps and to collect information on site conditions and effects (including but not limited to, erosion, recreational, agricultural and other encroachment, and looting and vandalism). The Corps will use this information to plan and implement law enforcement and other preventive or corrective management actions. A third provision in the PA is for the development of a public and agency educational program concerning the need to avoid cultural areas and to leave archaeological sites and their material remains undisturbed.

The PA also addresses procedures to follow to comply with the Native American Graves Protection and Repatriation Act (NAGPRA) in the event of inadvertent discoveries, and the Archeological Resources Protection Act (ARPA), which includes provisions for civil and criminal penalties and violations (Corps et al., 2004a).

Although the PA is limited to the application and enforcement of historic preservation and protection laws, it provides the opportunity to consult with the various tribes and agencies to begin addressing all resources considered sacred or important. As part of the scoping process for this Master Plan, the Fort Peck Tribe and Fort Belknap Tribe were consulted on the Master Plan issues to be responsive to the needs of tribal users of the project area, as well as to ensure that potential impacts on cultural and other resources are adequately identified and addressed. Although no comments were received from tribal members during scoping, the tribes indicated they wanted to be kept informed as the Master Plan progresses.

CULTURAL HISTORY

The following cultural history is largely adapted from the *Fort Peck Lake Cultural Resources Management Plan* (CRMP) (Corps, 2004b) (see Appendix E).

a. Summary of Cultural History (Archaeological Perspective). The stages of cultural development in the Missouri Basin are defined by changes in technology, settlement, and subsistence. For the Fort Peck area, the prehistory and history are divided into four broad stages: Early Prehistoric, Middle Prehistoric, Late Prehistoric, and Protohistoric. Although the summary cannot adequately convey the rich and varied past of the Fort Peck area, the human activities that are most characteristic of each period have been highlighted.

Paleo-Indian (~9000 to 5500 B.C.). The Early period generally corresponds with Antevs' (1955) Anathermal climatic period when the climate was more moist than today. This period is divided into a number of cultural complexes (Clovis, Folsom, Agate Basin-Hell Gap, and Alberta) that are defined primarily by different projectile (or spear) point styles used by Paleo-Indians. Paleo-Indians hunted now extinct forms of mammoth, camel, horse, and bison. Other animals that were hunted (bear, deer, and elk) are still in existence today. Most Paleo-Indian sites have been found in association with butchered animals.

Plains Archaic (~5000 to 1800 B.C.). The Middle period began with the onset of the warmer and drier Altithermal climatic episode, according to the Antevs' (1955) Paleoclimatic Model. In addition to the postulated environmental changes, some of the major differences between the Early and Middle Prehistoric Periods are: 1) the shift from hunting of now-extinct animals to surviving modern species; 2) the more apparent use of plant materials as evidenced by an increase in grinding stones and platforms; and 3) possibly an increase in the "settling in" of the hunting-gathering populations to specific regions and resources.

The commonly identified projectile point types, which are sometimes considered representative of specific "traditions" or "phase" during the Middle period include: Bitterroot or Altithermal Side-Notched, Oxbox, McKean, Duncan, Hanna, and Pelican Lake.

Late Prehistoric (~1800 B.C. to 1720 A.D.). This period is characterized by numerous innovations and changes in cultural behavior and population dynamics. Communal bison killing became a major cultural and subsistence activity in addition to increasing use of a variety of plant and animal species. Increased cultural interaction and trading is evidenced by the diffusion of ceramic forms, projective point types, and stone materials. The bow and arrow appears in this period as a dominant

characteristic. The commonly identified projective point types during this period include: Pelican Lake, Avonlea, Besant, Old Women's Phase, and Lake Plains Side-notched and Triangular.

The Fort Peck area was inhabited late in the period by historically recognized groups of Assiniboine and Gros Ventre (Atsina) peoples. These nomadic tribes and the Sioux, who came later, left very few remains (stone circles) that can be identified with a particular tribe.

Historic (~1720 to 1800 A.D.). This period is marked by the increasing pressure of the expanding white and aboriginal population from all directions, and the acquisition of the horse, gun, metal weapons, and tools.

b. Historic Overview of the Fort Peck Lake Area. The Missouri River basin is of great cultural importance to both Native Americans and European Americans. The Missouri River was the avenue of the first recorded exploration of the Montana Territory and the main travel route for several decades that followed. The historic period summarized below begins around the time of the Lewis and Clark Expedition, in 1805, and culminates in the completion of the Fort Peck Dam in 1940.

The Lewis and Clark Expedition of 1803 to 1806 was organized to explore the recently acquired Louisiana Purchase and to search for water passage to the Pacific Ocean. The expedition entered the Fort Peck area in early May of 1805 on their westbound trip, and in early August 1806 on their eastbound trip. Plate 3 illustrates the expedition route through the Fort Peck area. The lake has flooded most of the areas where the expedition traveled and camped on this stretch. Lewis and Clark described in considerable detail the geology, vegetation, and wildlife of the Upper Missouri River. They described the area around Big Dry Creek, the lower reaches of which are now under the Fort Peck Lake, as land of "rich black earth" with the Missouri keeping its width "…nearly as wide as near its mouth, (with) great numbers of sand bars"(Corps, 2004b). In the area of what is now The Pines Recreation Area, on the edge of Fort Peck Lake, Clark noted sandstone formations of "…poor sterile sandy soil, the base usually a yellow or white clay." The explorers described most of the portion of the journey from this point to the mouth of the Musselshell as "…the Countrey very rugged and hills high" (Corps, 2004b).

The members of the expedition were especially excited about their encounters with the grizzly bear, unknown, at the time to naturalists. On May 14, 1805, Clark described an incident near Hell Creek where six hunters of the party fired at a grizzly bear several times before they killed him ("…he had like to have defeated the whole party, he pursued them Separately as they fired on him, and was near Catching Several of them….one he pursued into the river" (Fifer et al., 1998). The Fort Peck Dam Interpretive Center and Museum is home to an interpretive explanation of Lewis and Clark's time in the Fort Peck area.

Another important early expedition to the Upper Missouri was that of Prince Maximilian zu Wied, a German explorer and naturalist, who was accompanied by Swiss-born artist, Karl Bodmer. During this trip, Bodmer not only sketched many landforms, but also painted numerous portraits of Native Americans. Maximilian's and Bodmer's legacies are extremely important today because Maximilian was the best-trained scientific observer to explore the west in the early period, and Bodmer was the most accomplished artist ever to paint the Plains Tribes (Corps, 2004b).

At the time of the Lewis and Clark expedition, the region of the Upper Missouri was being used by several Indian tribes, including the Mandans, Minnetaries, Assiniboines, Gros Ventres, Crow, and the Blackfoot Nation, which was comprised of the Piegan, Blood, and Blackfoot. The Missouri River and its adjacent lands provided a source of water, firewood, hunting grounds, and groves for shelter (Chittenden, 1962 *in* Corps, 2004b). As these were semi-nomadic people, tribal territories often overlapped, creating conflicts.

The fur trade companies, both British and American, used Native Americans to aid in trade, exchanging commodities with them for furs. Major contact with European Americans came with the steamboat, which began to ply the Upper Missouri for the transport of furs. The competition created for merchandise led to escalating conflict among the tribes. With the steamboat also came deadly imports of alcohol, gunpowder, and disease, along with the merchandise (Chittenden, 1962; Maximilian, 1982 *in* Corps, 2004b).

The beginning of the end of the nomadic Plains Indians life began with the Fort Laramie Treaty of 1851, which defined territorial areas among the Upper Missouri tribes and gave the U.S. Government the right to establish roads and military posts. Other treaties followed and eventually the tribes were stripped of their common hunting grounds and settled on reservations.

With the fur trade, posts, houses, and forts were built on rivers and, when the region was trapped out, the posts were moved. Thirty-one trade-related posts were established on and near the Upper Missouri region from the North Dakota boundary to present-day Fort Benton between 1828 and 1885.

Fort Peck was established in 1866. The steamer Tacony was on its way up the river to Fort Benton when it was grounded on a sandbar a few miles above the Milk River. The traders simply abandoned the boat, built log buildings, and began trade with the Indians. During the winter, they packed ice and in the summer offered ice water to the Indians, thereby establishing a brisk trade. In 1867, the firm of Durfee and Peck, which had contracts to carry government freight to military posts and Indian agencies, took over the post. They monopolized trade with the Assiniboine and Sioux and in 1873 became the agency headquarters for those tribes. After being flooded and damaged in 1877, the post was relocated to the present site of the Fort Peck Agency on the Poplar River, 60 miles to the east (Saindon and Sullivan, 1977 *in* Corps, 2004b). Eventually, this area of the Missouri River was opened to steamboat navigation in 1859. This was the major means of transporting people and goods until the railroad arrived in the 1880s.

After the beaver were nearly exterminated from the Upper Missouri and market demands changed, the fur trades focused on buffalo. Between the years 1870 to 1883, millions of buffalo that roamed the Upper Missouri were killed off. In the early 1880s the last remaining buffalo herds were located at the junction of the Missouri and Musselshell rivers near Fort Carroll. Other posts were built to facilitate the buffalo fur trade, including Rocky Point at the upstream end of Fort Peck Lake.

The Upper Missouri region of Montana was the scene of a ranching industry starting in the 1850s, which flourished briefly, and was party to much exploitation and violence. At this time, the range was open and free. One of the first entrepreneurs of the beef business in the Montana Territory was Granville Stuart, who was soon joined by many other ranchers, speculators, and absentee owners who flooded the range with cattle. The Upper Missouri region of Montana also has a rich history of sheep farming and agriculture.

Fort Peck Dam, completed in 1940, was the first of its kind and served as the design model for the rest of the hydraulic earthfill dams in the world. Fort Peck was also important as an example of the large civil engineering projects that provided relief from the Depression by employing thousands of Americans. Over 10,000 workers were employed at the dam site during the peak of dam construction. The project site was about 20 miles from a town of any size; therefore, a complete townsite was constructed close to the project to house the workers. The town of Fort Peck is an example of "New Deal" social engineering and construction camp era architecture (Corps, 1987).

Additional information on the history of the Upper Missouri region (and the Fort Peck Lake project area) can be found in the Cultural Resources Management Plan (Appendix E).

HISTORIC PROPERTIES

The term “historic properties” (i.e., cultural resources) applies to both prehistoric and historic sites listed on or eligible for the National Register of Historic Places (NRHP). The term implies more than standing structures, ruins, monument, or cemeteries, and encompasses a broad range of material remains, which have the potential to provide data relative to historic or prehistoric human occupation and utilization. There are five classes of historic properties that can be evaluated against NRHP criteria: district, site, building, structure, and object.

The Fort Peck Lake project area is rich in cultural resources. Although most of the land surrounding Fort Peck Lake has not been surveyed for cultural resources, known sites consist of lithic scatters, bison kill sites and corrals, tipi rings, stone effigies, campsites, Lewis and Clark campsites, trails, early homesteaders’ cabins, hunting cabins, stage routes, railroads, shanty towns from the dam construction era, and other construction camp era buildings. These sites are associated with the Gros Ventre, the Assiniboine bands of Canoe Paddler and Red Bottom, the Sioux divisions of Sisseton/Wahpetons, the Yantonais, and the Heton Hunkpapa, the Blackfoot, early Euro American explorers, homesteaders, and New Deal employees during the Fort Peck Dam construction.

Two large-scale and two moderate-scale cultural resource surveys have been conducted in the Fort Peck Lake project area—Carmichael in 1978; Davy, et al. in 1992; GCM Services in 1997; and Wolfram and Brumley in 2000. The project undertaken by Carmichael (1978) inventoried three areas in four corridors, comprising approximately 80 acres. The project by Davy, et al. (1992) encompassed 4,000 acres in five tracts of 800 acres each along the shore of Fort Peck. The 1997 survey by GCM Services covered 3,817 acres in 17 parcels, primarily in recreation areas. And finally, the project undertaken by Wolfram and Brumley (2000) for the Fort Peck Rural Water System included 128.5 acres of Corps lands.

Three recent surveys have evaluated cultural resource sites at Fort Peck. In 2005, Ethnoscience, Inc. studied 16 traditional cultural properties (TCPs) along the Lake and determined that four sites are eligible for the NRHP (Ethnoscience, 2005). Metis Cultural Resource Consultants studied approximately 2,300 acres at 11 recreation areas around Fort Peck Lake. The study recorded 14 new sites, three of which were determined potentially eligible for the NRHP and five were potential TCPs (Metis Cultural Resource Consultants, 2005). Another Ethnoscience, Inc. study in 2007 evaluated 13 archeological sites and determined two are eligible for listing on the NRHP (Ethnoscience, 2007).

In addition to the above cultural resource surveys, there are another 12 small inventory projects and published material applicable to the cultural resources on Corps lands along Fort Peck Lake. There is no record of any surveyor investigation prior to construction of the dam.

As of 2003, 82 historic sites were recorded in the project area. Two are listed on the NRHP, three are considered eligible for the NRHP, 56 are unevaluated against NRHP criteria, 21 have been determined not eligible, and one site is reportedly destroyed. Out of these sites, 27 are in recreation areas, and 55 are within the wildlife refuge. Data recovery and mitigation of portions of the NRHP sites has been undertaken. There is currently one National Register District located in the project area (Montana Historical Society, 2007).

One site (Rocky Point Townsite [24FR310]) and one district (Fort Peck Townsite and Dam [24VL590/24MC219]) in the Fort Peck Lake project area are listed on the NRHP and three sites are considered eligible for listing on the NRHP. The Rocky Point Townsite, located at the upstream end of Fort Peck Lake, served as a trading post and steamboat landing. There were still eight standing structures at the time it was listed in 1975, including two cabins, a barn, a restaurant or hostel, a saloon, a well house, a stable, and a feed storage shed.

The Fort Peck Townsite, located near the Fort Peck West and Downstream Recreation Areas, was constructed by the Federal Government in 1934 to house and provide services for the workers involved in the construction of Fort Peck Dam. The dam itself was constructed between 1933 and 1940. The dam and structures in the townsite that retain integrity are listed on the NRHP. These structures include the Employee's Hotel and Garage, Theater, Garage and Fire Station, Hospital, Recreation Hall, Administrative Building, and original houses located at 1101 to 1112 E. Kansas Avenue. Part of the property is under private ownership.

Although not listed, or eligible for listing, on the NRHP, several areas of historical interest are located within the Fort Peck Lake project area. The first homestead on the bottomland delta in the James Kipp Recreation Area was built in 1916 by the McNulty family. The original homestead was built near the location of the existing launch point on the west side of the bridge. After repeated flooding, the homestead was moved to the southeast portion of the present recreation area. The McNulty's farmed and ranched in this area until 1945 when the Corps finalized the Fort Peck project and terminated their use of the bottomland. The ranch buildings were utilized until 1977. All buildings were removed (torn down and burned) except for one structure, which is a log building with a sod roof typical of the era of its construction. An old road leads from the developed portion of the recreation area to the homestead location.

The Crooked Creek Recreation Area is rich in history. During the late 1860s and early 1870s, the greatest activity on the upper Missouri River was at the mouth of the Musselshell River. It was here that a trading post was constructed - one that was to rival Fort Benton, the uppermost point of navigation on the Missouri. While it existed, the outpost was known at various times as Kerchival City, Musselshell, Musselshell City, Camp Reeve, and Fort Sheridan. Settlers and Indians traded furs for supplies at the post. The post also provided wood for the steamboats traveling the Missouri River. However, because of continuous conflicts with various tribes, primarily the Sioux, and the establishment of a competing trading post 35 miles farther up the Missouri River, the outpost was abandoned. Today, the only remnant of the outpost is a small cemetery containing the graves of three persons who were killed during the Sioux attacks. In the early 1900s, a solitary grave from this same era was found near the confluence of the Musselshell and Missouri Rivers. This grave site would have been inundated by Fort Peck Lake, but in 1938, the American Legion Post from

Winnett, Montana, moved the grave and the remains to a spot above the water level of the reservoir. The present grave site is located approximately 1 mile north of the Fort Musselshell Marina.

The 26-mile access road to the Hell Creek State Recreation Area traverses the Hell Creek Fossil Area, a designated National Natural Landmark. This area is world famous for its diversity of fossil deposits.

The Nelson Creek Recreation Area was surveyed for cultural resources in 1980, and a sparse lithic scatter was identified. The site has not been evaluated for its eligibility for the NRHP. Fourchette Bay is near an historic buffalo jump.

CULTURAL RESOURCES PROTECTION

The Corps, in partnership with the PA signatories and interested parties, has completed a Cultural Resources Management Plan (CRMP) for the Fort Peck Lake project area (Corps, 2004b). The CRMP provides a comprehensive program to achieve the federally mandated objective of protection of cultural resources on lands under the jurisdiction of the Corps. The portions of the CRMP that are available to the general public are provided in Appendix E of this Master Plan.

All native cultural resources in the Fort Peck Lake project area are considered important to the tribes. Therefore, monitoring for construction activities, recreation, erosion, vandalism, artifact collecting, and agricultural encroachment is preferred under the CRMP. Corps personnel and contractors, with the assistance of tribal members, will monitor various threats to the integrity of cultural resources on a regular basis. Those sites on the NRHP are first priority, sites eligible for the NRHP are second priority, sites with an unknown NRHP status are third priority, and any sites reportedly destroyed will be confirmed as such.

The mitigation of eligible cultural resources at Fort Peck Lake, as federally mandated, requires the coordinated efforts of the Omaha District archeological staff, Fort Peck project personnel, the tribes, and interested parties.

The renovation, destruction, removal, or continued deterioration of standing structures or foundations greater than 50 years of age must be coordinated with the Omaha District archaeological staff. If a structure is determined to be a significant local, tribal, State, or national resource, the renovation should be coordinated through the Omaha District archeological staff, SHPO, tribes, and ACHP. In addition, the Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (Revised 1983) will be followed. The area surrounding the structures and features must also be considered, as it may contain archeological deposits relative to the historical significance of the property.

If a site that is listed on or eligible for the NRHP will be impacted by actions proposed in the Master Plan, mitigation measures will be developed. Potential mitigation measures include 1) avoidance (preferred), 2) monitoring, 3) data recovery, and 4) protection. Additional information about mitigation measures is provided in the Fort Peck CRMP (Appendix E). A detailed examination of eligible sites will be made to accurately determine and document their current condition. Field measurements and plans of the sites will be undertaken to assist preliminary engineering studies that will define feasible alternatives for site preservation.

As described in the PA, affected tribes, and THPOs, SHPOs, ACHP, and other consulting parties shall be provided the opportunity to participate in the development and implementation of agreements, management plans, and activities developed or required under the PA. Consulting parties are afforded no less than 30 calendar days from receipt of a letter notifying the parties of a proposed undertaking and requesting comment or consultation. The request includes information from the literature and records search and a description of the project and its area of potential effect, including pertinent maps. The letter is sent to each PA representative, with a copy to the head of the agency or Tribal Government, as early as possible and prior to making any decisions about the proposed undertaking or matter. Further information or coordination of a site visit is provided upon request. In all circumstances the parties attempt to identify and preserve cultural resource sites. If avoidance is not possible, the Corps works with the consulting parties to minimize effects to such sites (Corps et al., 2004a).

SOCIOECONOMIC CHARACTERISTICS

POPULATION

According to the 2000 Census, the population of Montana was 902,195. This ranks Montana as 44th of the 50 states and District of Columbia in terms of population. With 147,042 square miles of area, the population density in 2000 was 6.2 persons per square mile. By comparison, the 2000 population density for the entire United States was 79.6 persons per square mile.

Regions of socioeconomic or demographic significance with respect to the Fort Peck project are the primary area counties, which have shoreline on Fort Peck Lake; the secondary area counties, which lie largely within 100 miles of Fort Peck Lake; and the tertiary area counties, which lie largely within 200 miles of Fort Peck Lake. The counties that constitute these areas are represented in Figure 2-3.

a. Primary Area Counties. The primary area counties are the six Montana counties having shoreline on Fort Peck Lake: Fergus, Garfield, McCone, Petroleum, Phillips, and Valley Counties. According to the 2000 census figures, the six primary area counties together contain 23,364 square miles and have a total population of 27,918, for a population density of only 1.2 persons per square mile.

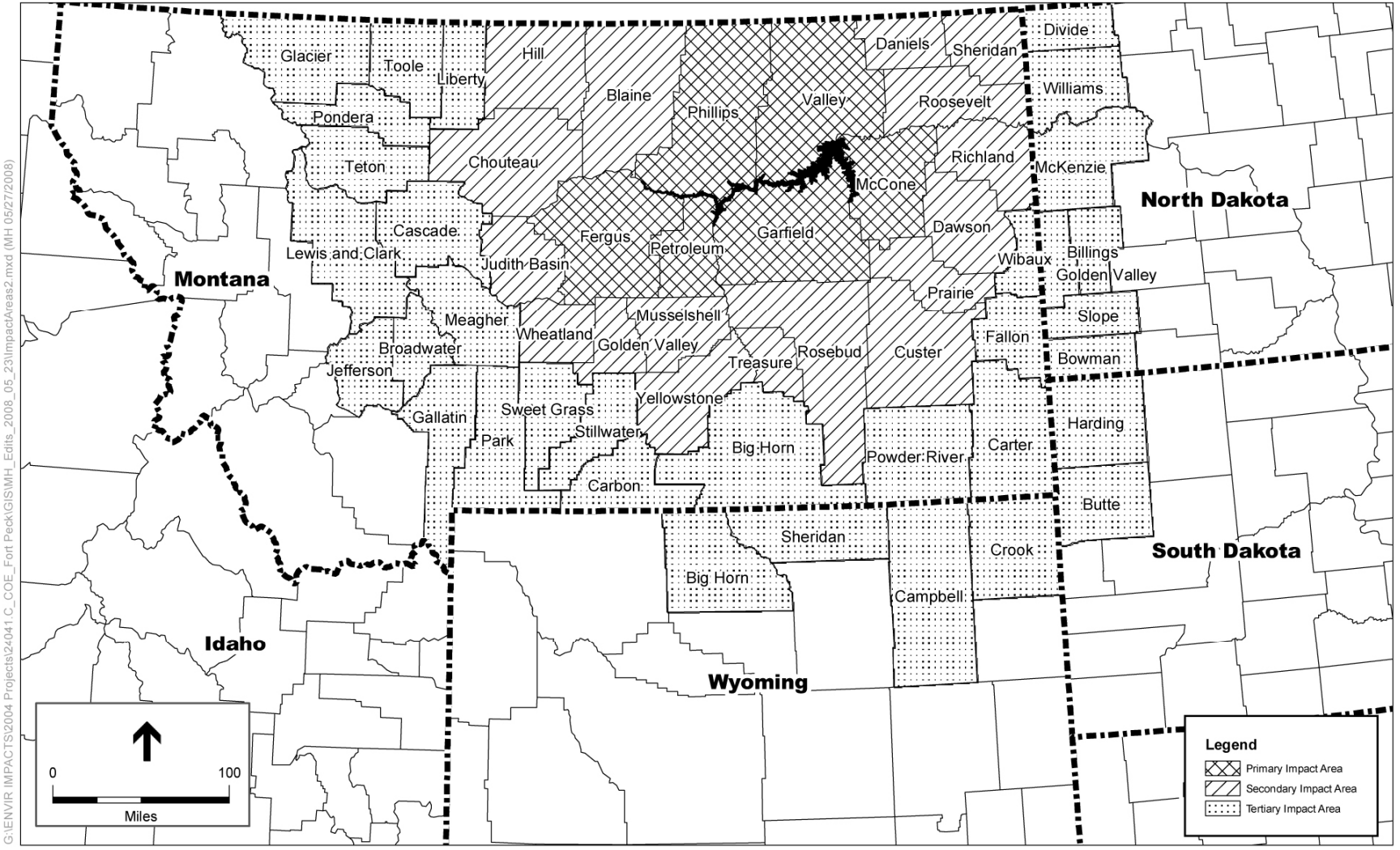
b. Secondary Area Counties. The secondary area of influence consists of the 17 counties surrounding the 6 primary area counties. These counties, which are within approximately 100 miles of Fort Peck Lake, include; Blaine, Chouteau, Custer, Daniels, Dawson, Golden Valley, Hill, Judith Basin, Musselshell, Prairie, Richland, Roosevelt, Rosebud, Sheridan, Treasure, Wheatland, and Yellowstone County. The 17 secondary area counties total 41,492 square miles. With a 2000 population of 227,738, the population density for the secondary area of impact is 5.5 persons per square mile. Population density is higher in the secondary counties because Billings, with a population of over 89,000 is located in Yellowstone County.

c. Tertiary Area Counties. The tertiary area of influence consists of an additional 20 counties in Montana (Big Horn, Broadwater, Carbon, Carter, Cascade, Fallon, Gallatin, Glacier,

Jefferson, Lewis and Clark, Liberty, Meagher, Park, Pondera, Powder River, Stillwater, Sweet Grass, Teton, Toole and Wibaux), seven counties in western North Dakota (Billings, Bowman, Divide, Golden Valley, McKenzie, Slope, and Williams), two counties in northwest South Dakota (Harding and Butte), and four counties in northern Wyoming (Big Horn, Sheridan, Campbell, and Cook). The 20 Montana tertiary counties total 47,213 square miles. With a 2000 population of 310,655, the population density for the Montana portion of the tertiary area of impact is 6.0 persons per square mile.

Table 2-23 presents U.S. Census population totals from 1990 to 2000 for all surrounding counties. Population projections extend to 2030 for counties in Montana and to 2020 for the tertiary counties in North Dakota, South Dakota, and Wyoming.

Figure 2-3. Fort Peck Areas of Impact



SOURCE: ESRI, 2005; USACE, 2007

Fort Peck Dam/Fort Peck Lake master Plan . 204041.C

Figure 2-3
Fort Peck Areas of Impact
Montana

Table 2-23. Historic and Projected Population for Montana and the Area of Influence

County	*1990*	*2000*	*Change from 1990 to 2000*	*2005*	*2010*	*2015*	*2020*	*2025*[1]	*2030*[1]	*Change from 2000 to 2020*	*Change from 2000 to 2030*
Primary Area Counties:											
Fergus	12,083	11,893	-1.57%	11,551	11,490	11,490	11,560	11,720	11,960	-2.80%	0.56%
Garfield	1,589	1,279	-19.51%	1,199	1,150	1,110	1,070	1,060	1,090	-16.34%	-14.78%
McCone	2,276	1,977	-13.14%	1,805	1,790	1,700	1,650	1,650	1,650	-16.54%	-16.54%
Petroleum	519	493	-5.01%	470	440	400	380	410	410	-22.92%	-16.84%
Phillips	5,163	4,601	-10.89%	4,179	4,020	3,890	3,830	3,780	3,790	-16.76%	-17.63%
Valley	8,239	7,675	-6.85%	7,143	6,700	6,370	6,190	6,110	6,150	-19.35%	-19.87%
Subtotal:	29,869	27,918	-6.53%	26,347	25,590	24,960	24,680	24,730	25,050	-11.60%	-10.27%
Secondary Area Counties:											
Blaine	6,728	7,009	4.18%	6,629	6,510	6,430	6,400	6,400	6,420	-8.69%	-8.40%
Choteau	5,452	5,970	9.50%	5,463	5,190	5,120	5,050	4,990	5,010	-15.41%	-16.08%
Custer	11,697	11,696	-0.01%	11,267	11,030	11,050	11,110	11,280	11,570	-5.01%	-1.08%
Daniels	2,266	2,017	-10.99%	1,836	1,760	1,690	1,680	1,620	1,640	-16.71%	-18.69%
Dawson	9,505	9,059	-4.69%	8,688	8,520	8,350	8,310	8,350	8,450	-8.27%	-6.72%
Golden Valley	912	1,042	14.25%	1,159	1,250	1,260	1,300	1,300	1,350	24.76%	29.56%
Hill	17,654	16,673	-5.56%	16,304	15,900	15,630	15,430	15,360	15,450	-7.46%	-7.34%
Judith Basin	2,282	2,329	2.06%	2,198	2,180	2,180	2,140	2,160	2,210	-8.12%	-5.10%
Musselshell	4,106	4,497	9.52%	4,497	4,530	4,660	4,740	4,880	5,080	5.40%	12.96%
Prairie	1,383	1,199	-13.30%	1,105	1,010	990	950	960	960	-20.77%	-19.93%
Richland	10,716	9,667	-9.79%	9,096	9,020	9,010	9,080	9,230	9,450	-6.07%	-2.20%
Roosevelt	10,999	10,620	-3.45%	10,524	10,400	10,490	10,640	10,850	11,130	0.19%	4.80%
Rosebud	10,505	9,383	-10.68%	9,212	9,540	9,940	10,380	10,820	11,290	10.63%	20.30%
Sheridan	4,732	4,105	-13.25%	3,524	3,280	3,180	3,090	3,080	3,110	-24.73%	-24.20%
Treasure	874	861	-1.49%	689	590	580	610	610	620	-29.15%	-27.99%
Wheatland	2,246	2,259	0.58%	2,037	2,000	2,020	2,050	2,120	2,210	-9.25%	-2.12%
Yellowstone	113,419	129,352	14.05%	136,691	143,940	150,540	157,110	163,950	171,300	21.46%	32.40%
Subtotal:	215,476	227,738	5.69%	230,919	236,650	243,120	250,070	257,960	267,250	9.81%	17.40%

County	*1990*	*2000*	*Change from 1990 to 2000*	*2005*	*2010*	*2015*	*2020*	*2025*[1]	*2030*[1]	*Change from 2000 to 2020*	*Change from 2000 to 2030*
Tertiary Area Counties (Montana Only):											
Big Horn	11,337	12,671	11.77%	13,149	13,600	14,030	14,400	14,940	15,510	13.65%	22.40%
Broadwater	3,318	4,385	32.16%	4,517	4,810	5,200	5,640	6,000	6,440	28.62%	46.90%
Carbon	8,080	9,552	18.22%	9,902	10,320	10,710	11,070	11,500	11,980	15.89%	25.40%
Carter	1,503	1,360	-9.51%	1,320	1,260	1,210	1,190	1,190	1,200	-12.50%	-11.80%
Cascade	77,691	80,357	3.43%	79,569	77,890	76,620	75,940	75,840	76,330	-5.50%	-5.00%
Fallon	3,103	2,837	-8.57%	2,717	2,590	2,460	2,440	2,420	2,430	-13.99%	-14.40%
Gallatin	50,463	67,831	34.42%	78,210	88,300	97,780	107,100	116,450	126,020	57.89%	85.80%
Glacier	12,121	13,247	9.29%	13,552	13,670	13,770	13,900	14,090	14,340	4.93%	8.20%
Jefferson	7,939	10,049	26.58%	11,170	12,400	13,540	14,680	15,820	17,090	46.08%	70.10%
Lewis and Clark	47,495	55,716	17.31%	58,449	62,830	67,810	72,880	78,040	83,460	30.81%	49.80%
Liberty	2,295	2,158	-5.97%	2,003	1,950	1,870	1,830	1,850	1,870	-15.20%	-13.40%
Meagher	1,819	1,932	6.21%	1,999	2,040	2,070	2,130	2,190	2,270	10.25%	17.50%
Park	14,562	15,694	7.77%	15,968	16,860	17,900	18,900	19,970	21,200	20.43%	35.10%
Pondera	6,433	6,424	-0.14%	6,087	5,870	5,770	5,680	5,670	5,710	-11.58%	-11.10%
Powder River	2,090	1,858	-11.10%	1,705	1,560	1,550	1,530	1,500	1,500	-17.65%	-19.30%
Stillwater	6,536	8,195	25.38%	8,493	9,110	9,690	10,280	10,820	11,430	25.44%	39.50%
Sweet Grass	3,154	3,609	14.43%	3,672	3,720	3,780	3,930	4,020	4,190	8.89%	16.10%
Teton	6,271	6,445	2.77%	6,240	6,120	6,080	6,060	6,060	6,130	-5.97%	-4.90%
Toole	5,046	5,267	4.38%	5,031	4,860	4,750	4,670	4,670	4,710	-11.33%	-10.60%
Wibaux	1,191	1,068	-10.33%	951	910	880	830	840	810	-22.28%	-24.20%
Subtotal:										20.74%	33.50%
Tertiary Area Counties (Montana Adjacent):											
Billings (ND)	1,108	888	-19.86%	815	775	727	679	na	na	-23.54%	na
Bowman (ND)	3,596	3,242	-9.84%	3,177	3,181	3,108	3,038	na	na	-6.29%	na
Divide (ND)	2,899	2,283	-21.25%	2,006	1,796	1,600	1,420	na	na	-37.80%	na
Golden Valley (ND)	2,108	1,924	-8.73%	1,856	1,800	1,723	1,658	na	na	-13.83%	na

County	*1990*	*2000*	*Change from 1990 to 2000*	*2005*	*2010*	*2015*	*2020*	*2025*[1]	*2030*[1]	*Change from 2000 to 2020*	*Change from 2000 to 2030*
McKenzie (ND)	6,383	5,737	-10.12%	5,391	5,197	5,033	4,924	na	na	-14.17%	na
Williams (ND)	21,129	19,761	-6.47%	18,556	17,959	17,318	16,679	na	na	-15.60%	na
Butte (SD)	7,914	9,094	14.91%	9,347	9,528	9,782	10,035	na	na	10.35%	na
Harding (SD)	1,669	1,353	-18.93%	1,204	1,286	1,276	1,266	na	na	-6.43%	na
Big Horn (WY)	10,525	11,461	8.89%	11,333	11,700	11,820	11,920	na	na	4.00%	na
Campbell (WY)	29,370	33,698	14.74%	37,405	43,090	47,650	52,630	na	na	56.18%	na
Crook (WY)	5,294	5,887	11.20%	6,182	6,520	6,740	6,950	na	na	18.06%	na
Sheridan (WY)	23,562	26,560	12.72%	27,389	28,750	29,740	30,730	na	na	15.70%	na
Subtotal:	115,557	121,888	5.48%	124,661	131,582	136,517	141,929	na	na	16.44%	na
Area Total:	633,349	688,199	9.37%	706,631	734,492	762,067	791,759	na	na	15.05%	na
Montana:	799,065	902,195	12.91%	935,670	981,090	1,030,420	1,083,050	1,139,720	1,202,520	20.05%	33.30%

Sources: US Census Bureau, NPA Data Services, Inc., Rural Life Census Data, 2007: North Dakota State University, 2007, Wyoming, Department of Administration and Information, 2007.
[1] No data are available on population projections for 2025 or 2030 for North Dakota, South Dakota, or Wyoming.

The population of Montana increased by 12.91 percent from 1990 to 2000 and has been projected to increase by 33.29 percent between 2000 and 2030 (U.S. Census Bureau, NPA Data Services, 2006). However, with the exception of Fergus County, the primary area counties contiguous to Fort Peck Lake all decreased in population between 1990 and 2000, and are projected to continue decreasing through the year 2030. Population in Fergus County is projected to remain steady. Seven secondary counties—Blaine, Choteau, Golden Valley, Judith Basin, Musselshell, Wheatland, and Yellowstone—increased in population between 1990 and 2000. Of those counties, only Golden Valley, Musselshell, and Yellowstone are projected to continue to increase between 2000 and 2030. The population in 11 of the 20 tertiary counties in Montana is projected to increase between 2000 and 2030. The population in all of the North Dakota tertiary counties is projected to decrease between 2000 and 2020 although the population of all Wyoming counties is expected to increase. Of the two South Dakota counties, Harding County is expected to decrease although Butte County is expected to increase.

The seasonal population consists of persons who own homes they occupy only on a seasonal basis. The seasonal population was projected by multiplying the average household size in the county by the number of homes vacant on April 1, 2000 (when the U.S. Census was taken) that were recorded as being occasional, seasonal, or recreational use. It is assumed that seasonal residents in the counties contiguous to Fort Peck Lake are not permanent residents of these counties, although some people do reside permanently in the cabin areas. The estimated seasonal and total (permanent plus seasonal) population of the counties contiguous to Fort Peck Lake in 2000 is provided in Table 2-24.

Table 2-24. Estimated Seasonal, Permanent, and Total Population of Primary Area Counties in 2000

County	*Vacant Housing Units*	*Seasonal Vacant Units**	*Average Household Size*	*Estimated Seasonal Residents*	*Permanent Residents*	*Total Residents*	*Seasonal as % of Total*
Fergus	5,558	192	2.45	470	11,423	11,893	4.0%
Garfield	961	307	2.40	737	542	1,279	57.6%
McCone	1,087	81	2.44	198	1,779	1,977	10.0%
Petroleum	292	36	2.36	85	408	493	17.2%
Phillips	2,502	326	2.49	812	3,789	4,601	17.6%
Valley	4,847	420	2.44	1,025	6,650	7,675	13.3%
Total:	15,247	1,362		3,326	24,592	27,918	11.9%

** Includes housing units for seasonal, occasional, or recreational use. Does not include the following categories: for rent; for sale; rented or sold; not occupied; recreational vehicle; and other vacant.*
Sources: US Census Bureau, 2000 Decennial Census

In 2000, 54 percent of the Montana population was classified as urban, although 46 percent was classified as rural. This compares to an average of 79 percent classified as urban and 21 percent rural for the United States as a whole. Although nearly all the growth in Montana's population

occurs in the largest cities, the cities are small by national standards. The two largest cities in the primary area of influence are Lewiston, with a 2000 Census population of 5,813, and Glasgow, with a population of 3,253. Table 2-25 lists the U.S. Census, 1990 and 2000, for Montana cities in the primary area of influence.

Table 2-25. Population of Cities in the Primary Area Counties, 1990 and 2000

City	*County*	*Census 1990*	*Census 2000*	*Change from 1990 to 2000*
Circle	McCone	805	644	-20.0%
Dodson	Phillips	137	122	-10.9%
Fort Peck	Valley	325	240	-26.2%
Glasgow	Valley	3,572	3,253	-8.9%
Jordan	Garfield	494	364	-26.3%
Lewistown	Fergus	6,051	5,813	-3.9%
Malta	Phillips	2,340	2,120	-9.4%
Winnett	Petroleum	188	185	-1.6%
Total:		13,912	12,741	-8.4%

Source: U.S. Census Bureau, Decennial Census

RACE AND ETHNICITY

The population of Montana is primarily white, representing 91.1 percent of the population in 2005 (U.S. Census, 2007). American Indians and Alaska Natives, most of whom are members of one of the tribes living on one of the seven reservations in Montana, are numerically the largest minority and accounted for 6.5 percent of Montana's population in 2005. The majority of the remaining minority population in the State is Hispanic.

Seven American Indian reservations are located in Montana. The 2000 Census population of each reservation is displayed in Table 2-26. Portions of two American Indian reservations, Fort Peck and Fort Belknap, are located in the Fort Peck Lake primary area of influence. Fort Peck reservation is located in Valley, Roosevelt, Daniels, and Sheridan Counties. Fort Belknap reservation is located in Phillips and Blaine counties.

Table 2-26. U.S. Census Population of Tribal Reservations in Montana in 2000

Reservation	*Population in 2000**
Blackfeet Reservation	10,100
Crow Reservation	6,894
Flathead Reservation	26,172
Fort Belknap Reservation	2,959
Fort Peck Reservation	10,321
Northern Cheyenne Reservation	4,470
Rocky Boy's Reservation	1,605
Total:	62,566

Source: U.S. Census Bureau, 2000 Decennial Census
** Total population within reservation boundaries.*

AGE

The median age of Montana residents is increasing. Although median age for the State was 37.5 years in 2000, the median age for the U.S. was 35.3 years (U.S. Census Bureau, 2000). The birth rate in Montana was 12.1 per 1,000 residents in 2000, compared to a national rate of 14.7, and has been declining since 1980 (Montana DHHS, 2007). All counties in the primary area of influence have median ages above 40 years. The median age for the Fort Peck area counties is shown in Table 2-27.

Table 2-27. Median Age of Fort Peck Area Counties, Montana and the United States, 1980 to 2000

Area	*1980 Median Age*	*1990 Median Age*	*2000 Median Age*
Primary Area Counties	29.8	35.9	41.7
Secondary Area Counties	32.2	36.3	41.0
Tertiary Area Counties	30.1	35.9	40.7
Montana	29.0	33.8	37.5
United States	30.0	32.8	35.3

Source: U.S. Census Bureau, 2000 Decennial Census; US Census, 1990, 1980 via Northwest Area Foundation.

EDUCATION

Education levels in Montana and the Fort Peck area of influence steadily increased between 1990 and 2000, as shown in Table 2-28, and are expected to continue to increase.

Table 2-28. Educational Attainment of Persons at Least 25 Years Old in the Fort Peck Area of Influence*, Montana, and the United States, 1990 and 2000

Area	*High School Graduates in 1990*	*High School Graduates in 2000*	*Change from 1990 to 2000*	*College Graduates in 1990*	*College Graduates in 2000*	*Change from 1990 to 2000*
Primary Counties	77.16%	84.88%	7.72%	13.64%	17.51%	3.87%
Secondary Counties	79.87%	86.24%	6.37%	18.15%	22.68%	4.53%
Tertiary Counties**	82.69%	88.12%	5.43%	22.16%	26.71%	4.55%
Entire Area**	79.90%	86.41%	6.51%	17.98%	22.30%	4.32%
Montana	61.21%	62.78%	1.57%	19.79%	24.37%	4.58%
United States	54.90%	56.00%	1.10%	20.34%	24.40%	4.06%

**Weighted average based on population.*
***Does not include counties outside of Montana*
Source: U.S. Census Bureau, 2000

The 1982-1983 Nationwide Recreation Survey (National Park Service, 1986) found that participation in outdoor recreation rises with increasing levels of education. High school graduates spent over twice as many days and college graduates over three times as many days on outdoor recreation activities as those who did not graduate from high school. Based on these findings, the increase in the percentage of high school and college graduates in Montana and in the area of influence would be expected to result in increased demand for outdoor recreation facilities.

EMPLOYMENT

The percentage of workers in Montana and in the United States employed in each general category of industry in 1990 and 2000 is provided in Table 2-29. Changes between 1990 and 2000 indicate shifts in each industry's share of the workforce.

Table 2-29. Percent Employment by Industry in Montana and the U.S., 1990 and 2000

Industry	*Montana in 1990*	*Montana in 2000*	*Change from 1990 to 2000*	*US in 1990*	*US in 2000*	*Change from 1990 to 2000*
Agriculture, Forestry, Fishing, Hunting, Mining	11.22%	7.91%	-3.31%	3.32%	1.87%	-1.45%
Construction	5.75%	7.45%	1.70%	6.24%	6.78%	0.54%
Manufacturing	7.57%	5.97%	-1.60%	17.69%	14.10%	-3.59%
Wholesale Trade	3.68%	3.04%	-0.64%	4.38%	3.60%	-0.78%
Retail Trade	19.44%	12.79%	-6.65%	16.84%	11.73%	-5.11%
Transportation & Warehouse, Utilities	7.35%	5.42%	-1.93%	7.09%	5.20%	-1.89%
Information	3.91%	2.18%	-1.73%	4.82%	3.08%	-1.74%

Finance, Insurance, and Real Estate	4.96%	5.48%	0.52%	6.90%	6.89%	-0.01%
Professional, Scientific, Management, Administrative	6.73%	6.49%	-0.24%	6.64%	9.30%	2.66%
Education, Health & Social Services	18.70%	21.70%	3.00%	16.70%	19.92%	3.22%
Arts, Entertainment, Recreation, Accommodation, Food Services	5.06%	10.36%	5.30%	4.59%	7.87%	3.28%
Public Administration (Government)	5.63%	5.94%	0.31%	4.79%	4.87%	0.08%

Source: U.S. Census Bureau Summary File 3 Table P49; 1990 STF 3 Table P077.

The industries that employed the most people in Montana in 2000 were: education, health and social services; retail trade; arts, entertainment, recreation, accommodation, and food services. The percent change of employment by industry shows that Montana generally followed the nation, with the exception of a statewide decrease in the professional, scientific, management, administrative industry and an increase in the finance, insurance, and real estate industry in contrast with the nation. Traditionally, Montana has been dependant on agriculture, forestry, fishing, hunting, mining trades but the economy is becoming more diversified as services and retail trade play more important roles. This change may favor the growth of the larger communities in the State at the expense of the rural areas and small towns.

The percentage of workers employed in 2000 in each of industry for Montana and for the three areas of influence is provided in Table 2-30.

Table 2-30. Percent Employment by Industry in Area of Influence and Montana in 2000

Industry	***Primary Counties***	***Secondary Counties***	***Tertiary Counties****	***Entire Area of Influence****	***Montana***
Agriculture, Forestry, Fishing, Hunting, Mining	21.96%	9.23%	7.59%	8.95%	7.91%
Construction	7.29%	5.85%	8.11%	7.16%	7.45%
Manufacturing	2.84%	4.28%	4.78%	4.49%	5.97%
Wholesale Trade	2.52%	4.33%	2.70%	3.35%	3.04%
Retail Trade	10.68%	13.13%	11.87%	12.32%	12.79%
Transportation & Warehouse, Utilities	5.61%	6.86%	4.38%	5.44%	5.42%
Information	1.76%	2.11%	2.29%	2.19%	2.18%
Finance, Insurance, and Real Estate	3.72%	5.61%	5.71%	5.57%	5.48%
Professional, Scientific, Management, Administrative	2.59%	6.05%	6.91%	6.36%	6.49%

Education, Health & Social Services	20.80%	22.24%	21.33%	21.67%	21.70%
Arts, Entertainment, Recreation, Accommodation, Food Services	7.89%	9.54%	10.90%	10.21%	10.36%
Public Administration (Government)	6.49%	5.15%	8.37%	6.99%	5.94%
Other	5.87%	5.61%	5.03%	5.31%	5.28%

**Does not include counties outside of Montana.*
Source: U.S. Census Bureau Summary File 3 Table P49

Within the area of influence, the industries with the highest proportions of the work force in 2000 were similar to Montana as a whole, with the exception of the agriculture, forestry, fishing, hunting, and mining trades. Counties within the primary area of influence had almost three times the proportion of workers in these trades than the State as a whole.

According to the Bureau of Labor Statistics, the 2006 national unemployment rate was 4.6 percent, but was only 3.2 percent in Montana. Montana's unemployment rate decreased from 4.8 percent in 2000 to 3.2 percent in 2006. The average unemployment rate in 2006 in the Fort Peck area of influence, Montana Reservations, and Montana is provided in Table 2-31.

Table 2-31. Unemployment Rate for Fort Peck Areas of Influence and Montana in 2006

Area	***Unemployment Rate (2006)***
Primary Counties	3.4%
Secondary Counties	3.3%
Tertiary Counties*	3.3%
All Area Counties*	3.3%
Blackfeet Reservation	15.3%
Crow Reservation	12.4%
Flathead Reservation	6.0%
Fort Belknap Reservation**	16.4%
Fort Peck Reservation**	12.6%
Northern Cheyenne Reservation	15.4%
Rocky Boy's Reservation	19.7%
Montana	3.2%

**Does not include counties outside of Montana*
***Reservations within the Primary Counties*
Source: U.S. Department of Labor, 2007

The average unemployment rate in 2006 in the entire Fort Peck Lake area of influence was 3.3 percent, 3.4 percent for the primary area counties, 3.3 percent for the secondary area counties, and 3.3 percent for the tertiary area counties. This indicates a stable job market and nearly full employment for all persons participating in the job market (working or seeking work). Within local Indian Reservations, however, the unemployment rate was much higher.

INCOME

The overall aggregate income for Montana was approximately $15 billion in 1999 (Census 2000). Table 2-32 displays 1999 income data reported by the 2000 Census. Montana's per capita income in 1999 was only about 79 percent of the $21,587 for the United States as a whole. The economy of the Fort Peck area of influence is still highly dependent on agriculture. Median income in this area tends to vary with agricultural yields, which vary greatly with weather and crop prices. Crop prices did not increase in the 1990s nearly as much as the cost of most other goods and services. The relatively low-income levels in the Fort Peck primary area counties may be partly because of the higher proportion of agricultural workers in these counties compared to the other area counties or Montana as a whole.

Table 2-32. Income Data for the Fort Peck Area of Influence and Montana, 1999

Area	*Median Household Income*	*Median Family Income*	*Per Capita Income*
Primary Counties	$28,305	$35,475	$15,365
Secondary Counties	$29,107	$35,537	$14,761
Tertiary Counties*	$31,856	$38,393	$15,892
All Area Counties*	$29,107	$35,537	$15,365
Montana	$33,024	$40,487	$17,151

**Does not include counties outside of Montana*
Source: U.S. Census Bureau, 2000.

ESTIMATED ECONOMIC VALUE TO MONTANA OF FORT PECK AREA FISHING

No recent studies have been conducted to estimate the economic value of fishing at Fort Peck to the State or local economy. Hunting, fishing, and wildlife viewing are important to Montana's economy, contributing an estimated $1 billion per year (MFWP, 2002b). In 2003, anglers spent approximately 2.7 million days fishing in Montana (MFWP, 2005b). Approximately 80 percent of the fishing was for cold water species such as rainbow trout and about 20 percent was for warm water fish such as walleye and bass. MFWP estimated that the 1999 to 2000 fishing use at 112,000 angler days per year would result in a fishing value for the lake of $5,258,888 per year (MFWP, 2002a).

The drought which began in 2001 has impacted fishing levels throughout the State and at Fort Peck. The number of fishing days in the State declined from 3.18 million fishing days in 1999 to 2.7 million in 2003 (MFWP, 2005a). Fort Peck visitation declined at the beginning of the drought (see Table 2-33), but has increased slightly since 2004 when the Corps increased its efforts to extend boat ramps and to provide information on lake access. The MFWP angling pressure estimates indicate that angler days at Fort Peck Lake decreased from 109,564 in 2001 to 56,375 in 2003 and 48,433 in 2006 (MFWP 2001, 2003, 2006).

Low lake levels have decreased visitation and angler days at Fort Peck and have affected the operation of marinas around the lake. Based on the MFWP estimate in 2002, the fishing value in 2006 was $2,838,129 (August 2006 dollars), a decrease of approximately 46 percent since 2002.

VISITATION AND RECREATION ACTIVITIES, FACILITIES, AND NEEDS

MONTANA STATE TOURISM REGIONS

The Montana Department of Commerce divides the State into six tourism regions (see Figure 2-4). The Missouri River Country, where the Fort Peck Lake project area is located, experienced a 38 percent increase in tourism growth from 1990 to 2000, likely because of fishing (Montana Department of Commerce, 2002). Recreational lands in Missouri River Country are largely contained in the Fort Peck project area. Other recreational lands include Medicine Lake and Bowdoin National Wildlife Refuges, and Brush Lake State Park. Missouri River Country also contains a large portion of the Lewis and Clark National Historic Trail, much within the Fort Peck project area.

In 2001 and 2005, the Institute for Tourism and Recreation Research (ITRR) at the University of Montana surveyed nonresident travelers across the State to collect data on visitor destinations. Results from 2005 show a decrease from 41 to 34 percent of those primarily vacationing, an increase from 14 to 19 percent for those visiting friends/family, and an increase from 24 to 27 percent of those passing through the State. Mountain/forests was still the number one attraction to those on vacation followed by open space/uncrowded areas, Yellowstone National Park, rivers, and Glacier National Park (ITRR, 2006).

In 2005, Fort Peck was visited by 2 percent of surveyed nonresident travelers in Montana, a 1 percent decrease from 2001 (Table 2-33). By far, the highest percentage of nonresident travelers in Montana visit Yellowstone National Park and Glacier National Park (ITRR, 2006).

Table 2-33. Sites Visited by Travelers in Montana

Site	*2005*	*2001*
Yellowstone National Park	32%	40%
Glacier National Park	20%	27%
Little Bighorn Battlefield	9%	14%
Other Montana State Parks	7%	n/a
Flathead Lake State Parks	6%	17%
Virginia City/Nevada City	5%	n/a
Lewis and Clark Interpretive Center, Great Falls	4%	6%
Bighole Battlefield	3%	5%
National Bison Range	3%	5%
Lolo Pass Interpretive Center	3%	3%
Bighorn Canyon National Recreation Area	3%	5%
Museum of the Rockies, Bozeman	3%	4%
Pompey's Pillar	3%	4%
Missouri Headwaters State Parks	3%	5%
Fort Peck Lake	2%	3%
Clark Canyon Reservoir	2%	1%
Lemhi Pass	2%	1%
Lost Trail Pass	2%	2%
Montana Historical Museum, Helena	2%	2%

Site	*2005*	*2001*
CM Russell National Wildlife Refuge	2%	2%
Bob Marshall Wilderness Complex	2%	n/a
Lewis and Clark Caverns State Park	2%	n/a
Bannack State Park	1%	n/a
Makoshika State Park	<1%	n/a

Source: ITRR 2006

VISITATION

The Corps has collected information on visitation at the Fort Peck Project since 1992. Table 2-33 shows the annual visits recorded at the Fort Peck Project area through 2006. Visits were counted using traffic counters located at recreation areas within the Fort Peck project area. The visitation data only reflect visitation at Corps recreation areas and does not include visits to the CMR. A visit is defined as the entry of one person into a recreation area or site to engage in one or more recreation activities. Table 2-33 includes estimates of dispersed use. Dispersed use is recreation use that occurs outside defined recreation areas.

Although the visitation counts shown reflect the best information available and probably reflect the general trends in visitation, they are not considered totally reliable because the data are based on traffic counts. The data do not measure the amount or type of use or length of stay. If a visitor leaves a site and returns to a different site on the same day, that is recorded as a separate visit to both sites.

Total project area visits steadily increased from 219,839 visitors in 1992 to a high of 351,670 visitors in 2001, a 60 percent increase. Visitation decreased by 25 percent from 2001 to 2005, due largely to the effects of drought. Visitation increased significantly in 2006, the last year available, with approximately a 20 percent increase between 2005 and 2006. Since 2001, Fort Peck Lake water levels have been low due to persistent drought conditions. During extended drought periods, such as the Missouri River basin is currently experiencing, recreation is adversely affected. The low pool levels make boat ramps unusable, expose large areas of beach and sometimes make areas of the reservoir unreachable. Such recreation activities as boating, fishing, swimming, and camping are particularly affected. Of the ten Corps boat ramps on Fort Peck Lake, the Corps has maintained eight in operation for all or most of recreation seasons since 2003 (Corps, 2004c).

Visitation was up slightly in 2006 (317,165 visitors). The Grand Opening in May 2005 of the Fort Peck Interpretive Center and Museum, which serves as a regional visitor draw, helped to counteract drought-related decreases in overall visitation to the Fort Peck project area. In recent years, visitation has been highest at Fort Peck Interpretive Center and Museum, Downstream Recreation Area and James Kipp Park, areas not affected by low pools. Increases in visitation due to the Lewis and Clark Bicentennial from the years 2003 though 2007 did not materialize as expected. Some declines in visitation at the beginning of the drought were due to the public perception that no facilities were usable and the Lake was completely dry. The recent increased visitation levels may be partly due to the Corps, partnering agencies, and tourism groups spreading information on the availability of low water ramps and continued promotion of accessible facilities, fishing tournaments and other events.

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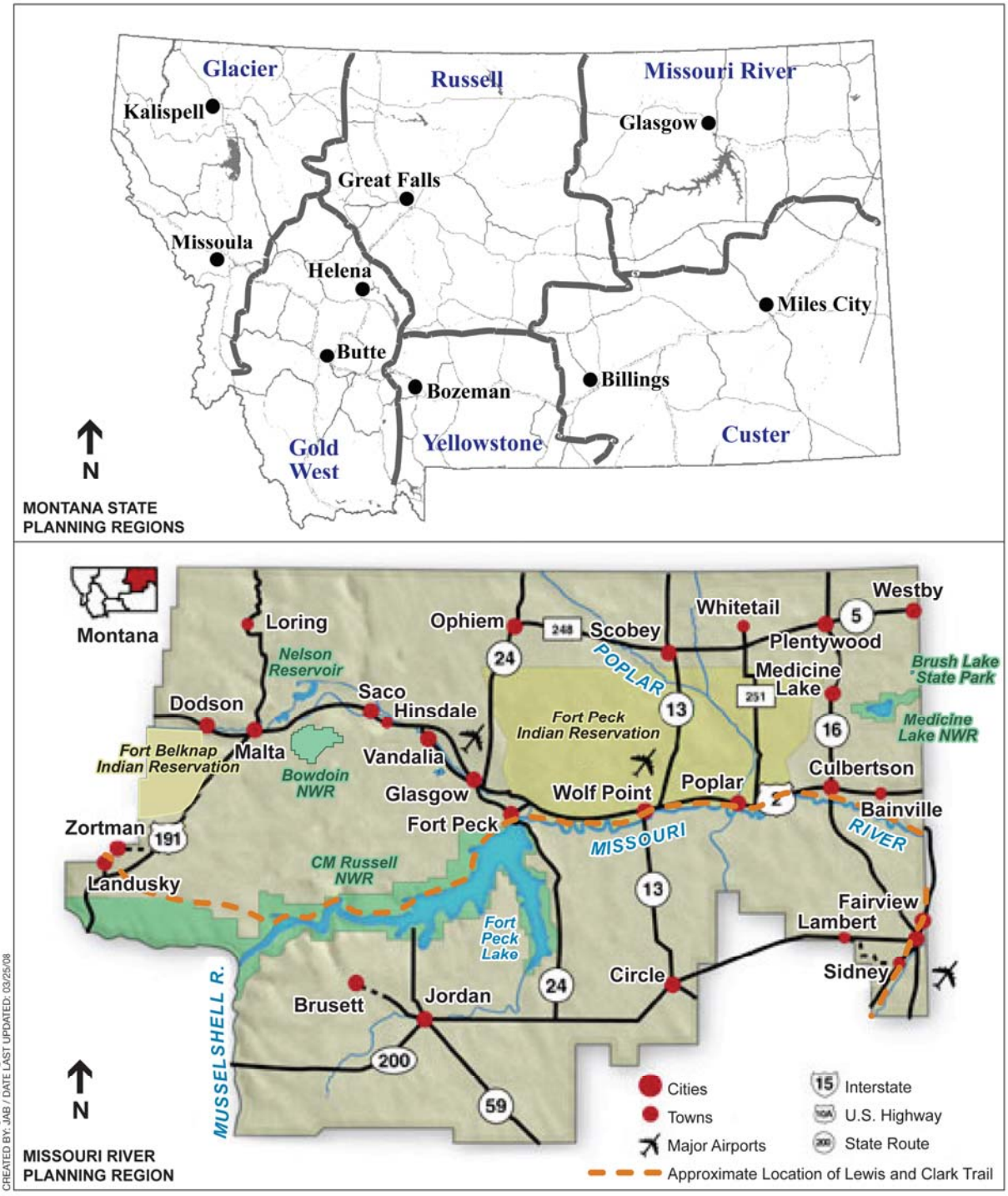

SOURCE: Missouri River Country, 2006.

Fort Peck Dam/Fort Peck Lake Master Plan . 204041.C

Figure 2-4
Montana State Planning Regions
Montana

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Table 2-34. Fort Peck Project Annual Recorded Visits from 1992-2006

Site Name	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*
Downstream Area															
Downstream	18,994	19,226	22,870	21,823	24,537	30,427	31,989	33,420	40,990	46,925	25,155	22,566	25,023	29,545	28,987
Goose Pond[1]	3,010	3,926	3,519	4,708	4,333	3,237	2,453	1,628	1,049	1,181	1,181	1,238	--	--	--
Nelson Dredge	3,005	2,534	3,147	2,672	2,987	2,725	2,797	2,180	2,079	2,141	2,416	2,752	2,433	1,749	4,877
Boy Scout Park	4,343	4,052	4,519	4,258	3,122	3,380	2,681	2,512	2,385	2,895	2,637	2,599	1,813	1,952	5,883
Trout Pond	7,187	9,087	7,274	6,526	6,353	5,961	6,096	5,837	6,353	4,817	4,487	4,371	3,491	2,815	3,927
Floodplain	7,588	7,459	6,838	7,222	6,859	5,298	5,031	3,961	4,436	4,319	4,253	4,253	4,217	3,968	3,407
Roundhouse Point	10,056	7,380	9,237	7,830	6,792	6,524	5,988	5,733	4,880	4,641	3,876	4,202	3,307	3,406	3,217
Beaver Creek Nature Area	3,253	2,967	4,313	6,140	7,010	6,665	6,067	5,025	6,244	5,239	--	--	--	--	7,400
First Dredge	3,067	3,759	5,228	4,667	4,892	4,110	5,205	2,711	3,086	3,278	3,044	2,605	1,789	2,027	5,822
Second Dredge	3,766	3,409	3,197	3,617	1,749	2,685	4,172	1,739	2,050	2,489	2,610	2,319	1,771	2,108	8,769
Fort Peck Powerhouse[2]	465	7,267	8,216	8,414	9,751	11,590	12,400	9,299	8,917	7,445	5,733	5,853	5,397	4,119	1,404
Fort Peck Interpretive Center[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	27,306	30,411
Tailrace Park[4]	4,598	2,703	3,787	2,865	725	97	--	--	--	--	--	--	--	--	--
Fort Peck West															
Duck Creek Fishing Access	2,646	4,597	6,402	7,088	7,112	7,102	6,943	7,383	7,956	7,599	7,083	6,485	5,769	5,793	11,976
Duck Creek State Fishing Access	1,569	3,305	6,501	4,756	5,002	5,482	5,090	5,094	5,461	7,010	10,131	1,626	--	--	323
West End, Shelters 1 & 2	22,967	27,108	35,412	39,852	47,416	58,167	58,506	66,986	68,065	70,788	37,626	27,834	25,135	17,994	7,760
West End. Shelter 3	2,535	3,545	3,740	3,939	5,866	6,397	5,946	5,363	5,947	5,564	4,411	4,038	2,564	2,733	3,038
West End Campground	6,278	9,179	10,772	11,581	7,812	9,252	11,046	10,803	16,536	11,278	4,993	3,928	3,254	3,898	12,619

Site Name	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*
The Pines	7,115	6,419	7,968	9,360	7,410	7,963	9,108	9,231	9,710	11,252	13,470	13,674	13,341	10,912	15,483
Fourchette Bay	3,557	3,325	3,734	3,993	3,995	4,952	5,349	3,251	3,110	3,078	3,831	4,609	1,828	498	3,669
James Kipp Park	5,991	16,528	15,790	14,512	15,109	7,896	11,473	15,568	17,620	20,025	23,825	24,762	23,352	19,306	25,568
Crooked Creek	998	1,024	2,297	3,309	3,975	3,686	4,079	3,813	4,325	2,571	2,567	2,960	1,976	1,140	3,322
Hell Creek State Park	11,166	8,890	10,591	10,293	11,323	13,624	15,863	15,602	15,981	17,754	22,699	20,814	19,946	16,392	17,335
Rock Creek State Park	7,575	8,962	8,380	9,490	7,600	9,222	9,935	9,104	10,262	9,793	11,073	10,955	11,603	8,843	8,330
Rock Creek	5,932	5,366	5,561	9,711	6,623	7,759	9,574	14,378	8,980	8,976	9,907	9,567	7,263	6,500	5,772
Bone Trail	1,219	1,025	1,655	1,603	1,536	1,205	1,345	947	1,301	1,373	1,579	1,581	1,469	1,000	3,571
Devils Creek	1,733	1,890	1,424	2,040	1,319	1,311	1,421	1,219	1,322	1,547	1,945	2,427	1,582	1,016	2,741
Nelson Creek	1,568	1,679	3,943	5,605	6,511	8,396	9,469	8,066	9,663	2,383	749	576	280	99	510
McGuire Creek	2,601	2,217	2,440	2,157	2,316	1,661	1,697	1,481	1,744	1,951	2,694	2,959	2,534	1,500	1,308
Bear Creek[5]	865	720	686	701	567	822	836	566	594	484	397	402	182	167	--
Flat Lake	4,717	6,669	6,754	7,986	9,274	12,996	12,573	9,225	9,825	9,801	10,507	9,050	4,807	4,635	6,744
Dispersed	70,907	73,227	72,379	71,265	64,608	70,853	77,178	76,340	84,638	94,083	97,136	110,156	120,251	93,777	96,567
Total Fort Peck Lake[6]	219,839	245,897	273,837	283,114	277,674	301,923	322,236	318,089	344,255	351,670	304,624	296,894	285,094	264,557	317,165

[1]The Goose Pond area was closed in 2004 to construct the fish hatchery.
[2]Access to the Powerhouse was limited in 2005 to tours through the new Interpretive Center. See Section 2.21.1 for more information.
[3]Opened in 2005
[4]Tailrace Park was closed in 1997 for construction of the Interpretive Center.
[5]Bear Creek was closed as a recreation area in 2006, although the facilities remain. See Section 3.2 for more information.
[6]Individual area visitation numbers do not equal the total for Fort Peck Lake because some visitors visit more than one recreation area on the same day.

Table 2-35 summarizes visitation at Fort Peck from 2001 to 2006 using visitor hours at the lake. The table illustrates that visitation has declined during the low water years following 2001. In 2004, the Corps began extending and relocating boat ramps to maintain access. Because of these efforts, more of the Corps ramps were accessible than in previous drought years—8 of 10 ramps at Fort Peck.

Table 2-35. Visitation at Fort Peck Lake in Visitor Hours, 2001-2006

Year	*Visitation*
2001	6,206,400
2002	5,183,100
2003	5,128,000
2004	5,252,800
2005	5,445,900
2006	5,374,200

Source: Corps, 2005 and 2007c

VISITOR DISTRIBUTION

There are no recent surveys of Fort Peck project area visitor origins and destinations. Based on older surveys and general observations of visitor patterns, it is expected that most visitors to the developed recreation areas reside in nearby population centers, with the remainder split between Montana residents and nonresidents from other parts of the U.S. and a lesser number from Canada.

The Corps conducted exit surveys in 1984 and 1992 to study the visitation at Fort Peck Lake. Those surveys indicated that over 90 percent of the visitors were from 28 counties in Montana, with over 80 percent from the six primary counties. Over 40 percent were from Valley County which is adjacent to Fort Peck Lake and contains the town of Glasgow. The remaining visitors, approximately 6 percent, were from outside of Montana--most notably North Dakota, Canada, and California.

MFWP conducts regular creel surveys at Fort Peck Lake to help with fishery management. Surveys have been conducted in 1990, 1997, and 2004. The 1990 survey provided detailed information on the place of residence of those fishing at Fort Peck Lake. Based on 2,673 interviews conducted between April and September 1990, visitation patterns were similar to those identified in the Corps 1984 survey, but more spread out. Valley County still had the highest representation, with slightly over 31 percent. Ten Montana counties comprised 80 percent of the visitation. Total visitation by Montana residents amounted to 90.7 percent spread over 45 counties. Another 4.9 percent were from North Dakota, 0.4 percent from Canada, and 3.9 percent from all other locations. The 2004 survey indicated that 8 percent of Fort Peck anglers were nonresidents (MFWP, 2005a). The average trip distance for anglers was 207 miles one-way. Approximately 23 percent traveled less than 30 miles one-way and 65 percent traveled more than 100 miles one-way.

The most important fact revealed in the surveys was the close relationship between the level of representation by area of origin and the proximity of the area of origin to the Fort Peck Lake project. This relationship was found to be true in both surveys. The difference in the surveys was the more widespread representation of visitors by origin in the creel survey.

CARRYING CAPACITY

Carrying capacity is a concept that denotes the limit of use of some particular purpose. The recreational carrying capacity of an area is thought of in two ways, as "resource" capacity and as "social" capacity.

Resource capacity is the level of use beyond which irreversible biological deterioration takes place or degradation of the resource makes it unsuitable or unattractive for recreational use. Resource capacity is usually a seasonal or long-term issue, as most areas will tolerate some short-term overuse without significant adverse effects. The resource capacity of Fort Peck is typically controlled by such factors as presence of nesting sites, erodible soils, and steep terrain. Resource capacity must be accommodated in the design and location of facilities, as well as the regulation of use. Areas with low resource capacity are classified as Environmentally Sensitive Areas or one of the Multiple Resource Management sub-classifications. In these land classifications, the area covered by developed recreation facilities compared to the total area of the management unit is typically much lower than the ratio for the area covered by existing and planned future developed recreation facilities in management areas with a land classification of Recreation.

Social capacity is the level of density beyond which the use does not achieve a reasonable level of satisfaction. For example, the social capacity of a given area is typically much greater for a swimming beach than a golf course. The social capacity at Fort Peck is most frequently limited by the level of recreational facility development, such as parking spaces and restrooms, or by the expectations of the different recreational users. Because of the level of development and the visitor expectation of more intensive use, the sites with the highest social carrying capacity are those located nearest the dam: Fort Peck West and Downstream Recreation Areas. Because of the ease of access, these areas were developed to support a significant amount of day use and camping. Although there may be short-term periods of overuse during the summer holiday weekends or during fishing tournaments, the social carrying capacity of these areas is rarely reached. The density of the exiting facilities at Fort Peck is generally appropriate for the region, and social capacity limits are rarely reached. Areas with higher social capacity and accessibility ordinarily have a land classification of Recreation.

Implementation of recreation development included in each management area's development needs in Chapter 6 will enable land managers and recreation facility operators to balance facility supply and recreation demand. Balancing supply and demand avoids the potential for exceeding both the resource capacity (for example, trails/roads, fencing, and signage to reduce trampling of vegetation) and the social capacity (for example, expanding facilities that are often used to capacity where future growth in visitation is expected).

RECREATION ACTIVITIES AND ACTIVITY MIX

The Fort Peck project area has an abundance of natural and scenic resources that make resource-based outdoor recreation activities, such as fishing and wildlife viewing, possible and add to the enjoyment of other outdoor recreation activities.

Although there are no recent activity mix surveys of Fort Peck project area as a whole, a 2006 BLM survey of James Kipp Recreation Area visitors provides an indication of the mix of activities at developed areas of the Fort Peck project area.

Ninety percent of the surveyed visitors participated in camping, followed by fishing (76 percent), sightseeing (31 percent), hiking/walking (26 percent), bird watching/wildlife viewing (20 percent), motorized boating (17 percent), picnicking (17 percent), motorized recreational vehicles (8 percent), education and interpretation (6 percent), bicycling (6 percent), non-motorized boating (4 percent), other (4 percent), hunting (3 percent), and swimming (3 percent) (BLM, 2006).

Fishing is one of the most popular activities at Fort Peck. Fort Peck Lake receives nationwide recognition as a hot spot for walleye fishing. The lake also offers fishing for sauger, smallmouth bass, lake trout, Chinook salmon, and northern pike. Fishing tournaments are held at a number of recreation areas; information on existing tournaments is provided in Chapter 6 on each recreation area where fishing tournaments are held.

The Fort Peck project area is an important regional resource for hunting. The hunting seasons begin in early fall with the opening of upland birds, doves, and turkeys. The general big game archery season also opens in early fall, with general big game gun hunting beginning in mid-fall. The area is well known for its diverse populations of upland game birds, which include sharp-trailed grouse, gray partridge, ring-necked pheasant, sage grouse, and turkey. The primary big-game species is mule deer. More information regarding hunting trends is provided in the Fish and Wildlife section of Chapter 2.

Boating activities are also resource-oriented, as they depend on water. Most of the boating is related to fishing, but some non-fishing boating and sailboating also occurs. Wind surfing, waterskiing, tubing, and jet skiing are also popular water-oriented activities.

Camping is a popular activity at many of the recreation areas. As a high resource-oriented activity, primitive camping takes place most often in areas where there are large expanses of open land. Most of the primitive camping at Fort Peck is associated with fishing and hunting trips, but many seek a primitive camping experience to enjoy solitude and nature. Highly developed campgrounds are used as a destination area. On summer weekends, especially holiday weekends, these campgrounds are often at capacity. Existing camping facilities and development needs related to camping are provided for each recreation area in Chapter 6.

Picnicking is popular and is usually combined with other activities. Picnic shelters and tables with either grills or fire rings are available at most developed recreation areas. Existing picnic shelter facilities and development needs are provided for each recreation area in Chapter 6.

Trail use is increasingly popular. Trail activities include walking, hiking, jogging, bird watching, mountain biking, nature observation, and nature education/interpretation. A visitor satisfaction survey at the James Kipp Recreation Area ranked the quantity and quality of interpretive and educational programs and materials at the site fairly low, indicating the increasing demand for this activity (BLM, 2006). Information on existing trail facilities and development needs for new trails and trail improvements are provided for each recreation area in Chapter 6.

Designated swimming areas, found only on the Dredge Cuts, are marked with buoys. In other areas around Fort Peck Lake, many visitors swim and sunbathe along the shoreline in undesignated locations at their own risk.

Sightseeing has the potential to become the most popular activity at Fort Peck. The recently opened Fort Peck Dam Interpretive Center will increasingly become a popular draw. The nearby historic buildings in the town of Fort Peck; the project structures, such as the dam, powerhouse, and spillway; the powerhouse visitor center; the wildlife viewing area; and the nearby lake access, including Flat Lake and Fort Peck West, contribute to the diversity and quality of attractions that draw visitors to Fort Peck.

PROJECTION OF GENERAL TRENDS IN VISITATION

As the population ages, there is likely to be less demand for strenuous outdoor recreation activities, and more demand for activities like walking, fishing, and motorized recreation. Because of Montana's struggling economy and low-income population, affordability of outdoor recreation is also a key issue. As a result of general demographic and socioeconomic trends it is expected that nonresident visitors from the U.S. and Canada will increase if these increased demands are adequately accommodated by area facilities (MFWP, 2002b).

From 1990 to 2002, resident fishing license sales increased by about 6 percent, although nonresident sales increased by 19 percent (Montana Department of Commerce, 2002). In total, 222,562 residents and 200,647 nonresidents held Montana fishing licenses in 2003. In drought years, certain areas of the State experience significant pressure as fishermen gravitate to a few drainages.

The MFWP and USFWS staff believes that some of the increased visitation on public lands may be the result of sportsmen who are moving to public lands to hunt and fish because of closure of private lands (Montana Department of Commerce, 2002). Downward visitation trends have been seen at national parks and other sites, possibly indicating increased summer visitation to fishing access sites, refuges, and reservoirs as Montana residents seek recreational opportunities that are less crowded, and less expensive than national parks.

Nonresident travelers are increasingly hiring local outfitters and guides. Although the current prevalence of this activity in the Fort Peck project area is not known, this trend is expected to continue.

IDENTIFICATION OF PRIORITY RECREATION FACILITY NEEDS

General activity needs were identified in the 2003-2007 Montana Statewide Comprehensive Outdoor Recreation Plan (SCORP) prepared by MFWP (MFWP, 2002b). Analysis and projections were made for each SCORP administrative region. The Fort Peck project area is located primarily in Regions 6 and 7 (Regions 6 and 7 are MFWP administrative regions and differ from the tourism regions for the State described in a previous section).

The Montana SCORP indicated that in Regions 6 and 7, the recreational activities in the greatest need of additional facilities are picnic areas and fishing access (MFWP, 2002b). The highest demand activities generally parallel the facility types with greatest needs. As Montana citizens are aging, and wages are low, accessibility and affordability become important facets of outdoor recreation planning.

FISHING AND BOATING ACTIVITIES AND NEEDS AT FORT PECK LAKE

Fishing at Fort Peck Lake is done from both boat and shore. According to the 2004 creel survey, approximately 97 percent of fishing was done by boat. The hook-and-line fishing season at Fort Peck Lake extends year round. In addition, Chinook salmon and lake trout may be taken by spear between December 1 and March 31. In the Dredge Cuts area below Fort Peck Dam, a bow and arrow season for paddlefish is open from July 15 to August 31. The Fort Peck Kid's Pond near the Downstream Campground provides fishing opportunities for anglers 14 years and younger.

The creel survey conducted by MFWP in 2004 documented a combined total of 141,441 angler hours of fishing for boat and shore anglers between May 28 and October 17, 2004 (MFWP, 2005a). This represents an increase of approximately 3 percent from the 1990 creel survey. However, significantly fewer fish were caught and harvested in 2004. Overall the number of fish harvested in 2004 was 50 percent lower than in 1990.

The low lake levels since 2001 have affected fishing levels, and angler satisfaction. In the 2004 creel survey, 79 percent of the anglers surveyed listed water levels as the biggest threat to fishing at Fort Peck Lake (MFWP, 2005a). Low lake levels make lake access more difficult with some boat ramps being non-functional. The Corps has extended boat ramps and since 2004 and has maintained access at eight to ten ramps around Fort Peck Lake. To improve access, the development needs at many recreation areas include extending existing boat ramps and/or installing new low-water ramps with road access and parking. These development needs are listed in Chapter 6. Chapter 3 includes the Corps plans for addressing high and low water impacts to fishing access.

In addition to improvements to boat ramps and lake access, additional or improved fish cleaning stations are needed at Fort Peck. Chapter 6 includes development needs for new and upgraded cleaning stations at two recreation areas. The development needs also include providing additional or improved facilities for handicapped fishing access.

FACILITIES AND FACILITY NEEDS AT PUBLIC RECREATION AREAS

Existing facilities at public recreation areas, proposed new facilities, and facilities proposed to be upgraded and/or increased in number during the 20 year planning horizon of this Master Plan are summarized in Table 2-36. Details on existing facilities and proposed improvements are described in Chapter 6.

COST SHARING PROGRAMS FOR RECREATION FACILITIES

The Secretary of the Army is authorized under Section 225 of Public Law 102-580 (Water Resource Development Act of 1992) to enter into cooperative/cost share agreements with non-Federal public and private entities to provide for operation and /or management and development of recreation facilities and natural resources at water resource development projects where such facilities are being maintained at full Federal expense (ER 1130-2-500 Chapter 12). These types of agreements are contingent on availability of funding through the Corps normal budgeting procedures.

Boat ramps in the Omaha District are categorized by original construction funds utilized and current management. These categories are:

- Category I – Corps built ramps, managed and maintained by the Corps.
- Category II – Corps built ramp, managed and maintained by other agency.
- Category III – Corps cost shared ramp expenses with other agency, managed and maintained by other agency.
- Category C – Other agency built ramp, managed and maintained by other agency.

Category I and II boat ramps are the only boat ramps that can be cost shared because these facilities were constructed at full Federal expense.

Other Federal acts and/or programs are available to assist with recreation and natural resource development and/or improvement:

The Federal Aid in Wildlife Restoration Act, commonly referred to as the Pittman-Robertson Act, 1937. This Act provides funding to states for the selection, restoration, rehabilitation, and improvement of wildlife habitat and for wildlife management research. The Act was amended in 1979 to include funding for hunter training programs and the development, operation, and maintenance of public target ranges. Funds are derived from Federal excise taxes on sporting arms, ammunition, archery equipment, and handguns. These funds are collected from manufacturers by the U.S. Treasury Department and apportioned to the states by the U.S. Department of the Interior, USFWS, on the basis of the total area of the State and the number of licensed hunters in the State, for reimbursement of up to 75 percent of a State agency's expenditures for eligible projects (USFWS, 2005b).

Table 2-36. Existing and Proposed Facilities at Fort Peck Lake Recreation Areas

Recreation Areas	*Boat Fuel*	*Boat Dock*	*Boat Ramp*	*Drinking Water*	*Camping*	*Water Hookups*	*Electrical Hookups*	*Showers*	*Restroom – Flush*	*Restroom – Vault*	*Picnic Shelters*	*Tables*	*Fireplaces*	*Playground*	*Concession*	*Boat Rental*	*Boat Storage*	*Nature Trail*	*Interpretive Site*	*Fish Cleaning Station*	*Sanitary Dump Station*
Downstream Campground		E	E	E	I	I	I	I	I	E	E	E	E	E				I	N		E
Kiwanis Park				E					E	E	E	E	E	E				I	N		
Nelson Dredge		E	E							E											
Dredge Cut Trout Pond		E	E							E	E	E	E								
Dredge Cut Swim Beach				E				N	I	E	E	E	E	E				I			
Roundhouse Point		E	E		E					E		E	E								
Floodplain		E	E		I					E	E	E	E					I	N		
Interpretive Center				E					E		E	E						I	I		
Power Plants and Museum				E					E										E		
Fort Peck West	E	E	E	E	I				I	E	I	I	I	E	I	I	I			E	N
West End Campground				E	E		E	E	E		E	E	E								
The Pines		E	I	I	I					I	I	E	E	I				N	I	E	
James Kipp			E	E	E					E	N	E	E					N	I	N	E
Crooked Creek	E	E	I	E	E					E	E	E	E		E		E		N		
Hell Creek	E	E	E	I	E	E	E	E	E	E	E	E	E	E	E	E	E	N	N	E	E
Rock Creek Marina		I	I	I	I	E	E	E	E	E	N	E		N	E	I	I		N	I	
Rock Creek Fishing Access		E	E							E		E	E						E		
Duck Creek				E						I	E		E	E				N			
Duck Creek Fishing Access		E	E								E										
Bone Trail		E	E		E					E	E	E	E						E		
Fourchette Bay		E	E		E					E	E	E	E						E		
Devils Creek			E		E					E	E	E	E						E		
Nelson Creek		E	E		E					E	E	E	E						N		
McGuire Creek					E					E		E	E								
Bear Creek*																					
Flat Lake		E	E		E					E	E	E	E								
Lewis and Clark Overlook										E	E	E							E		
Milk River Observation Point																			E		

**Bear Creek Recreation is being closed and facilities removed. See Section 3.2.*
E = Existing Facilities; N = New facilities proposed for development; I = Facilities proposed to be upgraded

Federal Aid in Sport Fish Restoration Act, commonly referred to as the Dingell-Johnson Act, 1950. This Act provides funding for management, conservation, and restoration of fishery resources. Excise taxes are collected by the U.S. Treasury Department from manufacturers of fishing rods, reels, creels, lures, flies and artificial baits. The Wallop-Breaux Amendment in 1984 extended the excise tax to motorboat fuel sales and added import duties on sport fishing equipment and pleasure boats. Amendments made wetlands conservation projects, boat-waste pumpout facilities, and facilities for recreation boats too large to be trailerable eligible for cost-shared funding. Amendments also increased the minimum level of spending for boating access, aquatic education and outreach. The USFWS apportions funds among states based on each State's land and water area and its number of licensed anglers. These funds reimburse State agencies for up to 75 percent of their expenditures on eligible projects (USFWS, 2004).

Land and Water Conservation Fund Act, 1964 and amendments. This Act established a funding source for matching grants to State and local governments for recreation planning, acquisition, and development. The Act funding varies by year and comes from sales of surplus Federal real property, motorboat fuel taxes, fees for recreational use of Federal lands, Outer Continental Shelf mineral receipts, and other appropriations. Land and Water Conservation Fund grant-assisted areas are to remain forever available for public outdoor recreation use or be replaced by lands of equal market value and recreational usefulness (NPS, 2005). Requirements for State recreation planning include a regularly updated Statewide Comprehensive Outdoor Recreation Plan (SCORP) that is approved by the National Park Service (NPS). NPS allocates Land and Water Conservation Fund matching grants among the states, according to a national formula in which State population is the most influential factor. Some Land and Water Conservation Fund grants are used to match expenditures by State agencies and some are competed for by local governments. The selection criteria include meeting outdoor recreation needs and priorities identified in the SCORP (NPS, 2004). Local governments interested in a Land and Water Conservation Fund matching grants should contact MFWP.

INTERPRETATIVE FACILITIES

The Fort Peck project has added a number of interpretive facilities in recent years. These facilities provide interpretation of historic events and natural resources in the project area and also provide land based recreation opportunities. The most notable of the new facilities is the Fort Peck Interpretive Center.

FORT PECK INTERPRETIVE CENTER

The Interpretive Center is a cooperative effort of the Corps of Engineers, the U.S. Fish and Wildlife Service, and Fort Peck Paleontology Incorporated. The Center features exhibits on wildlife of the Charles M. Russell National Wildlife Refuge; paleontology, including a cast of the *Tyrannosaurus rex* known as Peck's Rex; homesteading; and Fort Peck Dam construction history and boomtowns. The Center also showcases the two largest aquariums in Montana, displaying native and game fish of Fort Peck Lake and the Missouri River.

The Interpretive Center conducts interpretive programs, theater presentations, amphitheater programs, and nature hikes covering a wide variety of topics are presented weekly throughout the summer. The Fort Peck Powerhouse formerly contained many of the interpretive displays now at the Interpretive Center. Because of security concerns, the Powerhouse is only open to tours that begin at the Interpretive Center. Interpretation at the Powerhouse is focused on power generation and construction history of the Fort Peck project.

The Interpretive Center is connected to both the Kiwanis Park Day Use Area and the Downstream Campground by a network of over 3 miles of paved nature trail, winding along the Missouri River and surrounding wooded area. This trail area is a popular birding and wildlife viewing area.

INTERPRETIVE OVERLOOKS AND DISPLAYS

Interpretive displays have been installed at the Milk River and Lewis and Clark Overlooks. The Milk River Overlook is located south of and overlooking the junction of the Milk River and Missouri River. The Lewis and Clark Overlook is located east of Fort Peck Dam and overlooks Fort Peck Lake. The displays portray the events that occurred when the Lewis and Clark Expedition traveled along the Missouri River through the Fort Peck area, including the Expedition's first encounters with grizzly bears.

The Leo B. Coleman Wildlife Exhibition Pasture is northwest of the town of Fort Peck on the Fort Peck project. The pasture holds bison and elk which can be viewed by visitors from the roadway.

Other interpretive displays are located at recreation areas around Fort Peck Lake. These displays illustrate and explain specific events that occurred or natural resources identified in the Lewis and Clark Journals that are near the sites where signs are posted.

RELATED RECREATIONAL, HISTORIC, CULTURAL, AND SCIENTIFIC AREAS

MAJOR TYPES OF RECREATION

Fort Peck Lake is the largest expanse of water in the State of Montana and thus provides the largest water body for water-oriented recreation. The northeastern portion of Montana also has numerous smaller recreation areas that offer recreation activities similar to those at the project.

Fort Peck Dam and Lake are located in the Missouri River Country tourism region of Montana (See Figure 2-4). The Missouri River Country offers a variety of opportunities for outdoor recreation and has a number of historic and geologic points of interest (Plate 4). The major types of sightseeing and outdoor recreation in the Missouri River Country are hunting, fishing, wildlife viewing, camping and sightseeing. Hunting in the area includes big game, waterfowl, and upland birds.

RELATED HISTORICAL, CULTURAL, SCIENTIFIC, AND OUTDOOR RECREATION AREAS

The CMR Refuge provides opportunities for big game and bird hunting, fishing, wildlife viewing, birding, hiking, and horseback riding. The CMR includes native prairies, forested coulees, river bottoms, and badlands. The refuge is named for the artist Charles M. Russell who often portrayed these lands in his paintings. An auto tour route is located on the west end of the Refuge, starting from Highway 191. The tour route provides opportunities for wildlife viewing and access to the Missouri River. It is popular for elk viewing in the fall. Interpretive signs are posted along the tour route. The USFWS also manages a number of smaller wildlife refuges in the surrounding area, including Bowdoin and Medicine Lake (Plate 4). These refuges provide additional opportunities for hunting, fishing, and wildlife viewing.

The Fort Peck area is part of Montana's Northeastern Plains Birding Trail. The Birding Trail includes sites in western North Dakota and southern Saskatchewan. The Birding Trail focuses on birds of the native prairie grasslands, badlands, and wetlands. Birding sites in the Fort Peck project area include the CMR, Bowdoin, and Medicine Lake Refuges; Bitter Creek Wilderness Study Area; and Elk Island, Seven Sisters, and Fox Lake Wildlife Management Areas.

A portion of the Lewis and Clark National Historic Trail follows the Missouri River through Northeastern Montana (Plate 3). The 1982 Comprehensive Management Plan includes guidelines for the development and management of the Trail. The National Park Service is planning to revise the Comprehensive Plan in the near future. Lewis and Clark followed the river through this area in May and June of 1805 on the westbound trip and in August of 1806 on Lewis' return trip. The Lewis and Clark National Historic Trail Interpretive Center, operated by the U.S. Forest Service, is located in Great Falls. The area attracts visitors retracing portions of the expedition journey. Guided canoe trips are conducted on the Missouri River upstream of James Kipp recreation area.

The Upper Missouri Breaks National Monument was designated in 2001 to protect a portion of the river and adjacent lands from upstream of the James Kipp recreation area (Plate 4). The Monument's Interpretive Center is located in Fort Benton. The Monument includes the 149-mile long Upper Missouri Wild and Scenic River. The area includes a variety of plant life, wildlife, unique geologic features, and historic and cultural sites. The White Cliffs area described by Meriwether Lewis is located in the Monument. The monument also includes a portion of the Nez Perce Historic Trail, six wilderness study areas, and the Cow Creek Wilderness Study Area.

The Missouri Breaks Back Country Byway was established by the Bureau of Land Management (BLM) in 1993 (Plate 4). The Byway has over 75 miles of gravel and unimproved roads that traverse portions of the Missouri River Breaks and lead to the scenic overlooks of the Missouri Breaks. The 73-mile long self guided byway begins at the community of Winifred, 38 miles north of Lewistown on Montana Highway 236 and extends east toward the CMR Refuge. Some of the roads that make up the Byway are impassable to all vehicles when wet.

Most counties have museums with displays illustrating the history of the area, including the steamboat and trapper and early settlement periods. The museum at Scobey includes a restored pioneer town from the early 1900s.

The Montana Dinosaur Trail identifies opportunities for visitors to view dinosaur exhibits and participate in official field expeditions. The Dinosaur Trail includes the Fort Peck area and local museums with dinosaur displays at Glendive, Jordan, and Malta. The Fort Peck Interpretive Center and Fort Peck Field Station of Paleontology are part of the trail.

ENVIRONMENTALLY SENSITIVE AREAS

Many areas near the Fort Peck project have been designated as wildlife refuges, scenic areas, or wilderness areas. These areas have been designated to preserve and protect their natural resource values, scenic values, historic values, fish and wildlife habitat, and/or other special qualities. In several cases, the boundaries of these areas lie within or partly within the Fort Peck project boundaries. These areas are shown in Plate 5.

a. Wildlife Refuges. Two national wildlife refuges are located in the project area. The Charles M. Russell National Wildlife Refuge (CMR), almost entirely surrounds the Fort Peck project area. The CMR was established in 1936 and consists of over 1 million acres managed by the USFWS. These lands are reserved for the development of natural wildlife resources and for the protection and improvement of natural forage resources.

Located in Phillips County, the UL Bend NWR is on a large peninsula created by a hairpin turn in the Missouri River (Plate 5). The UL Bend NWR was established in 1967 by the Migratory Bird Conservation Commission. This area contains approximately 46,000 acres and is used primarily by upland game birds, a variety of waterfowl, deer, elk, and antelope. The UL Bend NWR is managed as a portion of the CMR by the USFWS.

b. Wilderness Areas. The Wilderness Act of 1964 requires that the USFWS review every roadless area of 5,000 continuous acres or more within the National Wildlife Refuge System and evaluate the suitability of each area for preservation as a wilderness. In 1976, approximately 20,800 acres within the UL Bend NWR were added to the National Wilderness Preservation System. The purpose of establishing the UL Bend Wilderness Area was to devote specific lands within the NWR for recreational, scenic, scientific, educational, and historical uses, as well as for the conservation of the natural resources. In 1983, an amendment to the original UL Bend wilderness authorization allowed for the construction of a road to provide vehicle access to Fort Peck Lake from the east side of UL Bend.

Fifteen additional areas within the boundary of the CMR (areas totaling approximately 161,500 acres) have been proposed as wilderness areas by the USFWS (Plate 5). Although these areas have not been officially designated as wilderness areas, they are managed as such by the USFWS.

c. National Wild and Scenic River. In 1976, a 149-mile segment of the upper Missouri River was designated as the Upper Missouri National Wild and Scenic River (P.L. 90-542) (Plates 4 and 5). This river segment begins at Fort Benton, Montana, and extends downstream to U.S. Highway 191 (the Fred Robinson Bridge). Approximately 9.5 miles of this segment lies within the Fort Peck project boundaries. Most of the boating on this wild and

scenic river is non-motorized, and most launchings are from Fort Benton, Coal Banks Landing, or Judith Landing. The scenic vistas encountered along this reach remain much the same as described by Lewis and Clark during their explorations of the Missouri River from 1805 to 1806.

REAL ESTATE

LAND AND ACQUISITION HISTORY

The composition of lands acquired for the Fort Peck project is a significant factor that makes Fort Peck unique among other Missouri River Mainstem reservoirs. Nearly 600,000 acres were initially acquired for the project. In total, 167,804 acres were acquired in fee from individual owners for the dam site and reservoir at a cost of $2,043,332.

The drought from 1929 to 1931 and the general decline of the economy leading up to the Great Depression caused residents in the Fort Peck area to mortgage their properties and caused a drastic decline of property values throughout the region. In spite of this, only a relatively small percentage of land for the Fort Peck project was acquired through condemnation.

What distinguishes Fort Peck from most other Corps reservoir projects is the additional 422,068 acres of unsettled public domain lands that were withdrawn from BLM control and segregated from settlement, sale, location, and entry under the public land laws. These lands were withdrawn through a series of Executive Orders signed by President Franklin Roosevelt and the Secretary of the Interior between December 1933 and April 1942. As a result, the Fort Peck shoreline is composed predominantly of withdrawn public domain lands, and the majority of acquired project lands are located within the reservoir pool. This situation reflects the settlement trends, where settlement occurred first along river bottoms and near other sources of reliable water supply.

The land withdrawals that encompass the Fort Peck project have been a source of some confusion in the past, primarily because a majority of these lands were also withdrawn for the Fort Peck Game Range, which was later renamed the CMR. In addition, these withdrawals were made in such a manner that the portions of the lands withdrawn included non-Federal lands, Corps-acquired lands, and an overlap of public domain withdrawals. As a result, some of the acreage is duplicated. These public domain withdrawals have virtually no effect on acquired or non-Federal lands.

During the late 1980s a review was conducted of the Fort Peck landholdings in accordance with Executive Order 12512. The results of that review are discussed below.

FLOWAGE EASEMENTS

Flowage easements acquired for the project give the Corps a perpetual right to overflow or flood the land when necessary as a result of project operation. The Corps also has the right to enter the

easement lands as needed to remove any natural or manmade obstructions or structures that, in the opinion of the Corps, may be detrimental to the operation and maintenance of the project.

The Corps holds flowage easements on a few parcels of land totaling 335.04 acres. The easements are located primarily along the Big Dry Creek Arm. Because these parcels remain in private control for all purposes other than the flowage easements, they are not classified for any other purpose.

LAND DISPOSALS

Since the original acquisitions and withdrawals occurred, the Corps has disposed of nearly 8,200 acres of land at the Fort Peck project. Some of the major disposals include the 1993 transfer of over 6,020 acres to USFWS, the 523 acres transferred to the Town of Fort Peck in 1987 and 1995, and the over 940 acres reported excess to the General Services Administration who has subsequently sold or transferred the property. Another 640 acres has been relinquished by the Corps and returned to the public domain. Because of the overlapping land withdrawals of public domain lands, it was determined that additional lands could be relinquished to BLM. This is further discussed under Executive Order Surveys in a following section.

CURRENT LANDHOLDINGS

The majority of the Fort Peck project is comprised of vast tracts of public domain lands withdrawn through a series of Executive Orders issued during the Roosevelt administration (see Chapter 2). Additional project lands were acquired through condemnation or direct purchase during the period 1933 through 1979. The Corps has also disposed of some lands since the original acquisitions.

Table 2-37 lists the current landholdings of the Fort Peck project. These lands have been determined as necessary for construction and operation of the Fort Peck project.

Table 2-37. Fort Peck Project Real Property Holdings

Lands	***Acres***
Acquired (in fee)	160,689.84
Flowage easement	335.04
Withdrawn public domain	
Executive Order 6491	255,339.93
Executive Order 6707	157,807.14
Executive Order 9132	6,994.21
Executive Order 7331	914.87
Executive Order 6841	360.00
Total	582,441.03
Riverbed[1] (approximate)	20,000

Lands	*Acres*
Reserved easement	5.02
Perpetual easement (gaging station)	0.24

[1] *The riverbed was not acquired by the Federal Government and remains in State ownership.*

EXECUTIVE ORDER SURVEYS

Prior to 2004, Executive Order 12512, dated 25 April 1985, and the Federal Property Management Regulations contained in 41 CFR 101-47 required periodic review of project landholdings to determine if Federal lands are being either overused or underused or are not being put to optimum use. Executive Order 12512 and its implementing regulations were repealed in 2004. The last Executive Order Survey of Fort Peck project lands was completed in 1989.

The survey concluded that the Corps' land ownership records for the Fort Peck project have been inaccurate since an erroneous audit in 1951. To further complicate the issue, the same lands withdrawn for the Fort Peck project were also withdrawn for the Fort Peck Game Range (now CMR). The overlapping withdrawals apparently were done intentionally with the belief that both the Corps and the USFWS could accomplish their respective missions on the same lands without interfering with the other.

The 1989 Executive Order Survey recommended rejustification of the Fort Peck project withdrawals, but only for those lands necessary for the continued operation of the Fort Peck project. The survey concluded that 227,846 acres of public domain lands should be retained and 366,317 acres should be relinquished. Prior to this being accomplished, a moratorium was imposed by the Bureau of Land Management concerning the continued withdrawal review and rejustification process and the Corps indefinitely suspended the process of rejustification and relinquishment of public domain lands. That moratorium remains in effect as of this writing.

ENCROACHMENTS

The majority of encroachments or trespass issues occur at recreation cabin areas. Cottage site lessees occasionally store boats, trailers, equipment, and other personal property outside their lot boundaries. When Corps staff identifies encroachments during annual real estate inspections or routine patrols, the Corps coordinates with the individual or entity to resolve the encroachment. Within the Park Grove Area, a structural encroachment was resolved with the issuance of a lease. The Corps has occasionally flooded private lands adjacent to the Crooked Creek Recreation Area. A claim for damages filed by the landowner is currently being evaluating by the Corps.

Because of the overlap of project lands and the CMR, monumentation and fencing generally are not considered appropriate. Where appropriate, however, project lands will be monumented in the cottage site areas, the Downstream Recreation Area, and on an as-needed basis on the remainder of the project.

RELOCATION CONTRACTS

A Relocation Contract is an agreement that provides substitute facilities for those acquired facilities that will interfere with project development. Acquisition for the Fort Peck project was completed many years ago; therefore, there are no outstanding or ongoing relocation contracts in existence.

OUT-GRANTS

An out-grant document is any real estate instrument used to convey an interest in or temporary use of project land. These out-grants give individuals, businesses, and other governmental agencies an interest or right to use real property by means of a lease, easement, license, or permit. As of October 2007, the Corps has 524 current out-grants of record on Fort Peck project lands.

Out-grants are issued to private and public individuals and entities based on need and a determination by the Corps that the requested lands are available for the use requested. Out-grant requests are reviewed to confirm that if issued, they will conform to the orders, regulations, and policies. Engineer Regulation (ER) 405-1-12, Change 30, dated 30 September 1994, and other applicable regulations detail the process of out-grant management.

a. Leases. A lease is a contract between the owner (lessor or landlord) and the tenant (lessee) setting forth the term of occupancy and the conditions under which the tenant may occupy and use the property. A lease conveys an interest in the property. Leases at the Fort Peck project fall into two categories: those issued pursuant to Section 4 of the Flood Control Act of 1944, as amended (16 USC 460d), and those issued pursuant to the Armed Forces Act of 1956, as amended (10 USC 2667). As of October 2007, there were a total of 381 leases on the project. These leases include 11 public park and recreation/quasi-public/commercial concession leases, four agricultural leases, and 366 cottage site leases.

b. Licenses. A license grants authority to enter or use another's land or property without having ownership in it. It is revocable at will. Use of government property without a license constitutes trespass. This type of out-grant includes Archeological Resources Protection Act permits issued pursuant to 32 CFR 229, radio tower licenses, temporary construction licenses, and shoreline use licenses for waterlines, stairways, outlet poles, etc. adjacent to the cottage areas. As of October 2007, there were 69 licenses on the project.

c. Permits. A permit is a revocable privilege granted to another Federal agency to use real property for a specific purpose without conferring possession. As of October 2007, there were 15 permits issued to various Federal agencies. The permits include Cooperative Agreements issued for wildlife management permits.

d. Easements. An easement allows one party to use certain lands of another party. An easement conveys an interest in the property. Linear rights-of-way are the most frequent easement request for public land. As of October 2007, there were 59 easements on the project

for rights-of-way for waterlines, roads, electric power lines, gas pipelines, and miscellaneous uses.

SPECIAL CONSIDERATIONS

a. U.S. Fish and Wildlife Service Memorandum of Agreement. With the exception of some lands downstream of the dam, the Fort Peck project lies entirely within the Charles M. Russell National Wildlife Refuge. Certain lands within the project that are not being managed by the Corps for recreational or operational purposes are jointly administered cooperatively with USFWS via a Cooperative Agreement and Memorandum of Agreement (MOA).

The purpose of the MOA is to establish appropriate guidelines for coordinating resource management efforts in pursuit of agency missions. The Corps and USFWS recognize the national, regional and local importance of the natural resources contained within the refuge and Fort Peck project and recognize the public interest can best be served through coordinated planning and management of these resources. The original MOA was signed in 1989 and has been renewed several times since. The current agreement expires on 30 December, 2012.

b. Shoreline Use Permits. These renewable permits for shoreline uses such as placement of docks and mowing, are issued by the Fort Peck project office for a 5-year term. There is currently a proposal to combine the real estate shoreline licenses with the shoreline use permit into a single document managed exclusively by the project office and signed by the Project Operations Manager. This new program is scheduled to be implemented in 2008.

c. Private Exclusive Use. Engineer Regulation (ER) 1130-2-400 prohibits private exclusive use of project lands except as an interim use at certain specified projects.

d. Cottage Areas. The Fort Peck Lake project has four cottage areas containing 366 leased cottage lots. The 1947 Master Plan approved the original concept of "summer homes" at Fort Peck. Table 2-38 illustrates the number of cottage lots at each site. Cottage lots are leased at Fort Peck in accordance with the Flood Control Act of 1944 (16 U.S.C. 460d). Approximately 81 percent of these leased lots are located on lands withdrawn from the public domain. Title VIII of the Water Resources Development Act of 2000 authorized the sale of the cottage sites to current lessees. See Chapter 3 for additional information on cabin sales.

Table 2-38. Leased Cottage Lots

Cottage Area	*Number of Cottage Lots*
The Pines	75
Hell Creek	50
Rock Creek	121
Fort Peck (Areas 1 and 2)	120

MANAGEMENT PLANS

There are several management plans that provide the direction of activities and, in some cases, expenditures for the Fort Peck Dam and Lake project. These plans are discussed below: the Cultural Resource Management Plan (CRMP), the General Plan, the North American Waterfowl Management Plan (NAWMP), the National Invasive Species Management Plan, the Operational Management Plan (OMP), and the Shoreline Management Plan. All of these plans are interrelated, and each must be considered when planning for the future.

CULTURAL RESOURCES MANAGEMENT PLAN

The Cultural Resources Management Plan (CRMP) provides detailed information on a comprehensive program to direct historic preservation compliance activities and the effective and responsible management of historic properties and other cultural resources at the Fort Peck Dam and Lake project. For more information on the CRMP for the Fort Peck project, contact the Omaha District Office. The portions of the CRMP that are available to the general public are provided as Appendix E to this Master Plan.

GENERAL PLAN

Guidelines for General Plans are found in Section 663(b) of the Fish and Wildlife Coordination Act (Public Law 85-624). The General Plan, approved in January 1983, supersedes that portion of a General Plan for Fish and Wildlife Management that was approved by the Secretary of the Interior, the Secretary of the Army, and the Director of the Montana Department of Fish Wildlife, and Parks in January 1960. The signature by the Secretary of the Interior represents coordination with the USFWS.

NORTH AMERICAN WATERFOWL MANAGEMENT PLAN (NAWMP)

The NAWMP is an international agreement approved by the Canadian Minister of the Environment and the U.S. Department of the Interior in May 1986. The U.S. Prairie Pothole Joint Venture Implementation Plan was approved as a component of the NAWMP in April 1989. In 1989, the Department of the Interior and the Corps of Engineers signed a Memorandum of Understanding (MOU) in support of the NAWMP. The NAWMP is a guideline for cooperation between public and private groups for restoring waterfowl habitat and populations to the same amounts as existed in the early 1970s. The NAWMP is implemented through "Joint Ventures" of public and private groups. No specific measures to implement the NAWMP have been developed for the Fort Peck project at the time this Master Plan was being developed.

NATIONAL INVASIVE SPECIES MANAGEMENT PLAN

Executive Order 13112 of 1999 requires the National Invasive Species Council to produce a National Management Plan (NMP) for Invasive Species every two years. In January 2001, the

National Invasive Species Council released the first NMP, which serves as a blueprint for all Federal actions on invasive species. The NMP was written in association with eight working groups, the Invasive Species Advisory Committee, and input obtained from the public at public hearings held across the country. The 2001 National Invasive Species Management Plan focuses on those non-native species that cause or may cause significant negative impacts and do not provide an equivalent benefit to society. No specific measures to implement the National Invasive Species Management Plan have been developed for the Fort Peck project at the time this Master Plan was being developed.

OPERATIONAL MANAGEMENT PLAN (OMP)

The OMP is a management action document that describes in detail how resource objectives and conceptual development prescribed in the Master Plan will be implemented and achieved. The current OMP for the Fort Peck Dam and Lake Project was approved in October 2003. It will be updated after the Master Plan is approved.

SHORELINE MANAGEMENT PLAN

A Shoreline Management Plan is prepared as part of the Operational Management Plan. It is the policy of the Chief of Engineers to protect and manage shorelines of all civil works water resource development projects under Corps jurisdiction in a manner that will promote the safe and healthful use of these shorelines by the public although maintaining environmental safeguards to ensure a quality resource for use by the public. The objectives of all management actions are to achieve a balance between permitted private uses and resource protection for general public use. This plan is prepared for each Corps project where private shoreline use is allowed. Private shoreline uses may be authorized in designated areas consistent with approved use allocations specified in the Shoreline Management Plan. The Shoreline Management Plan for the Fort Peck Dam and Lake Project was last approved in 1990. It will be updated after the Master Plan is approved.

PERTINENT PUBLIC LAWS AND COMPLIANCE WITH ENVIRONMENTAL STATUTES

CIVIL AUTHORITY

Except as otherwise provided by Federal law or regulation, State and local laws and ordinances apply on Fort Peck project lands and waters. These include, but are not limited to, the following:

- Operation and use of motor vehicles, vessels, and aircraft;
- Hunting, fishing, and trapping;
- Display or use of firearms or other weapons;

- Camping, starting or tending fires, and use of fireworks;
- Civil, disobedience, and criminal acts; and
- Littering, sanitation, and pollution.

Enforcement of State and local laws and ordinances will be handled by the appropriate State and local law enforcement agencies.

CORPS AUTHORITY

Rules and regulations governing public use of water resources development projects administered by the Corps are contained in Title 36, Part 327 of the Code of Federal Regulations. Persons designated by the District Engineer have the authority to issue citations for violations of rules and regulations governing public use of Corps water resource projects. If a citation is issued, the person charged with the violation may be required to appear before a U.S. Magistrate for trial.

FEDERAL AUTHORITY

The following Federal public laws, executive orders, and cooperative agreements pertain to authorization of the project, present and future development, and operation of project lands and waters. for those laws and Executive orders that would regulate an activity associated with the Master Plan preferred alternative as described in the following chapters, a statement at the beginning of the description indicates whether the Corps is in compliance with the regulation.

a. General Laws and Authorities

Reclamation Act of 1902 (32 Stat. 388). *In compliance*. With the passage of this Act, irrigation became a Federal activity.

Flood Control Act of 1917 (39 Stat. 950). *In compliance*. This Act incorporated flood control into the Corps' mission.

River and Harbor Act of 1925 (43 Stat. 1186. 1191). *In compliance*. This Act tasked the Corps with conducting basin-by-basin assessments of the Nation's waterways.

Flood Control and Protection Act of 1928 (45 Stat. 534). *In compliance.* In Section 10 of this Act, Congress specified that the Missouri River be included in plans for the control of floods along the Mississippi River.

Executive Order 6491, 12 December 1933, Withdrawal of Public Lands. *In compliance.* This order withdrew, set aside, and segregated from other uses 248,592 acres of public land within an area aggregating 387,690 acres in size for purposes in connection with the Fort Peck Dam and Lake. Of the total area withdrawn, only 177,807 acres are considered necessary for the continued operation of the Fort Peck project.

Executive Order 6707, 9 May 1934, Withdrawal of Public Lands. *In compliance.* This order withdrew, set aside, and segregated from other uses 140,594 acres of public land within an area aggregating 198,355 acres in size, for purposes related to the Fort Peck Dam and Lake. Of the total area withdrawn, only 48,875 acres are considered necessary for the continued operation of the Fort Peck project.

Executive Order 6841, 11 September 1934, Withdrawal of Public Lands. *In compliance.* Although this order was written to encompass 360 acres, it actually only withdrew, set aside, and segregated 320 acres of public land. This withdrawal is located in Hill County, Montana, within the Rocky Boy Indian Reservation, a considerable distance from the Fort Peck project. Apparently these lands were withdrawn for a possible emergency source of rock. Of the total area withdrawn, none of these lands are considered necessary for the continued operation of the Fort Peck project. This land has been identified as not necessary for the continued operation of the Fort Peck project and is proposed for relinquishment. However, the BLM has imposed a moratorium on the withdrawal review and rejustification process. See the Real Estate section for additional information on the moratorium.

Secretary's Order, 18 May 1935. *In compliance.* With this order, the Secretary of Interior withdrew and permanently reserved 12.82 acres located within the Fort Peck Indian Reservation for use by the War Department in connection with the Fort Peck project. The property consists of 80 townsite lots within the old townsite of Wiota (formerly Milk River). This land connected the government's Wiota-to-damsite spurline with the main line of the Great Northern Railroad. In 1982, 10.535 acres were transferred by the General Services Administration to the Department of Interior, pursuant to authority in Federal Property and Administration Services Act of 1949 as amended by Public Law 93-599 dated 2 January 1975 without reimbursement to be held in trust by the U.S. for the benefit and use of the Assiniboine and Sioux Tribe, Fed. Register 19 Jul 1982.

River and Harbor Act of 1935 (49 Stat. 1048). *In compliance.* This Act approved House Document 238 dated 5 February 1934. This Act also proposed a system of levees for the Kansas City vicinity and advocated continued improvement of the Missouri River between St. Louis, Missouri, and Sioux City, Iowa, for the benefit of navigation. Low waterflows along this river stretch were to be supplemented by releases from the Fort Peck reservoir.

Executive Order 7331, 3 April 1936, Withdrawal of Public Lands. *In compliance.* This order withdrew 914.87 acres of additional public lands (located approximately 1 mile downstream from the spillway) for the Fort Peck project.

Executive Order 7509, 11 December 1936, Fort Peck Game Range. *In compliance.* The Fort Peck Game Range was established by the withdrawal of approximately 1.1 million acres. This range, now known as the CMR, encompasses nearly all of the Fort Peck project lands.

Fort Peck Act (52 Stat. 403), 18 May 1938. *In compliance.* This Act established hydropower as a project purpose. It also established the strategy for power marketing.

Public Law 761. 75th Congress (52 Stat. 1215), 28 June 1938, as amended. *In compliance.* Section 2 modified the Flood Control Act of 1936, eliminating the a-b-c requirements for flood control reservoirs and channel improvement or channel rectification projects. This Act was

amended by the Flood Control Act of 1941, which affirmed flood control and irrigation as project purposes.

Executive Order 9132, 13 April 1942, Reserved Public Lands. *In compliance.* This order withdrew, set aside, and reserved 7,474.21 acres of public lands for the use of the War Department in connection with the construction and operation of the Fort Peck project. (A total of 480 acres was later transferred back to the Department of the Interior, making the total withdrawal 6,994.21 acres.) Although these lands were reserved for the War Department, Executive Order 9132 specifically stated:

> The public lands affected by this order ... will remain under the jurisdiction and administration of the Secretary of the Interior for the conservation and development of natural wildlife resources and for the protection and improvement of public grazing lands and natural forage resources ... so far as such uses will not interfere with the needs and purposes of the War Department in connection with the project mentioned.

Of the total area withdrawn, only 1,244.11 acres are considered necessary for the continued operation of the Fort Peck project.

Public Law 534, 78th Congress (58 Stat. 887), 22 December 1944, Flood Control Act of 1944, as amended. *In compliance*. This Act authorizes the construction of certain public works on rivers and harbors for flood control and other purposes. Section 4 authorizes providing facilities at reservoir areas for public use, including recreation and fish and wildlife conservation. As amended in 1962 by Section 297 of Public Law 87-874, the Act authorizes the Corps to develop and maintain park and recreation facilities at all water resources projects controlled by the Secretary of the Army. The Fort Peck project is part of the multipurpose reservoir system on the Missouri River and provides for flood control, navigation, hydropower, recreation, and fish and wildlife conservation.

Public Law 85-500 (72 Stat. 319), 3 July 1958, River and Harbor and Flood Control Act of 1958. *In compliance.* Section 301 (Water Supply Act of 1958) authorizes water storage for municipal and industrial use as a purpose for reservoir projects.

Public Law 89-72 (79 Stat. 213), 9 July 1965, Federal Water Project Recreation Act, as amended. *In compliance*. This Act requires that full consideration be given to opportunities for recreation and fish and wildlife enhancement; that recreation planning be based on coordination of use with existing and planned federal, State, and local recreation; and that non-Federal administration of recreation and enhancement areas be encouraged. It requires that no facilities for recreation and fish and wildlife enhancement be provided without cost-sharing except those justified to serve other project purposes or as needed for public health and safety. The views of the Secretary of the Interior regarding the extent to which the proposed recreation and fish and wildlife development conforms to and is in accordance with the State Comprehensive Outdoor Recreation Plan shall be included in any project report. The purposes of the Fort Peck project include recreation and fish and wildlife enhancement. The updated Master Plan includes project-wide goals and site-specific resource objectives and development needs that relate to recreation and to fish and wildlife.

Public Law 89-80 (79 Stat. 244), 22 July 1965, Water Resources Planning Act, as amended. *In compliance*. This Act is a Congressional statement of policy to meet rapidly expanding demands for water throughout the nation. The purpose is to encourage the conservation, development, and use of water-related land resources on a comprehensive and coordinated basis by Federal, State, and local governments, individuals, corporations, business enterprises, and others concerned. The Corps held public workshops attended by federal, State, and local representatives and members of the general public (including members of the business community) and invited public comments to gather public input on the Master Plan.

Public Law 90-483 (82 Stat. 731), 13 August 1968, River and Harbor Act of 1968, as amended. *In compliance.* This Act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and other purposes. Section 210 restricts the collection of entrance fees at Corps lakes and reservoirs after 31 March 1970 to users of highly developed facilities requiring the continuous presence of personnel. The law specifically exempts the Corps of Engineers from regulation under Section 10. However, activities by non-Corps entities in waters of the U.S. at the Fort Peck project are regulated under Section 10. Work such as a boat dock installation or water intake line requires a Section 10 permit application; for work that includes placing fill, a joint Section 10/404 permit application can be made.

Public Law 99-662 (100 Stat. 4082), 17 November 1986. Water Resources Development Act of 1986. *In compliance.* This legislation sets forth non-Federal cost-sharing requirements for all water resources projects. Section 906 of this Act supplemented the responsibility and authority of the Secretary of the Army pursuant to the Fish and Wildlife Coordination Act. This Act reaffirmed and restated recreation as a project purpose at the Fort Peck project.

Executive Order 11644, 8 February 1972, Use of Off-Road Vehicles on Public Lands. *In compliance*. This Executive Order establishes a uniform Federal policy regarding the use of vehicles such as trail bikes, snowmobiles, dune buggies, and others on public lands. Section 3 of this Order provides guidance for establishing zones of use for such vehicles. This Order was amended by Executive Order 11989. Currently the Corps restricts ORV use on project lands and the USFWS restricts ORV use to numbered roads only on the CMR.

Executive Order 11989, 24 May 1977, Off-Road Vehicles on Public Lands. *In compliance*. This Executive Order excludes any fire, military, emergency or law enforcement vehicle when used for emergency purposes, and any combat or combat support vehicle when used for national defense purposes, from the definition of ORV. This Order also directs agencies to immediately close ORV trails that are causing soil, vegetation, wildlife, wildlife habitat, or cultural or historic resources of particular areas or trails on public lands, to the type of ORV causing the adverse effects, until the effects have been eliminated and measures have been implemented to prevent future recurrence. Currently the Corps restricts ORV use on project lands and the USFWS restricts ORV use to numbered roads only on the CMR.

b. Environmental Quality Statutes

40 Stat. 755, 13 July 1918, Migratory Bird Treaty Act (MBTA), as amended. *In compliance*. The MBTA of 1918 is the domestic law that affirms, or implements, the United States'

commitment to four international conventions with Canada, Japan, Mexico and Russia for the protection of shared migratory bird resources. The MBTA governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. The take of all migratory birds is governed by the MBTA's regulation of taking migratory birds for educational, scientific, and recreational purposes and requiring harvest to be limited to levels that prevent overutilization. Executive Order 13186 (2001) directs executive agencies to take certain actions to implement the Act. When development proposed in the updated Master Plan is scheduled to occur, compliance with the MBTA will be considered along with environmental compliance for the specific activities.

54 Stat. 250, 8 June 1940, Bald Eagle Protection Act of 1940, as amended. *In compliance*. This Act prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof. The Act defines take as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. Individual projects proposed as a result of the Master Plan would adhere to the Management Guidelines developed by the USFWS to avoid disturbing bald eagles.

Public Law 83-566 (68 Stat. 666), 5 August 1954, Watershed Protection and Flood Prevention Act. *Not applicable.* This Act authorizes the Secretary of Agriculture to cooperate with States and other public agencies in works for flood prevention and soil conservation, as well as the conservation, development, utilization, and disposal of water. This Act imposes no requirements on Corps Civil Works projects.

Public Law 85-624 (72 Stat. 563). 12 August 1958. Fish and Wildlife Coordination Act. *In compliance*. This Act amended and renamed the Fish and Wildlife Coordination Act of 10 March 1934. The Act requires that fish and wildlife conservation receive equal consideration with other features of water resources development programs; that proposals for work affecting any body of water be coordinated with the USFWS and the State wildlife agency; that recommendations of the USFWS and the State agency be given full consideration; and that justifiable means and measures for wildlife purposes, including mitigation measures, be adopted. It also requires that adequate provisions be made for the use of project lands and waters for the conservation, maintenance, and management of wildlife resources, including their development and improvement. The Act provides that the use of project lands primarily for wildlife management by others be in accordance with a General Plan approved jointly by the Department of the Army, the Department of the Interior, and State wildlife agencies. When site-specific proposals are made under the Master Plan, the Corps will coordinate with the USFWS and MFWP.

Public Law 86-717 (74 Stat. 817), 6 September 1960, Conservation of Forest Lands in Reservoir Areas. *In compliance*. This law provides for the development and maintenance of forest resources on Corps-managed lands and the establishment and management of vegetative cover so as to encourage future resources of readily available timber and to increase the value of such areas for conservation. Resource objectives and development needs for the management units include planting trees and shrubs to increase the amount of woody vegetation for winter and nesting cover for upland and big game species; planting trees, food plots, native grasses, and/or

marsh grasses to supplement the existing food sources for upland and big game species and/or waterfowl; and developing additional woody draw habitat.

Public Law 87-88 (75 Stat. 204), 20 July 1961, Federal Water Pollution Control Act Amendments of 1961, as amended. *In compliance.* Section 2 (b) (1) of this Act gives the Corps responsibility for water quality management of Corps reservoirs. This law was amended by the Federal Water Pollution Control Act Amendment of 1972, Public Law 92-500.

Public Law 88-578 (78 Stat. 897). 3 September 1964. Land and Water Conservation Fund Act of 1965, as amended. *Not applicable.* This Act established a fund from which Congress can make appropriations for outdoor recreation. The fund derives revenue from entrance and user fees, the sale of surplus Federal property, and the Federal motorboat fuel tax. Entrance and user fees at reservoirs were made possible by Section 2(a) of this Act. The Corps must coordinate with the National Park Service (NPS) to insure that no property acquired or developed with assistance from this Act will be converted to other than outdoor recreation uses. If conversion is necessary, approval of NPS is required, and plans are developed to relocate or re-create affected recreational opportunities. No Land and Water Conservation funds have been used at the Fort Peck project to date.

Public Law 88-577, 3 September 1964, Wilderness Act of 1964. *In compliance.* This Act required that the Secretary of the Interior (1) review every roadless area of 5,000 contiguous acres or more and every roadless island, regardless of size, within the National Wildlife Refuge System within 10 years after the effective date of the Act and (2) report to the President of the United States his recommendations as to the suitability or nonsuitability of each area or island for preservation as wilderness. Congress established the U-L Bend Wilderness area on the CMR in 1976. Fifteen separate areas within the CMR are proposed as wilderness areas by the USFWS. To date, Congress has not acted on the wilderness proposals; but the areas will be managed as wilderness until such time as Congress acts.

Public Law 90-542 (82 Stat. 906), 2 October 1968, Wild and Scenic Rivers Act, as amended. *In compliance.* This Act establishes that certain rivers of the nation, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Upper Missouri River National Wild and Scenic River extends 149 miles from Fort Benton, Montana to its end at the James Kipp Recreation Area on the Fort Peck project. The Wild and Scenic section of the river will not be impacted by the Preferred Alternative.

Public Law 90-583 (82 Stat. 1146), 17 October 1968, Noxious Plant Control. *In compliance.* This law provides for a control of noxious weeds on land under the control of the Federal Government. Resource objectives and development needs for management units include the control of noxious weeds through chemical, biological, and/or mechanical control methods.

Public Law 91-190 (83 Stat. 852), 1 January 1970, National Environmental Policy Act (NEPA) of 1969. *In compliance.* Section 101 of this Act establishes a national environmental policy. Section 102 requires that all Federal agencies shall, to the fullest extent possible, use a

systematic, interdisciplinary approach that integrates natural and social sciences and environmental design arts in planning and decision making; study, develop, and describe appropriate alternatives to recommend courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources; and include an Environmental Impact Statement (EIS) in every recommendation or report on proposals for major Federal actions significantly affecting the quality of the human environment. An Environmental Assessment (EA) is integrated into this Master Plan. A finding of no significant impact (FONSI) was determined, therefore, an EIS shall not be prepared.

Public Law 91-224 (84 Stat. 114), 3 April 1970, Environmental Quality Improvement Act of 1970. *In compliance.* This Act assures that each Federal department or agency conducting or supporting public works activities which affect the environment shall implement the policies established under existing law. The Corps ensures that activities at the Fort Peck project are in compliance with existing laws.

Public Law 91-604 (84 Stat. 1676), 31 December 1970, Clean Air Act, as amended.*In compliance.* The purpose of this Act is to protect public health and welfare by the control of air pollution at its source, and to set forth primary and secondary National Ambient Air Quality Standards (NAAQS) to establish criteria for states to attain, or maintain. Some temporary emission releases may occur during construction activities that are proposed under the Master Plan update; however, air quality is not expected to be impacted to any measurable degree. Data from the Montana Department of Environmental Quality's ambient air quality monitoring program indicate that pollutant concentrations are well within the Federal and State NAAQS set at levels to protect human health and welfare.

Public Law 92-500 (86 Stat. 816), 18 October 1972, The Federal Water Pollution Control Act Amendments of 1972, as amended. *In compliance*. This law amends the Federal Water Pollution Control Act and establishes a national goal of eliminating pollutant discharges into waters of the United States. Section 404 authorizes a permit program for the disposal of dredged or fill material in the nation's waters that is to be administered by the Secretary of the Army acting through the Chief of Engineers. This law was later amended by the Clean Water Act of 1977, Public Law 95-217, to provide additional authorization to restore the nation's waters. The project is in compliance with this law. If any construction activities involve the temporary or permanent placement of dredged or fill material into any waterbody or wetland area at Fort Peck Lake, a permit pursuant to Section 404 would be obtained.

Public Law 92-574 (86 Stat. 1234), 27 October 1972, Noise Control Act, as amended. *In compliance*. This Act establishes a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare. Federal agencies are required to limit noise emissions to within compliance levels. Noise emission levels at sites where development was proposed in the updated Fort Peck Master Plan would increase above current levels temporarily during periods of construction; however, appropriate measures will be taken to keep the noise level within the compliance levels.

Public Law 93-205 (87 Stat. 884), 28 December 1973, Conservation, Protection, and Propagation of Endangered Species Act of 1973, as amended. *In compliance*. This law repeals the Endangered Species Conservation Act of 1969. It also directs all Federal departments/agencies

to carry out programs to conserve endangered and threatened species of fish, wildlife, and plants and to preserve the habitat of these species in consultation with the Secretary of the Interior. This Act establishes a procedure for coordination, assessment, and consultation. Amendments to this Act that are relevant to the Fort Peck project are Public Laws 95-632 and 96-159. Corps management and construction activities proposed by the updated Master Plan would have no effects on federally listed or candidate threatened and endangered species known to exist in Fort Peck project areas for which the Corps is responsible.

Public Law 93-523 (88 Stat. 1660), 16 December 1974, Safe Drinking Water Act, as amended. *In compliance.* This Act amends the Public Health Service Water Act to assure that the public is provided with safe drinking water. This law states that all potable water at civil works projects will meet or exceed the minimum standards required by law. This Act was amended by the Safe Drinking Water Act Amendments of 1986, Public Law 99-339, and 1996, Public Law 104-182. The Montana Department of Environmental Quality works with all public water systems along Fort Peck Lake to ensure they comply with this Act.

Public Law 93-629, (88 Stat. 2148), 3 January 1975, Federal Noxious Weed Act of 1974, as amended. *In compliance*. Section 15, added to the Act in 1990, requires noxious weed control management on Federal lands and sets forth the process by which it is to be accomplished. Resource objectives and development needs for management units in the updated Master Plan include the control of noxious weeds through chemical, biological, and/or mechanical control methods.

Executive Order 11988, 24 May 1977, Floodplain Management. *In compliance*. This Executive Order outlines the responsibilities of Federal agencies in the role of floodplain management. The Preferred Alternative is not expected to induce floodplain damages and this will be determined when individual proposals are carried out. Each agency shall evaluate the potential effects of actions on floodplains and should not undertake actions that directly or indirectly induce growth in the floodplain, unless there is no practical alternative. Agency regulations and operating procedures for licenses and permits should include provisions for evaluation and consideration of flood hazards. Construction of structures and facilities on floodplains must incorporate flood proofing and other accepted flood protection measures. Agencies shall attach appropriate use restrictions to property proposed for lease, easement, right-of-way, or disposal to non-Federal public or private parties.

Any development proposed in the updated Master Plan must be in compliance with Northwestern Division (NWD) Regulation 1110-2-5, Land Development Guidance at Corps Reservoir Projects, dated April 30, 2004. This regulation establishes NWD guidance for evaluating land development proposals within Corps reservoir projects with authorized flood storage allocations. The Corps has responsibility to assure that the authorized project purposes are not compromised, that the public is not endangered, and that natural and cultural resources associated with project lands are not harmed, in accordance with applicable Federal and State regulations. The criteria and procedures for evaluation of development proposals in this regulation are to assist in meeting these responsibilities and complying with applicable laws and directives. Existing structures are exempted from this policy. However, significant modifications and/or replacement of existing structures are subject to this policy.

Executive Order 11990, 24 May 1977, Protection of Wetlands. *In compliance.* This Executive Order directs Federal agencies to provide leadership in minimizing the destruction, loss, or degradation of wetlands. Section 2 states that agencies shall avoid undertaking or assisting in new construction located in wetlands unless there is no practical alternative. Prior to construction of any facilities proposed in the updated Fort Peck Dam and Lake Master Plan, a site-specific NEPA analysis, including an assessment of potential impacts to wetlands, would be coordinated with Federal and State agencies and Tribes. If a Section 404 permit is required, coordination regarding compliance with Executive Order 11990 would be accomplished prior to permit issuance.

Public Law 95-217 (91 Stat. 1566), 27 December 1977, Clean Water Act of 1977, as amended. *In compliance*. This Act amends the Federal Water Pollution Control Act of 1970 and extends the appropriations authorization. The Clean Water Act is a comprehensive Federal water pollution control program that has as its primary goal the reduction and control of the discharge of pollutants into the nation's navigable waters. The Clean Water Act of 1977 has been amended by the Water Quality Act of 1987, Public Law 100-4. Any action involving placement of fill in waters of the U.S. at the Fort Peck project by the Corps, a non-Corps entity, or any individual, with the exception of certain minor activities as discussed in 33 CFR Part 323.4, would require a Section 404 authorization and Section 401 water quality certification.

Executive Order 12088, 13 October 1978, Federal Compliance with Pollution Control Standards. *In compliance*. The purpose of this Order is to ensure Federal compliance with applicable pollution control standards. Section 1-4, Pollution Control Plan, in which each agency was required to submit an annual plan for the control of environmental pollution to the Office of Management and Budget, was revoked by Executive Order 13148, which was revoked by Executive Order 13423.

Public Law 95-632 (92 Stat. 3751), 10 November 1978, Endangered Species Act Amendments of 1978. *In compliance.* This law amends the Endangered Species Act of 1973. Section 7 directs agencies to conduct a biological assessment to identify threatened or endangered species that may be present in the area of any proposed project. This assessment is conducted as part of a Federal agency's compliance with the requirements of Section 102 of NEPA. The Corps will conduct biological assessments on proposed projects when necessary.

Public Law 96-159 (93 Stat. 3751), 28 December 1979, Endangered Species Act of 1973, as amended. *In compliance*. This amendment expanded the Act to protect endangered plants. This amendment requires the publishing of a summary and map when proposing land as critical habitat and requires Federal agencies to ensure projects "are not likely" to jeopardize an endangered species. In addition, it authorizes all those seeking exemptions from the Act to get permanent exemptions for a project unless a biological study indicates the project would result in the extinction of a species. The Corps will ensure that any development or management activities proposed in the updated Master Plan are not likely to jeopardize an endangered species. Although there are currently no threatened or endangered plants at the Fort Peck project, the Corps will protect any plants on project lands that are on the threatened and endangered species list in the future.

CEQ Memorandum, 10 August 1980, Interagency Consultation to Avoid or Mitigate Adverse Effects on Rivers in the Nationwide Inventory. *Not applicable*. This memorandum states that each Federal agency shall take care to avoid or mitigate adverse effects on rivers identified in the Nationwide Inventory (45 FR 59189). No portion of the Fort Peck project is listed on the Nationwide Rivers Inventory.

Public Law 96-366 (94 Stat. 1322), 29 September 1980, Fish and Wildlife Conservation Act (FWCA) of 1980. *In compliance.* This law enables states to obtain funds to conduct inventories and conservation plans for non-game wildlife. It also encourages Federal departments and agencies to use their statutory and administrative authority to conserve and promote conservation in accordance with this Act. The Master Plan promotes conservation at the Fort Peck project by including resource objectives and development needs that protect and enhance wildlife habitat and reduce erosion.

Public Law 96-510 (94 Stat. 2797), 11 December 1980, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). *Not applicable*. Typically CERCLA is triggered by (1) the release or substantial threat of a release of a hazardous substance into the environment; or (2) the release or substantial threat of a release of any pollutant or contaminant into the environment that presents an imminent threat to the public health and welfare. To the extent such knowledge is available, 40 CFR Part 373 requires notification of CERCLA hazardous substances in a land transfer. Compliance with this Act is required on a case-by-case basis for real estate activities such as easements, grants, etc.

Public Law 97-98 (95 Stat. 1341), 22 December 1981, Farmland Protection Policy Act. *Not applicable*. This Act instructs the Department of Agriculture, in cooperation with other departments, agencies, independent commissions and other units of the Federal Government, to develop criteria for identifying the effects of Federal programs on the conversion of farmland to nonagricultural uses. The updated Master Plan does not propose any changes to agricultural land.

Public Law 99-339 (100 Stat. 642), 19 June 1986, Safe Drinking Water Act Amendments of 1986. *In compliance*. These amendments provide further regulation regarding national primary drinking water, enforcement of these regulations, and variances and exemptions to the Act. These amendments also provide for the protection of underground sources of drinking water and provide grants to tribes in addition to contract assistance to carry out the function of these amendments. The Montana Department of Environmental Quality enforces the amendments at public works systems throughout the State, including those along Fort Peck Lake.

Public Law 100-4 (101 Stat. 7), 4 February 1987, Water Quality Act of 1987. *In compliance*. This Act amends the Federal Water Pollution Control Act to not only provide for renewal of the quality of the nation's waters but also provide construction grant amendments, standards, enforcement, permits, and licenses. This Act includes more provisions for monitoring non-point source pollution (contaminants that come from diffuse sources). The Corps has developed water quality management objectives for the Fort Peck Dam and Lake project that are expected to be finalized in 2007 and include intensive water quality surveys, water quality modeling, and preparation of reports that reflect current water quality conditions.

Public Law 101-233 (103 Stat. 1968), 13 December 1989, North American Wetlands Conservation Act. *In compliance*. This Act establishes the North American Wetlands Conservation Council (NAWCC, 16 U.S.C. 4403) to recommend wetlands conservation projects to the Migratory Bird Conservation Commission (MBCC). Section 9 of the Act addresses the restoration, management, and protection of wetlands and habitat for migratory birds on Federal lands. Federal agencies acquiring, managing, or disposing of Federal lands and waters are to cooperate with the USFWS to restore, protect, and enhance wetland ecosystems and other habitats for migratory birds, fish and wildlife on their lands, to the extent consistent with their missions and statutory authorities. The updated Master Plan proposes no activities that involve filling or draining known wetlands. Prior to construction of any facilities proposed in the Master Plan, a site-specific NEPA analysis, including an assessment of potential impacts to wetlands, would be coordinated with Federal and State agencies and tribes.

Executive Order 12692, 7 June 1995, Recreational Fisheries. *In compliance*. This Executive Order mandates that Federal agencies, to the extent permitted by law and where practicable, improve the quality, function, and sustainable productivity and distribution of U.S. aquatic resources for increased recreational fishing opportunities. The fishery in Fort Peck Lake is managed by the MFWP. The Corps will continue to cooperate with MFWP to implement the Fort Peck Reservoir Fisheries Management Plan. Many management units include a resource objective to provide and maintain access to Fort Peck Lake for fishing.

Public Law 104-182 (110 Stat. 1613), 6 August 1996, Safe Drinking Water Act Amendments of 1996. *In compliance*. These amendments strengthen protections on tap water, improve public access to tap water contaminant information, strengthens standards to protect public health from the most significant threats to safe drinking water, and provides money that communities need to upgrade drinking water systems. The Montana Department of Environmental Quality enforces the amendments at public works systems throughout the State, including those along Fort Peck Lake.

Executive Order 13112, 3 February 1999, Invasive Species. *In compliance*. This Executive Order directs Federal agencies to act to prevent the introduction of or to monitor and control invasive (non-native) species, to provide for restoration of native species, to conduct research, to promote educational activities, and to exercise care in taking actions that could promote the introduction or spread of invasive species. Resource objectives and development needs for management units include the control of noxious weeds through chemical, biological, and/or mechanical control methods.

Executive Order 13148, 26 April 2000, Greening the Government Through Leadership in Environmental Management. *In compliance*. This Executive Order requires Federal agencies to develop and implement an Environmental Management System (EMS), which is a series of management processes and procedures that allow an organization to identify, mitigate, control, and reduce any environmental impacts from the organization's day-to-day business activities. Specifically, this Order requires each agency to develop an environmental policy statement; develop a plan for system implementation; complete a list of environmental aspects and impacts; establish objectives, targets, and programs; conduct EMS awareness training; complete a management review of the EMS; and implement the EMS before 31 December 2005. The Fort Peck project has developed and implemented an EMS Plan, dated December 2005, which addresses these requirements. Executive Order 13148 was revoked by Executive Order 13423.

Title VIII of the Water Resources Development Act, 2000. *In compliance.* This Act authorized the Secretary of the Army working with the Secretary of the Interior to identify for sale to current lessees and conduct necessary environmental and real estate activities to dispose of the cabin sites at fair market value. The funds received from the conveyance will be deposited in the Montana Fish and Wildlife Conservation Trust for use in acquiring other lands with greater wildlife and other public values for the Charles M. Russell National Wildlife Refuge. The USFWS can only acquire lands from willing sellers. A NEPA EA was prepared on the cabin sales in 2004. The Corps is awaiting Congressional appropriation before conducting other environmental and real estate activities.

Executive Order 13195, 18 January 2001, Trails for America in the 21st Century. *In compliance*. This Executive Order requires Federal agencies to protect, connect, promote, and assists trails of all types throughout the United States. A section of the Lewis and Clark National Historic Trail runs through the Fort Peck project. Paved or unpaved hiking trails are located in several management units and the creation of new hiking trails is a development need for several other management units. One recreation area includes an equestrian trail as a development need.

Executive Order 13352, 26 August 2004, Facilitation of Cooperative Conservation. *In compliance*. This Executive Order requires that the Secretaries of the Interior, Agriculture, Commerce, and Defense and the Administrator of the EPA shall: carry out the programs, projects, and activities of the agency that they respectively head that implement laws relating to the environment and natural resources in a manner that: a) facilitates cooperative conservation; b) takes appropriate account of and respects the interests of persons with ownership or other legally recognized interests in land and other natural resources; c) properly accommodates local participation in Federal decision making; and d) provides that the programs, projects, and activities are consistent with protecting public health and safety. The Fort Peck project office coordinates with Federal, State and local agencies and non-governmental organizations to develop, manage, and monitor resources at Fort Peck.

Public Law 109-320 (120 Stat. 1748), 11 October 2006, Salt Cedar and Russian Olive Control Demonstration Act. Requires the Secretary of the Interior to work with Secretary of Agriculture and Secretary of Defense to carry out a saltcedar and Russian olive assessment program to assess the extent of salt cedar and Russian olive in the western United States, demonstrate strategic solutions for long-term management of saltcedar and Russian olive and assess economic means to dispose of salt cedar and Russian olive. The Corps coordinates with the multi-State and

multiagency saltcedar task force to control saltcedar in the highest priority areas at Fort Peck. Russian olive is currently not a problem species at Fort Peck.

Executive Order 13423, 24 January 2007, Strengthening Federal Environmental, Energy, and Transportation Management. *In compliance*. This Executive Order requires Federal agencies to conduct their environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically and fiscally sound, integrated, continuously improving, efficient, and sustainable manner. The Order sets goals in the areas of energy efficiency, acquisition, renewable energy, toxic chemical reduction, recycling, sustainable buildings, electronics stewardship, fleets, and water conservation. In addition, the order requires more widespread use of Environmental Management Systems (EMS) as the framework in which to manage and continually improve these sustainable practices. It is supplemented by implementing instructions, issued 29 March 2007, by the CEQ. The Fort Peck project has developed and implemented an EMS Plan, dated December 2005.

Executive Order 13443, 17 Aug 2007, Facilitation of Hunting Heritage and Wildlife Conservation. *In compliance*. The purpose of this order is to direct Federal agencies that have programs and activities that have a measurable effect on public land management, outdoor recreation, and wildlife management, including the Department of the Interior and the Department of Agriculture, to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat. Resource objectives and development needs for many management units at Fort Peck include providing and maintaining lake access for hunting and providing facilities to promote hunting.

c. Cultural Resource Statutes

Public Law 59-209 (34 Stat. 225), 8 June 1906, The Antiquities Act. *In compliance*. This Act makes it a Federal offense to appropriate, excavate, injure, or destroy any antiquity, historic ruin, monument, or object of scientific interest located on lands owned or controlled by the United States without having permission from the Secretary of the department having jurisdiction thereof. Paleontological resources are regulated under this Act. The Corps is working to coordinate with all law enforcement agencies to establish a network of individuals that would be able to respond quickly to incidents of looting and artifact collecting.

Public Law 86-523 (74 Stat. 220), 27 June 1960, Reservoir Salvage Act, as amended. *In compliance*. This Act provides for: 1) the preservation of historical and archaeological data that might otherwise be lost or destroyed as the result of flooding or any alteration of the terrain caused as a result of any Federal reservoir construction projects; 2) coordination with the Secretary of the Interior whenever activities may cause loss of scientific, prehistoric, or archaeological data; and 3) expenditure of funds for recovery, protection, and data preservation. This Act was amended by Public Law 93-291. Any construction proposed at the Fort Peck project connected to operation and maintenance of the facility is reviewed in advance by the Corps' Omaha District cultural resources staff. In all cases avoidance of historic properties is the preferred alternative. When such disturbance is unavoidable, suitable protection or data recovery will be implemented as required by the Act.

Public Law 89-665 (80 Stat. 915), 15 October 1966, National Historic Preservation Act (NHPA), as amended. *In compliance.* This Act establishes a policy of preserving, restoring, and maintaining cultural resources and requires that Federal agencies 1) take into account the effect of any undertaking on any site on or eligible for the National Register of Historic Places (NRHP); 2) afford the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on such undertaking; 3) nominate eligible properties to the NRHP; 4) exercise caution in the disposal and care of Federal property that might qualify for the NRHP; and 5) provide for the maintenance of federally owned sites on the NRHP. All ground-disturbing activities proposed on Fort Peck project lands are coordinated in advance with the State Historic Preservation Officer (SHPO), ACHP, THPO, and any other interested parties under Section 106 of the Act.

Executive Order 11593, 13 May 1971, Protection and Enhancement of the Cultural Environment. *In compliance*. Section 2 of this Executive Order outlines the responsibilities of Federal agencies in accordance with the National Environmental Policy Act of 1969, the National Historic Preservation Act of 1966, the Historic Sites Act of 1935, and the Antiquities Act of 1906. Section 3 outlines specific responsibilities of the Secretary of the Interior including review and comment upon Federal agency procedures submitted under this Order. The Fort Peck Cultural Resources Management Plan describes Corps procedures for inventorying, managing, and protecting cultural resources at the Fort Peck project.

Public Law 93-291 (88 Stat. 174), 24 May 1974, Preservation of Historical and Archeological Data. *In compliance*. This Act amends the Reservoir Salvage Act, Public Law 86-523, to provide for the preservation of historical and archaeological data (including relics and specimens), which might otherwise be lost as the result of the construction of a dam. Section 3(a) requires any Federal agency to notify the Secretary of the Interior in writing when the agency finds, or is notified in writing by an appropriate historical or archaeological authority, that its activities in connection with any Federal construction project or federally licensed project, activity, or program may cause irreparable loss or destruction of significant scientific, prehistoric or archeological data. Section 7(a) requires any Federal agency responsible for a construction project to assist/transfer to the Secretary of the Interior such funds as may be agreed upon, but not more than 1 percent of the total appropriated project costs. The costs of survey, recovery, analysis, and publication shall be considered non-reimbursable project costs. The Corps will notify the Secretary of the Interior in writing if a Corps activity may destroy significant scientific, prehistoric, or archeological data.

Public Law 95-341 (92 Stat. 469), 11 August 1978, American Indian Religious Freedom Act (AIRFA) of 1978. *In compliance.* AIRFA protects the rights of Native Americans to exercise their traditional religions by ensuring access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites. No proposals in the updated Fort Peck Master Plan would adversely affect the protections offered by this Act. Access to sacred sites by tribal members would be provided. A memorandum from the Corps' Northwestern Division dated June 7, 2004, Subject: Use of Corps Lands by Federally Recognized Tribal Members in the Northwestern Division provides guidance for access to Corps-owned lands for tribal religious activities, including notification protocol and procedures.

Public Law 95-625. 10 November 1978. National Trails System Act. *In compliance.* Section 4(a) of this Act permits the Secretary of the Interior or the Secretary of Agriculture to designate national recreation trails. Section 5(a)(6) designates the 1804 and 1806 routes of the Lewis and Clark Expedition as a National Historic Trail. Administrative responsibility under this act has been assigned to the NPS. A section of the Lewis and Clark Historic Trail runs through the Fort Peck project.

Public Law 96-95 (93 Stat. 721), 31 October 1979, Archaeological Resources Protection Act (ARPA) of 1979. *In compliance*. This Act protects archaeological resources and sites that are on public and tribal lands, and fosters increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals. It also establishes requirements for issuance of permits by the Federal land managers to excavate or remove any archaeological resource located on public or Indian lands. All persons proposing to engage in archeological excavation on Fort Peck project lands are required to apply for and obtain an ARPA permit.

Public Law 101-601 (104 Stat. 3042), 16 November 1990, Native American Graves Protection and Repatriation Act (NAGPRA). *In compliance*. This Act provides for the protection of Native American and Native Hawaiian cultural items. It establishes a process for the authorized removal of human remains, funerary, sacred, and other objects of cultural patrimony from sites located on land owned or controlled by the Federal Government. NAGPRA requires Federal agencies and federally assisted museums to return specified Native American cultural items to the federally recognized Indian tribes or Native Hawaiian groups with which they are associated. Notification of all inadvertent discoveries of such items covered by the Act are reported to the appropriate affiliated descendant or tribe in order of precedence as set by the Act. Any claims to such items are reviewed and the procedures to repatriate within the Act are followed.

Executive Order 12898, 11 February 1994, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. *In compliance.* Federal agencies shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States. Development and management activities proposed in the updated Master Plan are not anticipated to disproportionately impact minority or low-income populations.

Executive Order 13006, 21 May 1996, Locating Federal Facilities on Historic Properties. *In compliance.* This Executive Order requires Federal facilities, wherever operationally appropriate and economically prudent, to be located in historic properties and districts, especially those located in our central business areas. No activities under the Master Plan involve the development of Federal facilities that could be located in historic properties. The Fort Peck project offices are located in the Administration which is a designated historic site. The Fort Peck Dam and some other facilities are designated historic sites.

Executive Order 13007, 24 May 1996, Indian Sacred Sites. *In compliance*. This Executive Order requires that agencies avoid damage to Indian sacred sites on Federal land, and avoid blocking access to such sites for traditional religious practitioners. The Federal Government gives tribes notice when an impact to a sacred site occurs. All ground-disturbing activities

proposed on Fort Peck project lands will continue to be coordinated in advance with the tribes. In 2004, the Commander of the Northwestern Division issued a memorandum stating that the Corps should accommodate access to, and ceremonial use of, Indian sacred sites by Indian religious practitioners and would issue special use permits without charge, whenever allowable on Corps lands, to tribes and tribal members for ceremonial purposes. The memorandum also provides procedures that assist land managers with site protection as well as monitoring and investigation of any illegal activity regarding cultural resources.

Executive Order 13175, 6 November 2000, Consultation and Coordination with Indian Tribal Governments. *In compliance*. This Executive Order requires regular and meaningful consultation and collaboration with tribal officials in the development of Federal polices that have tribal implications, to strengthen the United States government-to-government relationships with Indian tribes, and to reduce the imposition of unfunded mandates upon Indian tribes. Section 3 establishes policymaking criteria when formulating and implementing policies that have tribal implications. Section 5 (a) says each agency shall have an accountable process to ensure meaningful and timely input by tribal officials in the development of regulatory polices that have tribal implications. Tribal representatives were consulted with as part of the Fort Peck Master Plan scoping and were provided copies of the Draft Master Plan/EA for review.

Executive Order 13287, 3 March 2003, Preserve America. *In compliance*. This Executive Order encourages Federal agencies to recognize and manage the historic properties in their ownership as assets that can support department and agency missions although contributing to the vitality and economic well-being of the nation's communities. This Executive Order also encourages Federal agencies to seek partnerships with State, tribal, and local governments and the private sector to make more efficient and informed use of their historic, prehistoric, and other cultural resources for economic development and other recognized public benefits. The Corps has consulted with State, tribal, and local governments to provide input on the effects of the Master Plan on cultural resources, including historic properties, and other public benefits.

d. Cooperative Agreements

Cooperative Agreement between the Department of the Interior and the Department of Army. 23 January 1989. This Cooperative Agreement addresses waterfowl habitat conservation opportunities associated with Corps civil works projects and activities consistent with the North American Waterfowl Management Plan (NAWMP). In May 1986, the United States and Canada signed the NAWMP. The goal of this plan is to restore the Nation's waterfowl population to the same numbers as were present in the early 1970s.

Memorandum of Agreement Number DACW 45-9-07-8054 between the Corps of Engineers, Omaha District and the U.S. Fish and Wildlife Service Region 6, Denver Colorado, 2007. This agreement establishes guidelines for coordinating resource management efforts at the Fort Peck project and Charles M. Russell National Wildlife Refuge. The agreement recognizes the USFWS as the lead agency with regard to wildlife management and the Corps as the lead agency for recreation management on designated recreation sites. Both agencies agree to coordinate activities which could impact the missions of the other. This agreement replaced Agreement Number DACW45-0-07-6039 dated 6 October, 1997 and DACW45-9-01-6027 dated 2001.

Programmatic Agreement for the Operation and Management of the Missouri River Mainstem System for Compliance with the National Historic Preservation Act, as amended, 2004. In September 2001, the Corps made the decision to replace the existing Programmatic Agreement (PA) for implementation of Section 106 of the NHPA, which was signed in 1993. The existing PA was an agreement between the Corps, the Nebraska, South Dakota, North Dakota and Montana State SHPOs, and the ACHP. Since the signing of the agreement, a Federal requirement came into effect that required the Corps to involve the Native American Tribes within the Missouri River Basin on the implementation of the Cultural Resources Program in the Omaha District, which is the upper Missouri River Basin. The District and the consulting parties signed this agreement on April 13, 2004. The final PA included 29 signatories, including representatives from three Federal agencies, 16 tribal governments, one State agency, and one private organization, as well as two Tribal Historic Preservation Officers (THPOs) and four SHPOs.

Cooperative Agreement Number DACW 45-4-92-6027 between the Department of the Army and the Department of the Interior, U.S. Fish and Wildlife Service Relating to the Use and Administration of Lands of the Fort Peck Lake Project, 1995. This Cooperative Agreement grants the USFWS the authority to manage wildlife and issue grazing leases on project lands. The Cooperative Agreement also outlines the USFWS responsibilities on those lands.

Memorandum of Agreement between the U.S. Army Corps of Engineers, Omaha District and the U.S. Fish and Wildlife Service Region 6, Denver, Colorado, 2005. This Memorandum of Agreement describes the measures that will be taken to offset the impact to wildlife and wildlife habitat by privatizing 12 cabin sites on the South Fork of Rock Creek. The agreement identifies lands that the Corps will out-grant to the USFWS to be managed as part of the wildlife refuge. The Memorandum of Agreement specifies management actions that the USFWS will take including maintaining access routes to out-granted lands, constructing a boundary fence, and rehabilitating the South Fork Rock Creek lots that revert to government ownership. In addition to out-granting the specified lands to the USFWS, the Corps will manage the South Fork Rock Creek area for low-density recreation, number and sign roads in the Rock Creek cabin area, not offer for public sale any South Fork Rock Creek cabin lot when the lease expires, and remove the facilities at the Bear Creek Recreation Area.

Memorandum of Understanding between the U.S. Army Corps of Engineers, Omaha District and Museum of the Rockies, 1993. This Memorandum of Understanding, specific to the Wankel *T. rex* found near Nelson Creek grants the Museum of the Rockies the authority to preserve and curate the paleontological resources, including the Fort Peck Tyrannosaurus Rex, found on the Fort Peck project. The Museum may reproduce and replicate the resource and sell the reproductions. The Memorandum does not apply to paleontological collections/resources found in direct physical relationship with prehistoric or historic resources as noted in 36 CFR 79.4.

Cooperative Agreement between the U.S. Fish and Wildlife Service Department of the Interior and the Museum of the Rockies, 1994. This Cooperative Agreement authorizes the Museum of the Rockies to investigate paleontological, biological, cultural, and historical resources on the Charles M. Russell National Wildlife Refuge. The Museum is authorized to conduct field work, catalog field samples and write reports on findings to submit to the Refuge staff.

Memorandum of Agreement between the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the Fort Peck Dam Interpretive Center and Museum, Inc., 2002. This Memorandum of Agreement establishes a joint venture for establishing and operating the Fort Peck Interpretive Center. The objectives of the joint venture are to provide environmental education to foster voluntary stewardship of natural, cultural and created resources and to jointly plan for the operation and maintenance of educational facilities.

Cooperative Agreement between the U.S. Army Corps of Engineers and Fort Peck Paleontology, Inc., 2003. This Cooperative Agreement establishes a relationship between Fort Peck Paleontology, Inc. (FPPI) and the Corps for the interpretation and protection of paleontological resources found on the Fort Peck project. FPPI may cast and reproduce fossils. Proceeds from FPPI must be used to fund the scientific and education mission of FPPI and for the benefit of the Corps site.

3. SPECIAL ISSUES

This chapter of the Master Plan describes special management issues at Fort Peck. Three special issues are described—high pool and low pool management issues, cabin sales, and management of paleontological resources.

HIGH POOL AND LOW POOL MANAGEMENT ISSUES AND STRATEGIES

This section identifies and discusses the issues and challenges to land management that arise at the extreme ends (high to low) of the reservoir pool level operations on the Fort Peck project. High and low pool conditions create a variety of issues and challenges to standard land management practices. The collection and documentation of critical historical data and the identification of unique challenges and strategies formulated to address land based impacts is necessary for future planning and management of project lands.

INTRODUCTION AND GENERAL DESCRIPTION OF OPERATING CONDITIONS AND POOL

This high and low pool management strategy analyzes pool elevations and provides strategies related to minimizing land based impacts, with emphasis on drought and flood conditions. Elevations and management protocols at "Normal Pool" provide a basis from which the high and low pool management strategies are formulated.

This chapter is organized by first providing a general introduction to the high pool and low pool management and then by identifying the major issues that affect reservoir operations for both high and low pool levels. The following sections then describe which of the identified management issues are relevant for specific pool levels. This strategy identifies specific management zones based on pool level ranges defined in the plan. By organizing issues and strategies by zones, management direction can be targeted to the specific elevation ranges and related problems. As the reservoir pool goes through high or low periods the land management strategies necessary for each elevation zone can be clearly anticipated and executed. The closing sections of the chapter provide the management strategies and recommendations for each of the identified elevation zones.

LEVELS

a. Normal Operating Conditions (Flood Control and Multiple–Use Pool) – between elevation 2234-2246 msl (NAVD29). "Normal" Operating Conditions, for the purpose of this document, has been defined as the reservoir elevation between 2234-2246 feet above mean sea level (msl). All elevations used in this chapter are referenced to msl. The range of elevations for normal pool corresponds to the range where the reservoir can be operated for flood control and multiple use.

Minimal impacts to project operations are expected during these conditions since routine operations and maintenance will continue. As the water level approaches the extremes of this range, however, heightened awareness of project conditions should be realized.

b. High Pool Operating Conditions – above elevation 2246 msl (2246-2251). High Pool operating conditions are defined as the reservoir surface between elevations 2246-2251. The exclusive flood control pool for Fort Peck Lake is defined as the range between elevations 2246 and 2250, with 2250 being the top of the emergency spillway gates. The historic high elevation of the pool occurred in July 1975 and was elevation 2251.6. Whenever the pool elevation exceeds 2250 water begins to flow through the emergency spillway, limiting further increases in pool elevation.

With the high pool elevations, impacts to project operations increase and the need for monitoring, maintenance, and evaluation increases. For instance, the ability to control downstream releases is reduced, the potential for damage to the dam is increased, and portions of several recreation areas become inundated and temporarily unusable. The increased monitoring and evaluation schedule needed for the project's structures and appurtenances can be found in the Operation and Maintenance Manual. The land management issues, elevation zone ranges, and management strategies are discussed below.

c. Low Pool Operating Conditions – below elevation 2234 msl (2234-2160). Low Pool operating conditions are defined as the reservoir surface between elevations 2234-2160. A new record low level was set at 2196.23 feet on March 4, 2007. The minimum operational pool elevation for the project is 2160, which corresponds to the lowest pool elevation at which the Corps is able to carry out its management mandates.

The impacts associated with low pool elevations also increase the need for monitoring, maintenance, and evaluation. The range of land management issues is more varied and complex for the low pool elevations than the high pool elevations. These issues, elevation zone ranges, and management strategies are discussed below.

DEFINITION OF ISSUES

a. Reservoir Access and Recreation. Reservoir access and recreation includes access features such as boat ramps, shoreline day-use access and control, and associated access roads. Additionally, recreation facilities including marinas, camping areas, playgrounds, cabins, and docks are included.

Reservoir access facilities such as boat ramps and shoreline roads were originally constructed at several locations around the reservoir to provide access to the water for recreation. Many of the ramps have been temporarily and permanently extended to various lengths and at varying elevations around the reservoir. All of these facilities can be affected by high and low water levels. Low reservoir levels leave some ramps high and dry. In order to function properly, the access ramps require at least three feet of water over the lower end of the concrete ramp. Exposure of the lower ends of the ramps during low water can also contribute to undercutting and erosion problems leading to damage to the concrete. High water levels can cause erosion

damage and increase maintenance costs. Extensive road maintenance is needed to provide access to the water and shoreline. Hard pack gravel roads on land above high water typically remain intact; however, roads below high water pool are temporary and require continual monitoring and repairs.

Ramps on the reservoir are managed by the Corps of Engineers, the Montana Fish Wildlife and Parks (MFWP), and a few private concessionaires. Additionally, the ramp located at the James Kipp Recreation Area is managed by the BLM and the ramp at Rock Creek West is managed by the USFWS. The majority of ramps are managed by the Corps. The ramps are grouped into four categories based on the agency responsible for management. The four access ramp categories are as follows:

- Category 1 — Corps built ramps that are managed and maintained by the Corps. Ramps in this category were initially built by the Corps with Operation and Maintenance funding obtained though standard budgetary processes. The Corps has direct management of these areas.
- Category 2 — Corps built ramps that are managed and maintained by other agencies. Lease agreements are entered into with Tribal, State, or local governments by the Corps to clearly identify that the Corps is not responsible for any management or maintenance.
- Category 3 — Ramps constructed using shared costs. The Corps shared ramp expenses with other agencies and these facilities are managed and maintained by another agency. The Corps has the ability to partner with an agency for the development of recreational facilities.
- Category 4 — Other agency built ramps that are managed and maintained by other agencies. These facilities were allowed to be constructed on land managed by the Corps. The Corps provided no funding nor accepts any managerial or maintenance responsibilities for these facilities.

Recreation use is primarily affected by low water levels presenting challenges for boats, fishermen, swimmers, water skiers, jet skiers, and campers. Impacted facilities can include boat docks, parking areas, boat ramps, sanitation facilities, and swimming facilities. Recreation usage may change during low water conditions as access to the water becomes more difficult or more limited. Reduced access to the water may require users to find alternative access points which may result in overcrowding of those facilities still usable and longer travel times to the facilities. Facilities must be available to accommodate visitors' needs and provide a safe environment.

Marinas provide many amenities to water oriented visitors. The elevation of the water in the marina harbor determines its serviceable use. Services can include: boat ramps, boat docks, long and short term mooring facilities, fuel service, sanitation services, mechanic services, grocery, sundries, camping, swimming, and outdoor sports. The use of marinas by the boating public assists in protecting the reservoir environment by providing sanitation facilities and pick up and disposal of petroleum products.

Dock and mooring facilities must be continually adjusted to an appropriate depth to avoid damage to boats. Because sailboats and deep hull vessels require high water elevations, these

types of boats are impacted first. Severe low water conditions may require the abandonment of docks and mooring facilities because the water is too far from the marina. The removal of docks restricts the ability for boaters to access fuel and sanitation. Fort Peck Lake has only four fueling facilities at Hell Creek, Rock Creek, Fort Peck, and Crooked Creek Marina. The loss or removal of just one could impact boating trends. As facilities are removed or closed, the other ancillary services are affected. These restaurants, camping facilities, and bait shops rely primarily on the patronage of boaters. The closure of slip and dock services will dramatically affect the revenue in the entire marina area.

Shoreline day use is popular on the reservoir. Low pool conditions provide opportunities for unrestricted and uncontrolled access to shorelines and can result in severe damage to other reservoir resources such as threatened or endangered species and paleontology resources. High pool conditions restrict the opportunities for this type of recreation because of the loss of usable shoreline as a result of inundation.

Cabin sites, docks, campgrounds, parking areas, and playgrounds are all affected by high and low pool conditions. Some of these facilities may be damaged by erosion during extreme high water events. These same facilities that are conveniently near a reservoir access point during normal pool conditions may be far away from the reservoir access during periods of low water.

b. Invasive Species. Several invasive plant species and noxious weeds thrive in low pool elevation conditions. Newly exposed shoreline provides ideal habitat for invasive species to grow and spread quickly. Invasive species tend to be colonizers that specialize in colonizing and thriving in disturbed environments such as the newly exposed reservoir shoreline. As noxious weeds spread quickly on the exposed soils and gain a foothold they can then more easily spread to adjacent farms and ranches. Saltcedar (*Tamarix ramosissima, Tamarix chinensis*, and *Tamarix parviflora*) is a major threat to the natural resources around the reservoir and tends to be a constant threat throughout the full range of reservoir levels—high, low, and normal. The Corps currently works cooperatively with the US Fish and Wildlife Service (USFWS) to attempt to control saltcedar. Canada thistle (*Cirsium arvense*) and leafy spurge (*Euphorbia esula*) are also major threats on newly exposed shorelines of Fort Peck Lake.

c. Threatened and Endangered Species. The foraging and nesting activities of two endangered bird species are impacted by high and low pool elevation changes. The interior least tern (*Sterna antillarum athalassos*) and piping plover (*Charadrius melodus*) are two shorebirds that feed and raise their young on the shores of the Missouri River and reservoir beaches.

The least tern is a pale grey swallow sized bird that was first documented at Fort Peck Lake in 1987. In 1994, eight nests were found at Fort Peck Lake, all on a small island within sight of Fort Peck Dam. The eight nests were initiated by six pairs of least terns and were near the nests of some common terns. Only three nests were successful and, of six young produced, only two birds fledged. Nest and chick loss was probably because of gull predation. This was the third year least tern production was observed at Fort Peck Lake, and the most nests seen since surveys began in 1987 (MFWP, 2007b).

The piping plover is a sandy brown robin-sized bird that prefers nesting primarily on unvegetated sand-pebble beaches or islands in freshwater and saline wetlands and shorelines and exposed beds of larger reservoirs and rivers. The Medicine Lake National Wildlife Refuge and nearby wetlands account for almost 80 percent of the piping plover production in Montana. However, nesting also occurs on the Fort Peck Lake and on the Missouri River below Fort Peck (MFWP, 2008).

A steady drop in reservoir elevations provides for an optimum increase in potential nesting habitat for the piping plover. The piping plover prefers the newly exposed open shorelines for nesting that are provided by a steady drop in the reservoir elevation. However, this habitat is short lived as within one to two years vegetation will encroach and colonize the open shores and eliminate the open habitat. The additional vegetative growth that accompanies lower elevations also decreases their critical foraging areas and increases opportunities for predators. Changes in foraging habits can adversely affect the survival of chicks and adult birds. High grass and weeds along the shoreline will discourage piping plovers away from ideal feeding locations. Vegetation also provides cover for predators such as snakes, raccoons, and skunks to destroy nests. Nests can be concentrated on ideal sandy soil but in limited areas, endangering a large percentage of the population by allowing predators easy access.

The transition to low pool conditions has the potential of providing optimum conditions for these endangered species. As the reservoir level drops, new habitat is continually exposed. If low pool elevations persist however, the habitat will soon be overgrown. Year to year the more important factor for the endangered bird species is the short-term rise and fall of the reservoir pool.

Higher water levels pose the greatest issues for the endangered birds around the reservoir because nearly all of the prime habitat areas would be inundated by the rising water. As reservoir elevations exceed 2246 the open expanses of shoreline begin to disappear.

One additional endangered species resides in the reservoir area, including the river both upstream and downstream from the dam. The pallid sturgeon (*Scaphirhynchus albus*) is a bottom dwelling fish that prefers large, free-flowing, warm water, turbid habitat with a vast array of physical habitat conditions that are in a constant state of change. As a result of habitat alterations within the river reaches within the reservoir, overall habitat diversity, productivity, and availability within the reservoir have been severely impaired. Although some spawning has been documented with the discovery of a few pallid sturgeon fry, no recruitment has been documented for at least 30 years. Recovery of the endangered pallid sturgeon requires a coordinated effort and the 2003 Amended Biological Opinion proposes a watershed approach, with habitat creation and restoration, test rises along the river, and an aggressive adaptive management and monitoring program.

d. Bank Erosion. Bank erosion caused by wave and wind action is an issue of concern at all reservoir levels. But it becomes a particular concern at high pool elevations as areas that are not generally subjected to wave action are exposed to the wind and waves. High wind events with sustained wind over a long period are common in the Fort Peck area producing large waves on the open expanses of the reservoir. That combined with fragile soils on steep slopes leads to severe bank erosion issues on downwind shoreline areas during high water.

Essential facilities such as roads, ramps, and docks or areas of particular safety concern such as unstable banks near recreation areas and cabin sites are at high risk. Erosion is also a concern in regards to paleontology resources.

e. Paleontology Resources. Bank erosion caused by wave and wind action can expose buried paleontology resources. Exposed resources are then subject to vandalism and looting. Paleontology resource site density is high on the Fort Peck project with sites associated with particular geologic layers. Paleontology resources become exposed on the bluffs and badlands surrounding the reservoir. The geologic layers are affected by the changing water elevations but this issue is most critical at the extreme high and low water elevations. Sites covered by water during normal pool operating levels are potentially affected by low water conditions because they may be exposed and subject to wind erosion or looting. Sites above the normal pool operating levels are affected by high water conditions because they are newly exposed to erosive wave action and can be damaged directly or exposed once the water level drops back to normal operating conditions.

f. Cultural and Historic Resources. Cultural resource sites are at risk of being adversely affected by environmental and human factors any time the water level fluctuates. Cultural resource site density along the Missouri River is high with sites located at all pool level elevations. Pre-historic and historic sites are located along the original river channel and on the surrounding bluffs and plains. The National Historic Preservation Act requires that archeological sites that are eligible or potentially eligible for listing on the National Register of Historic Places be preserved and protected from adverse effects.

g. Wildfire Hazards. Because of the high wind events and the relatively dry conditions at Fort Peck, the Charles M Russell Wildlife Refuge surrounding the reservoir is subject to periodic wildfire hazards. Cabin sites, year-round residences, and recreational facilities are at highest risk. Recreation areas are both potentially at risk of loss or damage from wildfire and potential risks as sources of wildfire, through campfires and other recreation related activities. Sustained low-water periods can expose shorelines leading to colonization by vegetation, which then increases the risk of wild fire to areas completely surrounding what were once shoreline recreation sites.

h. Safety and Health Hazards. High and low pool elevations present a variety of safety and health hazards to all users of the reservoir. Shallow points, islands, stumps, logs, and trees that pose no hazard with normal pool elevations may become hazards during low and high pool elevations when exposed or lying just under the surface of the water. As the water level decreases within the reservoir some areas where trees were cut still retain stumps, or logs that have floated into the reservoir may become lodged on the bottom and present an unforeseen hazard to reservoir users. Blowing sand and dust from newly exposed shorelines and slopes can also pose safety risks with low pool elevations. During high water events trees at the reservoir edge become submerged along with fences and other structures. These can all pose dangerous underwater hazards for recreational users.

Additionally, as the water levels go down in the reservoir, livestock managers often have to actively monitor fences to keep livestock under control. Theses "tag" fences then need to be removed promptly when water levels increase to prevent them from becoming a hazard as the water level rises over them.

i. Facility Maintenance. Low pool elevations do provide for the opportunity to carry out needed maintenance of facilities and shorelines. As facilities are exposed at lower reservoir levels, maintenance crews have easier access for repair and reconstruction of docks, ramps, erosion control structures, and other facilities. However, closed areas resulting from low water still require maintenance. Refuse collection, mowing, cleaning, and grounds maintenance are necessary to protect areas from deterioration. Neglect will reflect poorly on the Corps and increase start up expenses when areas are re-opened. Neglect may also lead to unauthorized use, which will increase law enforcement expenses.

j. Domestic Water Intakes. Domestic water supply intakes approved under the shoreline permit program are an issue whenever the reservoir elevation changes up or down. There are a limited number of non-potable domestic water intakes at each of the four cabin sites, Fort Peck, Rock Creek, Hell Creek, and The Pines. The intakes need to be withdrawn as pool levels rise and need to be extended to chase the water level as it recedes during low pool conditions. License holders are responsible for chasing the water by adding or removing pipe and sometimes electrical service lines. In low water conditions, a loss of domestic sources for these cabin sites may increase the wildfire risk.

k. Irrigation Intakes. Irrigation intakes are impacted primarily by low water levels. These intakes however, are the responsibility of the individual owners. The owners generally extend their lines to follow the water down into the reservoir as the pool level recedes. This is an issue for both land mangers and owners to be aware of as reservoir levels rise and fall. Contingency plans for pump relocation, with input from both parties, are advantageous to facilitate emergency actions.

l. Coldwater Fish Habitat. Coldwater fish habitat is important for the Chinook salmon (*Oncorhynchus tschawytscha*) and lake trout (*Salvelinus namaycush*), both important game fish stocked in the lake. Cisco (*Coregonus artedii*) is the main forage fish along with spot-tailed shiners (*Notropis hudsonius*).

The coldwater habitat is impacted by low pool conditions because the lowering of the pool elevation tends to compact the coldwater layers and reduce the extent of the coldwater to the area nearest the dam. With this compaction of the habitat comes increased predation, crowding of the fish, oxygen depletion in the water, an increase in susceptibility to disease, and reduced spawning success. The stress on the fishery and reduced spawning success of the salmon impacts sport fishing on Fort Peck Lake.

ELEVATION ZONES ISSUES AND OPPORTUNITIES

a. High Water Operating Conditions—Elevation 2246-2251. The exclusive flood control pool for the Fort Peck project is designated between the elevations of 2246-2250, which is the top of the emergency spillway gates. At elevation 2250 the water spills and there is no additional storage capability. Figure 3-1 illustrates the two high water pool elevation zones. These elevation zones are discussed in detail below.

b. High Pool Elevation Zone 1 – 2246-2248

1. Issues

Bank erosion problems – Exposed cliffs and banks above the normal operating pool will begin to experience erosion problems. Particularly exposed recreation areas and cabin sites are most at risk, such as the Fort Peck Cabins area.

Paleontology resources – Wave action may endanger sites that are currently intact.

Cultural and historic resources – Wave action may endanger sites that are currently intact. Refer to the Cultural Resources Management Plan (CRMP) for more specific details.

Hazards – Around the edges of the reservoir inundated fences, trees, logs, and other structures begin to present safety hazards for recreation users.

2. Opportunities

Invasive species – The high pool elevation does provide some benefit by drowning out and reducing some of the invasive species growing on the shoreline of the reservoir.

c. High Pool Elevation Zone 2 – 2248-2251

1. Issues

Bank erosion problems – Exposed cliffs and banks above the normal operating pool experience erosion problems.

Paleontology resources – Wave action may endanger sites that are currently intact.

Cultural and historic resources – Wave action may endanger sites that are currently intact. Refer to the Cultural Resources Management Plan (CRMP) for more specific details.

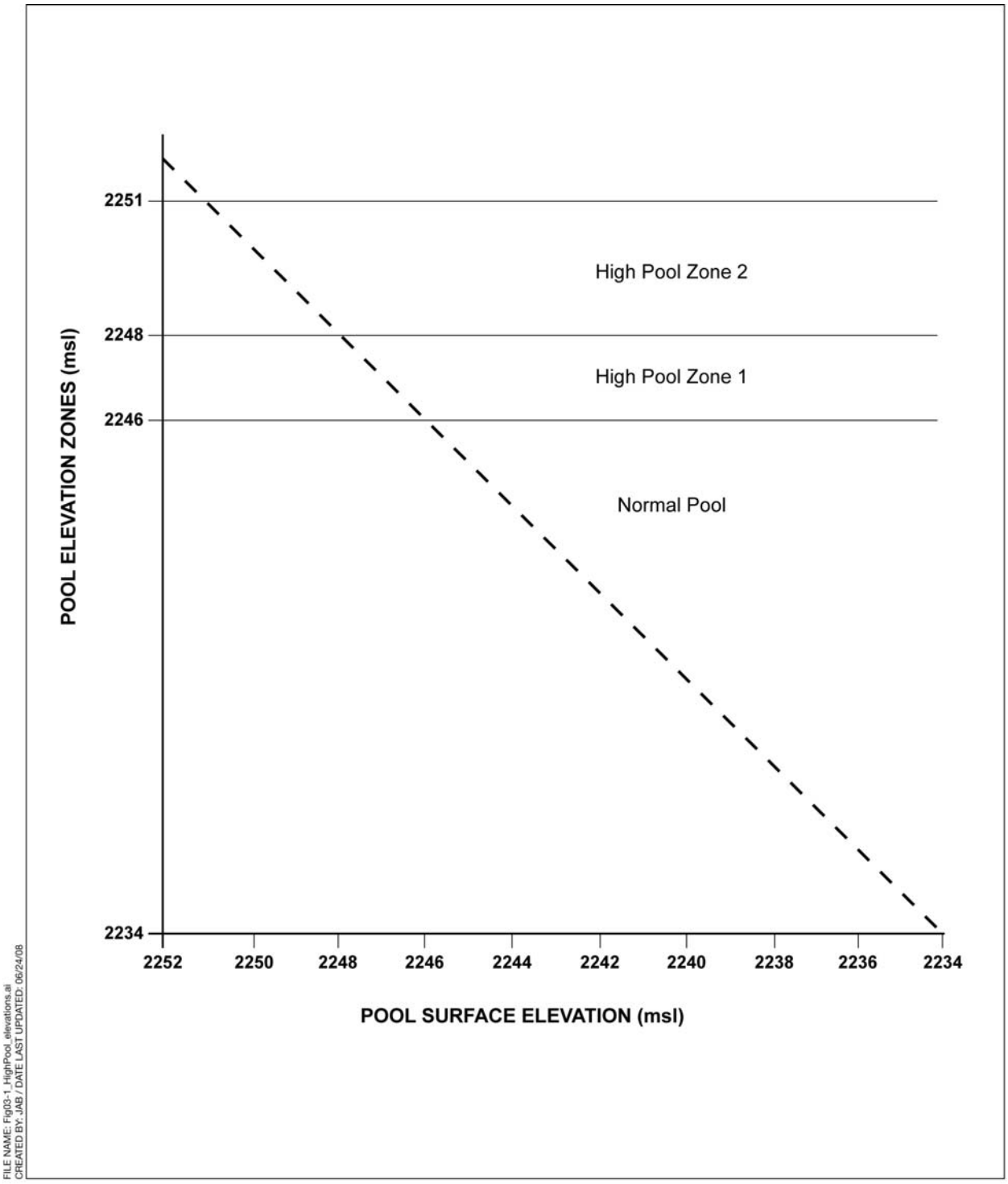

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Figure 3-1
High Pool Elevation Zones
Montana

Hazards – Around the edges of the reservoir inundated fences, trees, logs, and other structures present a safety hazards for recreation users.

Flood storage – The high pool elevation eliminates the capability for flood storage.

2. Opportunities

Invasive species – The high pool elevation does provide some benefit by drowning out and reducing some of the invasive species growing on the shoreline of the reservoir.

d. Optimum Operating Conditions—Elevation 2234-2246. Between elevations 2234-2246 the reservoir pool is at what is classified as normal operating conditions. The majority of the recreational and other facilities are designed to operate within this elevation range.

At normal pool elevations there continue to be issues with erosion, dust and other hazards, paleontology resources, invasive species, and threatened and endangered species, but to a lesser degree. These issues are dealt with under the normal operating procedures of the reservoir and are discussed in detail in the relevant sections of the Master Plan.

1. Issues

Invasive species – Invasive species may present problems during normal pool elevations in areas where open shoreline is common because of pool level fluctuations that occur with normal operation.

Bank erosion problems – Exposed cliffs and banks within the normal operating pool experience erosion problems.

Paleontology resources – Wave action within the normal operating conditions range may endanger sites that are currently intact.

Cultural and historic resources – Wave action within the normal operating conditions range may endanger sites that are currently intact. Refer to the Cultural Resources Management Plan (CRMP) for more specific details.

Domestic Water Intakes – The operational issues associated with management of permitted domestic waterlines are an issue whenever the lake level rises or drops. License holders are responsible for adding or removing equipment as necessary to follow the reservoir levels and maintain a safe efficient operation.

Hazards – Trees, stumps, and logs may present safety hazards for recreation users even at normal pool elevations. Blowing dust and sand is a potential safety hazard at normal pool elevations in areas where open shoreline is common because of pool level fluctuations that occur with normal operation.

2. Opportunities

Threatened and endangered species – The normal fluctuations of the reservoir pool provide shoreline access for nesting birds.

e. Low Water Operating Conditions—Elevation 2234-2160. Low pool operating conditions begin at elevation 2234. The reservoir minimum operational pool elevation is 2160, which corresponds to the minimum elevation at which the Corps can carryout their operational mandates. A new record low level was set at 2196.23 feet on March 4, 2007. Figure 3-2 illustrates the four low water pool elevation zones. These elevation zones are discussed in detail below.

f. Low Pool Elevation Zone 1 – 2234-2220

1. Issues

Reservoir access ramps – As the reservoir level drops from elevation 2234-2220, two permanent access ramps become unusable. In order to function properly, the access ramps require at least three feet of water over the lower end of the concrete ramp. The Crooked Creek ramp has a bottom elevation of 2223 and becomes unusable at reservoir elevation 2226. Nelson Creek ramp has a bottom elevation of 2220 and becomes unusable at elevation 2223.

Invasive species – As the reservoir elevation declines, the area of land susceptible to overgrowth by invasive species increases. The "land-clearing" action induced by the falling reservoir creates optimal conditions for the germination of weeds. Proactive measures, including close coordination with the multi-State and multi-agency saltcedar task force should continue in an effort to control weeds in the highest priority areas.

As water levels drop, the issue with weeds becomes exacerbated as the areas exposed continue to grow. Not only is control of the new "exposure" necessary, eradication of the weeds that have previously become established is desired. This creates an enormous burden in terms of both manpower and monetary resources.

Erosion problems - Wave action may induce damage to shorelines, structures, and other facilities. Geographic Information System mapping and other data processing activities to locate high-risk shorelines are ongoing.

Paleontology resources - For this elevation zone, paleontology resources are affected by low pool conditions. However, because paleontology resources are rich and prominent throughout the area, it is not possible to include elevations, data, or other information for specific sites.

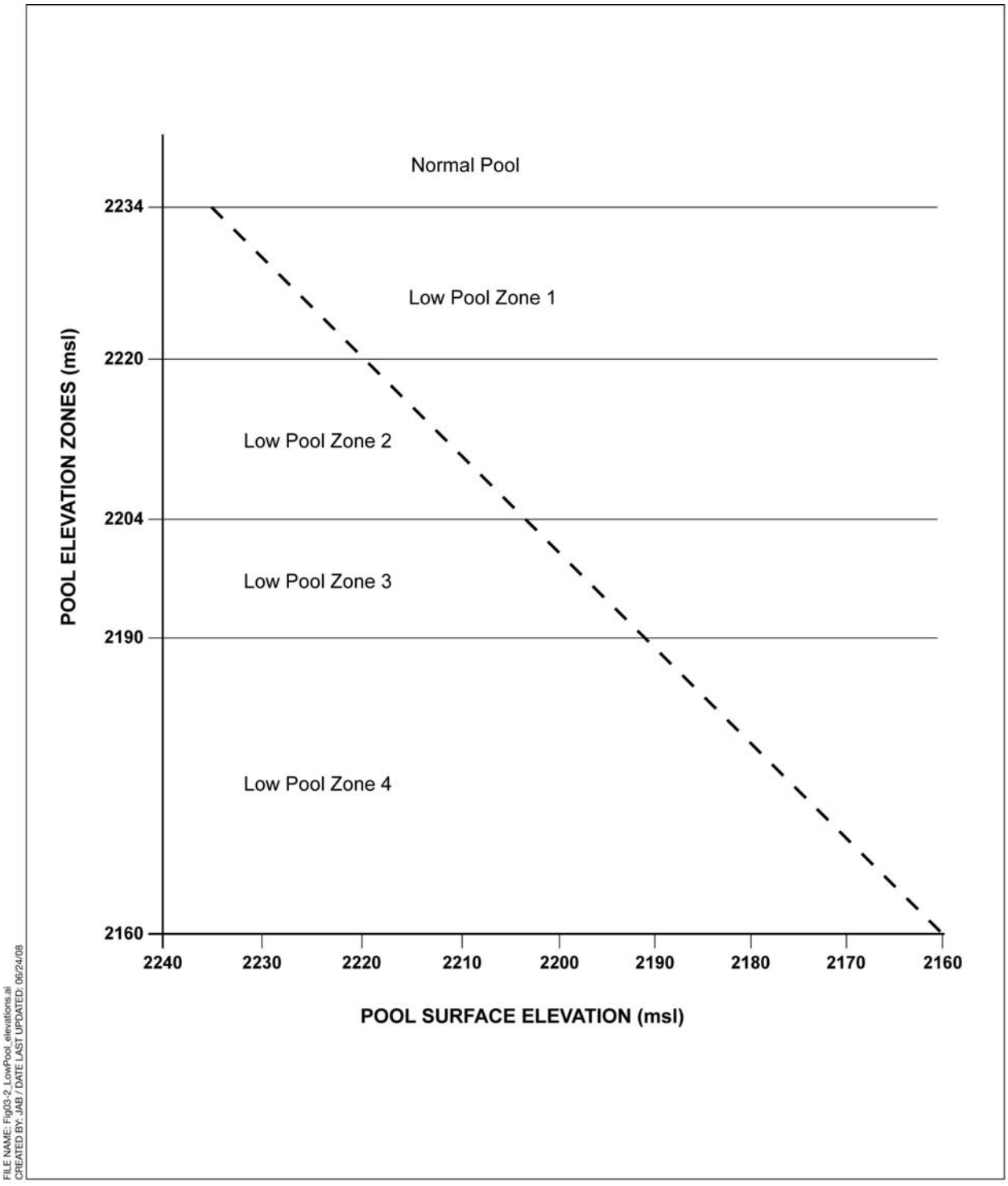

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Figure 3-2
Low Pool Elevation Zones
Montana

Cultural and historic resources - For this elevation zone, cultural and historic resources begin to be affected by low pool conditions. However, because of the sensitive nature of the cultural and historic resource sites, it is not possible to include specific elevations, data, or other information for the sites. Refer to the CRMP for more specific details.

Hazards – Blowing dust begins to become more of an issue as larger expanses of open shoreline are exposed with the drop in water level. Areas particularly at risk are those close to cabin sites and popular recreation areas.

Hazards such as stumps, logs, mudflats, sand bars, and shallow water also become more of a hazard within this elevation zone. At low water the river is free flowing in the upper reaches, which can pose hazards for recreational users.

Facility maintenance – Recreation areas that are closed because of low water continue to require maintenance. Refuse collection, mowing, cleaning, and grounds maintenance is necessary to protect areas from deterioration. Neglect will reflect poorly on the Corps and increase start up expenses when areas are re-opened. Neglect may also lead to unauthorized use, which will increase law enforcement expenses.

Domestic water intakes – Domestic water intakes at the cabin sites are a concern within all of the Low Pool Elevation Zones.

Irrigation intakes – This is an issue for all Low Pool Elevation Zones. As the reservoir level falls current and potential irrigators have to chase the water with their intake structures.

2. Opportunities

Maintenance – Low water levels provide opportunities for conducting maintenance on reservoir facilities as areas usually underwater become exposed. Activities such as dredging and shoreline stabilization may be easier to complete than at normal pool elevations. There are also opportunities for photo documentation of problem areas and hazards.

Wildlife benefits – The decreasing water elevation may provide some benefit for wildlife including nesting opportunities for threatened and endangered species—particularly in the first few years of the elevation drop.

Paleontology resources – There may be opportunities to conduct paleontology surveys in areas of newly exposed shoreline. The lower pool elevations may also provide an opportunity for the installation of protective measures for sensitive sites.

Grazing – As the water level drops over a period of years and vegetation becomes established on the new shoreline, there may be more opportunity for grazing on

the exposed shoreline adjacent to existing grazing allotments. It will be important to coordinate closely with USFWS on this issue.

g. Low Pool Elevation Zone 2 – 2220-2204

1. Issues

Reservoir access – As the reservoir level drops between elevations 2220-2204, all of the remaining permanent access ramps become unusable. All permanent ramps on the reservoir are currently unusable at approximate elevation 2207 msl. The permanent access ramps can be extended over varying distances using temporary ramp extension materials. Currently, any ramp usable below elevation 2207 is a temporary concrete plank ramp.

Invasive species – As the reservoir elevation declines, the area of land susceptible to overgrowth by invasive species increases. The "land-clearing" action induced by the falling reservoir creates optimal conditions for the germination of weeds. Proactive measures, including close coordination with the multi-State and multi-agency saltcedar task force should continue in an effort to control weeds in the highest priority areas.

As water levels drop, the issue with weeds becomes exacerbated as the areas exposed continue to grow. Not only is control of the new "exposure" necessary, eradication of the weeds that have previously become established is desired. This creates an enormous burden in terms of both manpower and monetary resources.

Erosion problems - Wave action may induce damage to shorelines, structures, and other facilities. Geographic Information System mapping and other data processing activities to locate high-risk shorelines are ongoing.

Paleontology resources - For this elevation zone, paleontology resources are affected by low pool conditions. However, because paleontology resources are rich and prominent throughout the area, it is not possible to include elevations, data, or other information for specific sites.

Cultural and historic resources - For this elevation zone, cultural and historic resources continue to be affected by low pool conditions. However, because of the sensitive nature of the cultural and historic resource sites, it is not possible to include specific elevations, data, or other information for the sites. Refer to the CRMP for more specific details.

Wildfire hazards –As the reservoir level falls and low water conditions persist, areas exposed will convert to vegetative cover over time. These newly vegetated areas may pose additional risks for wildfire hazard to adjacent recreation areas.

Hazards – Blowing dust begins to become more of an issue as larger expanses of open shoreline are exposed with the drop in water level. Areas particularly at risk are those close to cabin sites and popular recreation areas.

Hazards such as stumps, logs, mudflats, sand bars, and shallow water also become more of a hazard within this elevation zone. At low water the river is free flowing in the upper reaches, which can pose hazards for recreational users.

Facility maintenance – Recreation areas that are closed because of low water continue to require maintenance. Refuse collection, mowing, cleaning, and grounds maintenance is necessary to protect areas from deterioration. Neglect will reflect poorly on the Corps and increase start up expenses when areas are re-opened. Neglect may also lead to unauthorized use, which will increase law enforcement expenses.

Domestic water intakes – Domestic water intakes at the cabin sites are a concern within all of the Low Pool Elevation Zones.

Irrigation intakes – This is an issue for all Low Pool Elevation Zones. As the reservoir level falls current and potential irrigators have to chase the water with their intake structures.

2. Opportunities

Maintenance – Low water levels provide opportunities for conducting maintenance on reservoir facilities as areas usually underwater become exposed. Activities such as dredging and shoreline stabilization may be easier to complete than at normal pool elevations. There are also opportunities for photo documentation of problem areas and hazards.

Wildlife benefits – The decreasing water elevation may provide some benefit for wildlife including nesting opportunities for threatened and endangered species—particularly in the first few years of the elevation drop.

Paleontology resources – There may be opportunities to conduct paleontology surveys in areas of newly exposed shoreline. The lower pool elevations may also provide an opportunity for the installation of protective measures for sensitive sites.

Grazing – As the water level drops over a period of years and vegetation becomes established on the new shoreline there may be more opportunity for grazing on the exposed shoreline adjacent to existing grazing allotments. It will be important to coordinate closely with USFWS on this issue.

h. Low Pool Elevation Zone 3 – 2204-2190

1. Issues

Reservoir access – As the reservoir level drops between elevations 2204-2190 all ramps except ramps providing direct access to the river become unusable at approximately 2195.

Invasive species – As the reservoir elevation declines, the area of land susceptible to overgrowth by invasive species increases. The "land-clearing" action induced by the falling reservoir creates optimal conditions for the germination of weeds. Proactive measures, including close coordination with the multi-State and multi-agency saltcedar task force should continue in an effort to control weeds in the highest priority areas.

As water levels drop, the issue with weeds becomes exacerbated as the areas exposed continue to grow. Not only is control of the new "exposure" necessary, eradication of the weeds that have previously become established is desired. This creates an enormous burden in terms of both manpower and monetary resources.

Erosion problems - Wave action may induce damage to shorelines, structures, and other facilities. Geographic Information System mapping and other data processing activities to locate high-risk shorelines are ongoing.

Paleontology resources - For this elevation zone, paleontology resources are affected by low pool conditions. However, because paleontology resources are rich and prominent throughout the area, it is not possible to include elevations, data, or other information for specific sites.

Cultural and historic resources - For this elevation zone, cultural and historic resources continue to be affected by low pool conditions. However, because of the sensitive nature of the cultural and historic resource sites, it is not possible to include specific elevations, data, or other information for the sites. Refer to the CRMP for more specific details.

Wildfire hazards –As the reservoir level falls and low water conditions persist, areas exposed will convert to vegetative cover over time. These newly vegetated areas may pose additional risks for wildfire hazard to adjacent recreation areas.

Hazards – Blowing dust begins to become more of an issue as larger expanses of open shoreline are exposed with the drop in water level. Areas particularly at risk are those close to cabin sites and popular recreation areas.

Hazards such as stumps, logs, mudflats, sand bars, and shallow water also become more of a hazard within this elevation zone. At low water the river is free flowing in the upper reaches, which can pose hazards for recreational users.

Facility maintenance – Recreation areas that are closed because of low water continue to require maintenance. Refuse collection, mowing, cleaning, and grounds maintenance is necessary to protect areas from deterioration. Neglect will reflect poorly on the Corps and increase start up expenses when areas are re-opened. Neglect may also lead to unauthorized use, which will increase law enforcement expenses.

Domestic water intakes – Domestic water intakes at the cabin sites are a concern within all of the Low Pool Elevation Zones.

Irrigation intakes – This is an issue for all Low Pool Elevation Zones. As the reservoir level falls current and potential irrigators have to chase the water with their intake structures.

Cold water fish habitat - Maintenance of coldwater fish habitat becomes an issue within this elevation zone. Within this elevation zone the reservoir pool begins collapsing the coldwater pool and the associated negative impacts begin.

2. Opportunities

Maintenance – Low water levels provide opportunities for conducting maintenance on reservoir facilities as areas usually underwater become exposed. Activities such as dredging and shoreline stabilization may be easier to complete than at normal pool elevations. There are also opportunities for photo documentation of problem areas and hazards.

Wildlife benefits – The decreasing water elevation may provide some benefit for wildlife including nesting opportunities for threatened and endangered species—particularly in the first few years of the elevation drop.

Paleontology resources – There may be opportunities to conduct paleontology surveys in areas of newly exposed shoreline. The lower pool elevations may also provide an opportunity for the installation of protective measures for sensitive sites.

Grazing – As the water level drops over a period of years and vegetation becomes established on the new shoreline there may be more opportunity for grazing on the exposed shoreline adjacent to existing grazing allotments. It will be important to coordinate closely with USFWS on this issue.

i. Low Pool Elevation Zone 4 – 2190-2160

1. Issues

Reservoir access – Within this elevation zone the only ramps that are usable are the ramps located in the river's channel.

Invasive species – As the reservoir elevation declines, the area of land susceptible to overgrowth by invasive species increases. The "land-clearing" action induced by the falling reservoir creates optimal conditions for the germination of weeds. Proactive measures, including close coordination with the multi-State and multi-agency saltcedar task force should continue in an effort to control weeds in the highest priority areas.

As water levels drop, the issue with weeds becomes exacerbated as the areas exposed continue to grow. Not only is control of the new "exposure" necessary, eradication of the weeds that have previously become established is desired. This creates an enormous burden in terms of both manpower and monetary resources.

Erosion problems - Wave action may induce damage to shorelines, structures, and other facilities. Geographic Information System mapping and other data processing activities to locate high-risk shorelines are ongoing.

Paleontology resources - For this elevation zone, paleontology resources are affected by low pool conditions. However, because paleontology resources are rich and prominent throughout the area, it is not possible to include elevations, data, or other information for specific sites.

Cultural and historic resources - For this elevation zone, cultural and historic resources continue to be affected by low pool conditions. However, because of the sensitive nature of the cultural and historic resource sites, it is not possible to include specific elevations, data, or other information for the sites. Refer to the CRMP for more specific details.

Wildfire hazards –As the reservoir level falls and low water conditions persist, areas exposed will convert to vegetative cover over time. These newly vegetated areas may pose additional risks for wildfire hazard to adjacent recreation areas.

Hazards – Blowing dust begins to become more of an issue as larger expanses of open shoreline are exposed with the drop in water level. Areas particularly at risk are those close to cabin sites and popular recreation areas.

Hazards such as stumps, logs, mudflats, sand bars, and shallow water also become more of a hazard within this elevation zone. At low water the river is free flowing in the upper reaches, which can pose hazards for recreational users.

Facility maintenance – Recreation areas that are closed because of low water continue to require maintenance. Refuse collection, mowing, cleaning, and grounds maintenance is necessary to protect areas from deterioration. Neglect will reflect poorly on the Corps and increase start up expenses when areas are re-opened. Neglect may also lead to unauthorized use, which will increase law enforcement expenses.

Domestic water intakes – Domestic water intakes at the cabin sites are a concern within all of the Low Pool Elevation Zones.

Irrigation intakes – This is an issue for all Low Pool Elevation Zones. As the reservoir level falls current and potential irrigators have to chase the water with their intake structures.

Cold water fish habitat – Negative impacts on the coldwater fish habitat continue to increase as the reservoir level drops below elevation 2190. The reservoir coldwater pool continues to shrink toward the dam horizontally and collapse vertically. Oxygen depletion increases as does predation and crowding of target coldwater species.

2. Opportunities

Maintenance – Low water levels provide opportunities for conducting maintenance on reservoir facilities as areas usually underwater become exposed. Activities such as dredging and shoreline stabilization may be easier to complete than at normal pool elevations. There are also opportunities for photo documentation of problem areas and hazards.

Wildlife benefits – The decreasing water elevation may provide some benefit for wildlife including nesting opportunities for threatened and endangered species—particularly in the first few years of the elevation drop.

Paleontology resources – There may be opportunities to conduct paleontology surveys in areas of newly exposed shoreline. The lower pool elevations may also provide an opportunity for the installation of protective measures for sensitive sites.

Grazing – As the water level drops over a period of years and vegetation becomes established on the new shoreline there may be more opportunity for grazing on the exposed shoreline adjacent to existing grazing allotments. It will be important to coordinate closely with USFWS on this issue.

MANAGEMENT STRATEGIES

This section outlines a list of strategies designed to deal with each of the high and low pool issues identified in the chapter.

a. Reservoir Access

1. Ramps

Extend existing ramps. Identify areas where slope and low water extent would allow extension of existing permanent boat ramps.

Install new permanent low water ramps. Identify access areas where topographic slope and low water conditions would allow for the installation of new permanent low water ramps. Utilize historic information to aid in the siting of these ramps.

2. Marinas

   Investigate the possibility for use of mobile docks that could be lowered or raised depending on water levels or for use of portable or seasonal docks that could be relocated. Investigate dredging as a means to maintain and /or improve access to marinas.

3. Invasive Species

   Monitor and identify problem/concern areas and begin an aggressive spray program. Establish an annual spray schedule focusing on areas most likely to be exposed by projected reservoir levels.

   In combination with the spray program, replant areas with aggressive native grasses, sterile rye grasses, or other non-invasive cover crop.

   Control and eradication can only be accomplished through communication and coordination with private land owners, state agricultural committees, the county invasive weed boards, the USFWS, and the multi-State and multi-agency saltcedar task force**.**

   Investigate the practicality of enlisting students from local schools and colleges or friends groups to take part in species monitoring.

   Investigate the practicality of seasonal prescribed burns. Identify areas where prescribed burning could be utilized safely and implement seasonal burn regime.

4. Threatened and Endangered Species

   Pool management needs to be carefully coordinated with land management to avoid rises during the nesting season, if possible. Other management necessities may have greater importance for pool level management, but the potential for impacting the nests should be considered.

   Identify and monitor critical areas seasonally. Inventory and identify endangered species habitat and monitor on a seasonal basis. Mitigate potential nest losses by relocating nests where possible and/or collect eggs prior to inundation.

   Educate the public about endangered species and habitat needs. Implement a multifaceted public education campaign using signage, flyers, background material, kiosks, and other sources to educate the public about endangered species.

5. Bank Erosion

   Prioritize bank erosion areas into (1) essential facilities and safety areas, (2) secondary areas, and (3) tertiary areas.

   (a) Identify critical and priority bank erosion areas such as roads, ramps, cabins, and docks or areas of particular safety concern such as unstable banks near recreation areas and create a primary stabilization program. Use riprap only in unstable and dangerous areas.

   Develop a budget and prioritized list of projects to be completed over the next six years.

   (b) Plant vegetation to assist in bank stabilization in areas of secondary importance. Identify areas with potential for fast growing plants and bioengineering (willow stakes or fascines).

6. Paleontology Resources

   Continue and expand the public education and outreach program to teach people the significance of paleontology resources and laws regarding the removal of objects from Federal land.

   Continue cooperative programs of investigation, monitoring, and maintenance with local paleontologists and other available resources. Develop and implement a maintenance and monitoring program based on elevation zones and highest priority resource areas.

7. Cultural and Historic Resources

   Continue and expand the public education and outreach program to teach people the significance of cultural and historic resources and laws regarding the removal of objects from Federal land.

8. Wildfire Hazards

   Identify highest risk areas for wildfire hazards and provide monitoring and advisories for recreation users.

   Continue efforts to coordinate with USFWS, State agencies, counties, and other local agencies.

9. Safety and Health Hazards

   Identify highest priority areas for safety hazards and provide signage and warnings for recreation users.

Elimination of tag fence lines is a necessity as the pool level rises in order to avoid recreational hazards. Tag fences that are left in place during pool rise events can quickly be inundated and pose an underwater hazard for boaters, swimmers, and anglers. Provide a public outreach effort to educate interested stakeholders about access to daily reservoir elevations (http://www.nwd-mr.usace.army.mil/rcc/current.html). This will inform landowners and recreation users of potential water level changes.

10. Facility Maintenance

    Prepare a Facilities Maintenance Plan based on the specific facilities and identified pool elevation zones.

11. Domestic Water Intakes

    Provide an information source that license holders can consult that provides data on potential changes in water level so pipes and other equipment can be moved. If issues arise, be prepared to offer technical assistance concerning extending and/or armoring intakes to allow withdrawal without interruption.

12. Irrigation Intakes

    Provide public outreach effort to educate interested stakeholders about access to daily reservoir elevations (http://www.nwd-mr.usace.army.mil/rcc/current.html) and provide contingency plans for emergency situations. This will allow irrigators who rely on the reservoir for water to adjust their operations as necessary. If issues arise, be prepared to offer technical assistance concerning extending and/or armoring intakes to allow withdrawal without interruption.

13. Coldwater Fish Habitat

    Monitor the fishery for negative effects at extreme low water.

RECOMMENDATIONS

This section provides recommendations on specific management strategies to use within each of the elevation zones for addressing the identified issues. The section also describes criteria for selection of individual strategies—such as time of year, projected future pool elevations, and weather conditions.

a. General

1. Communications

Many of the issues identified under high and low water conditions require a basic communication strategy because of the need to communicate status/risk to the public or specific target groups. The communication strategy is also necessary to inform Corps staff and other agency personnel so they can be prepared to implement the necessary management strategies. Many of the management strategies discussed above in this section require a series of actions in specific sequence and complex notifications and coordination among multiple agencies and the public. It will be important to have a clear communication strategy in place for these to work. A clear strategy with lines of communication identified with specific triggers needs to be in place before any of the proposed management strategies will be effective.

The communication strategy needs to be directed at getting projected pool level information and likely consequences to the most likely impacted users. Ramp and access area closures, restricted areas, and safety and health hazard warnings all need to be communicated clearly and quickly to relevant interest groups. For example, if the reservoir level is projected to approach a low pool elevation of 2223 the communication strategy would target likely users of the Crooked Creek and Nelson Creek boat ramps, which become unusable at that elevation. A multifaceted public education campaign using signs, flyers, web based data and alerts, and other sources could be used to warn potential visitors. Also, information on why the reservoir level varies and the impact it has on recreation and natural resources may be provided at the most popular recreation sites.

Local interest groups and government agencies that support recreational facilities are critical stakeholders in the development of the communication strategy. Active coordination with them has proven successful in the past to meet public needs efficiently. USFWS is an agency that should be intimately involved with the development of the communication strategy since that agency collaborates so closely with the Corps on recreation planning and could be enlisted to help execute the communication strategy.

Facility closures and openings require a variety of communications; potential visitors must be notified that areas are closed or reopened. A communication plan should be coordinated with local businesses and media sources. In some locations facilities are miles from hard surfaced roads. Early notification of closure is necessary to avoid visitor frustration and expense. Signs should be placed on site and at all available access points to an area. One option is to provide signs or informational posters at each recreation site detailing what facilities are available at specific pool elevations.

Communication strategies should be developed for the following issue areas: reservoir access and recreation, invasive species, paleontology resources, and

safety and health issues. Elevation zone specific recommendations are provided below by topic. The implementation of these recommendations should be coordinated project wide and by zone. Individual plans for each category are not appropriate.

2. Reservoir Access Ramps

Prepare a monitoring plan for determining when ramps or recreation areas are either no longer functional or have recently become functional because of a change in water level. For example, ramps that are inundated during high water will need to be cleaned, rehabilitated, and prepared for use as they become uncovered when the water level drops again. A monitoring plan should be in place based on projected reservoir elevations so that these closures and openings can be anticipated and executed with minimal disruption to recreational users.

The Corps should work with MFWP and the concessionaires who are responsible for ramp management and maintenance to identify funding sources for extending ramps. A list of ramps by site, elevations, and managing agency is provided below in Table 3-1, this information is current as of the date of publication.

Table 3-1. Fort Peck Lake Access Ramps Elevations and Management

Boat Ramp	*Status*	*Bottom Elevation*	*Top Elevation*	*Managing Agency*
Fort Peck Marina	Usable	2197	2250	Corps/Concessionaire
Duck Creek	Usable	2197	2250	Corps/MFWP
Flat Lake	Usable	2197	2250	Corps
Rock Creek (North Fork)	Usable	2197	2250	Corps/MFWP
Rock Creek Marina	Usable	2197	2250	Concessionaire
Nelson Creek	Unusable	2220 (Cannot be Extended)	2250	Corps
Hell Creek	Usable	2197	2250	Corps/MFWP
Devils Creek	Usable	2197	2250	Corps
Crooked Creek	Unusable	2223 (Cannot be Extended)	2250	Concessionaire
Fourchette	Unusable	2204 (Cannot be Extended)	2250	Corps
Bone Trail	Usable	2197	2250	Corps
Pines	Usable	2197	2250	Corps

As ramp extension projects or other recreation area projects and funding are identified and appropriated, establish a schedule for project implementation based on projected reservoir pool elevations.

3. Paleontology Resources

   The Corps currently works with the Museum of the Rockies (MOR) and Fort Peck Paleontology, Inc. (FPPI) to implement several methods to evaluate and prevent destruction of paleontology resources during high and low water conditions. These include bank stabilization, surveys and excavation, monitoring, and public education and patrols. The Corps is currently developing an agreement with the Museum of the Rockies to evaluate, curate, and store the paleontological discoveries from Corps lands (see Section 3.3). The agreement will include authorization for the Museum of the Rockies to survey paleontological resources on Corps lands. Continue these efforts and implement a monitoring program based on elevation zones and most likely locations. Evaluate the elevation zones and determine the most likely areas for exposure of paleontology resources.

4. Bank Erosion

   Identify and prioritize bank erosion areas that affect essential facilities and public safety. Prioritize or rank the critical bank erosion sites that impact areas such as roads, ramps, and docks or areas of particular safety concern such as unstable banks near cabin sites. Create and fund a stabilization program to address these sites. Use riprap only when bioengineering methods are inappropriate.

   Develop a budget for the prioritized list of projects and prepare a schedule for projects to be completed over the next six years. This will be dependent on water levels. Water could rise and stay high enough that projects cannot be completed.

b. <u>High Water Operating Conditions - Elevation 2246-2251</u>

1. High Pool Elevation Zone 1 – 2246-2248

   (a) Bank Erosion - It is recommended that intense monitoring of at risk structures be implemented. Particularly, be on the alert for areas of significant erosion, which could pose a threat to public safety, or threaten the structure itself.

   (b) Facility Maintenance - Closed areas resulting from high water still require maintenance. Refuse collection, mowing, cleaning, and grounds maintenance is necessary to protect areas from deterioration. Neglect will reflect poorly on the Corps and increase start up expenses when areas are re-opened. Neglect may also lead to unauthorized use, which will increase law enforcement expenses.

2. High Pool Elevation Zone 2 – 2248-2251

   (a) Bank Erosion - It is recommended that intense monitoring of the at-risk structures be implemented. Particularly, be on the alert for areas of significant

erosion, which could pose a threat to public safety, or threaten the structure itself.

(b) Facility Maintenance - Closed areas resulting from high water still require maintenance. Refuse collection, mowing, cleaning, and grounds maintenance is necessary to protect areas from deterioration. Neglect will reflect poorly on the Corps and increase start up expenses when areas are re-opened. Neglect may also lead to unauthorized use, which will increase law enforcement expenses.

c. Low Water Operating Conditions - Elevation 2234-2160

1. Low Pool Elevation Zone 1 – 2234-2220

(a) Reservoir Access and Recreation - Begin observations of access areas and institute monitoring protocols. Implement the communication strategy for closures and direct recreation users to alternate facilities. Two ramps will become unusable within this elevation zone.

(b) Invasive Species - Begin monitoring of potential areas of concern and commence or step up spray program. Establish an annual spray and monitoring schedule focusing on areas most likely to be exposed within this elevation zone based on projected reservoir levels for the coming growing season.

(c) Threatened and Endangered Species - Begin significant increase in threatened and endangered species monitoring in areas identified as likely to provide necessary habitat within this elevation zone. Inventory and identify endangered species habitat and monitor on a seasonal basis.

(d) Paleontology Resources - Coordinate with Museum of the Rockies to assist in the implementation of a monitoring program based on elevation zones and resource areas most likely to have exposed resources. The monitoring program should include a survey of most likely sites within this elevation zone to track changes over time and to determine if resources have been exposed.

(e) Safety and Health Hazards - Implement communications strategy for identified high priority safety hazard areas.

(f) Facility Maintenance - For this elevation zone there is minimal increased project maintenance (i.e., clearing mud/debris from boat ramps, excavating sediment from dry dock areas).

2. Low Pool Elevation Zone 2 – 2220-2204

(a) Reservoir Access and Recreation - Continue observations of access areas and perform monitoring protocols. Implement the communication strategy for

closures and direct recreation users to alternate facilities. One additional access ramp will become unusable within this elevation zone.

(b) Invasive Species - Continue monitoring of potential areas of concern and continue spray program. Establish an annual spray schedule focusing on areas most likely to be exposed within this elevation zone based on projected reservoir levels for the coming growing season.

(c) Threatened and Endangered Species - Continue threatened and endangered species monitoring in areas identified as likely to provide necessary habitat within this elevation zone. Inventory and identify endangered species habitat and monitor on a seasonal basis.

(d) Paleontology Resources - Coordinate with Museum of the Rockies to assist in the implementation of a monitoring program based on elevation zones and resource areas most likely to have exposed resources. The monitoring program should include a survey sites within this elevation zone to track changes over time and to determine if resources have been exposed.

(e) Wildfire Hazards - Implement monitoring and advisory protocols for identified high-risk hazard areas.

(f) Safety and Health Hazards - Implement communications strategy for identified high priority safety hazard areas.

(g) Facility Maintenance - For this elevation zone there is minimal increased project maintenance (i.e., clearing mud/debris from boat ramps, excavating sediment from dry dock areas).

3. Low Pool Elevation Zone 3 – 2204-2190

(a) Reservoir Access and Recreation - Continue observations of access areas and perform monitoring protocols. Implement the communication strategy for closures. The remaining nine ramps will become unusable within this elevation zone.

(b) Invasive Species - Continue monitoring of potential areas of concern and commence spray program for newly exposed areas. Establish a spray schedule focusing on areas most likely to be exposed and subject to invasive species within this elevation zone based on projected reservoir levels for the coming growing season.

(c) Threatened and Endangered Species - Continue threatened and endangered species monitoring in areas identified as likely to provide necessary habitat within this elevation zone. Inventory and identify endangered species habitat and monitor on a seasonal basis.

(d) Paleontology Resources - Coordinate with Museum of the Rockies to assist in the implementation of a monitoring program based on elevation zones and resource areas most likely to have exposed resources. The monitoring program should include a survey of most likely sites within this elevation zone to track changes over time and to determine if resources have been exposed.

(e) Wildfire Hazards - Implement monitoring and advisory protocols for identified high-risk hazard areas.

(f) Safety and Health Hazards - Implement communications strategy for identified high priority safety hazard areas.

(g) Facility Maintenance - For this elevation zone there is minimal increased project maintenance (i.e., clearing mud/debris from boat ramps, excavating sediment from dry dock areas).

(h) Coldwater Fish Habitat - Maintenance of coldwater fish habitat becomes an issue within this elevation zone. Monitor the fishery for negative effects.

4. Low Pool Elevation Zone 4 – 2190-2160

(a) Reservoir Access and Recreation - Continue observations of access areas and perform monitoring protocols. All ramps will be unusable at this elevation.

(b) Invasive Species - Continue monitoring of potential areas of concern and commence spray program. Establish an annual spray schedule focusing on areas most likely to be exposed within this elevation zone based on projected reservoir levels for the coming growing season.

(c) Threatened and Endangered Species - Continue threatened and endangered species monitoring in areas identified as likely to provide necessary habitat within this elevation zone. Inventory and identify endangered species habitat and monitor on a seasonal basis.

(d) Paleontology Resources - Coordinate with Museum of the Rockies to assist in the implementation of a monitoring program based on elevation zones and resource areas most likely to have exposed resources. The monitoring program should include a survey of most likely sites within this elevation zone to track changes over time and to determine if resources have been exposed.

(e) Wildfire Hazards - Implement monitoring and advisory protocols for identified high-risk hazard areas.

(f) Safety and Health Hazards - Implement communications strategy for identified high priority safety hazard areas.

(g) Facility Maintenance - Continue to look for opportunities to conduct facility maintenance.

(h) Coldwater Fish Habitat - Continue to monitor the fishery for negative effects.

CABIN SALES

INTRODUCTION AND BACKGROUND

The Fort Peck project has four cabin areas containing 366 leased cabin lots (Figure 3-3). The lots are leased through the authority of the Flood Control Act of 1944 (U.S.C. 406d). The lessees have constructed cabins on the leased lots that are located on Federal lands managed by the Corps and within the exterior boundaries of the CMR. The Corps has considered sale of the cabin lots to lessees since the 1950s, but the location of the lots on federally managed lands limited their ability to sell. In addition, the National Fish and Wildlife Refuge System Administration Act of 1966 restricted the sale of land designated as part of a refuge.

In 2000, Congress passed a bill authorizing sale of the cabin lots to current lessees. The purpose of cabin sales is to reduce the administrative costs to the Corps for managing the cabin leases and to provide the USFWS with funds to acquire in-holdings on the CMR from willing sellers to help achieve its mission to preserve, restore and manage the CMR ecosystem for optimum wildlife resources.

AUTHORIZING LEGISLATION AND REQUIREMENTS

Title VIII of the Water Resources Development Act of 2000 (WRDA), also called the "Charles M. Russell National Wildlife Refuge Enhancement Act of 2000," authorized the Secretary of the Army working with the Secretary of the Interior to identify cabin sites suitable for conveyance to current lessees and to perform the necessary environmental and real estate work to dispose of the cabin sites at fair market value. The funds received from the sale of the cabin sites will be placed in the Montana Fish and Wildlife Trust for the USFWS to acquire other lands with greater wildlife and other public value for the CMR.

The legislation prohibits the issuance of new cabin site leases on the Fort Peck project unless sites are needed to consolidate or substitute for an existing lease. A lessee who chooses not to purchase a cabin site may continue to lease the site for the remainder of the current lease, but that lease cannot be renewed. The exception is that if a lease expires before 2010, the lease can be extended until 31 December 2010. The Corps may offer for sale to third parties any cabin site not conveyed to current lessee.

The legislation requires the USFWS to evaluate each cabin site and determine if private ownership of the particular site will create an unacceptable impact on management of the CMR. The USFWS completed the evaluation in 2003 and determined that all 366 currently leased sites at Hell Creek, The Pines, Fort Peck and the North Fork of Rock Creek were acceptable for conveyance. Twelve cabin sites at the South Fork of Rock Creek were determined to be an unacceptable impact on the management of the refuge. Both agencies agreed the interest of the public would be best served by conveying the 12 South Rock Creek cabins sites in place and offsetting the impact to the refuge with lands outside the Rock Creek Recreation area.

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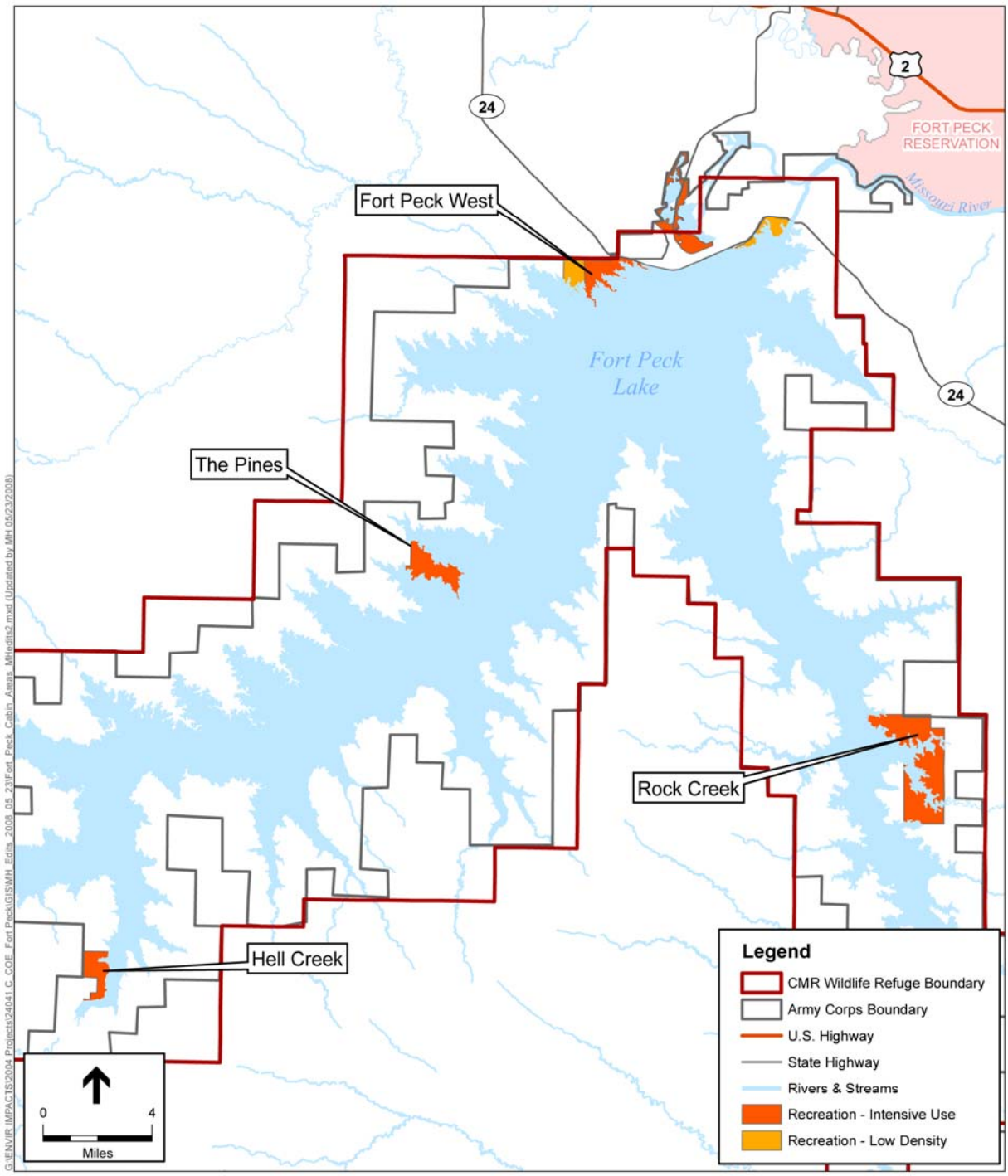

SOURCE: ESRI, 2005; USACE, 1992, 2007; USFWS, 2001, 2004.

Fort Peck Dam/Fort Peck Lake Master Plan . 204041.C

Figure 3-3
Fort Peck Cabin Areas
Fort Peck, Montana

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A formal Memorandum of Agreement was entered in to by both agencies identifying those lands (U.S. Corps and USFWS, 2005). To offset the impairment to 1,210 acres of habitat caused by retaining the 12 South Fork Rock Creek cabin sites, the Corps will out-grant in excess of 1,300 acres to the USFWS for management as habitat lands. The acreage includes portions of the Rock Creek, Nelson Creek, and McGuire Creek Recreation Areas and the entire Bear Creek Recreation Area. As part of the agreement between the Corps and USFWS, the Corps will remove the existing recreation facilities at Bear Creek, including the shelter pad, vault toilet, fire rings and picnic table. Access to the area for primitive camping and low impact recreation will remain. The USFWS will use the proceeds from the sale of the cabin sites to acquire lands with greater habitat value for the CMR. The overriding principle guiding the acquisition of lands is that the USFWS will only pursue property acquisition from willing sellers. The USFWS will purchase lands with native prairie, riparian habitat, and intact native sagebrush habitat.

The authorizing legislation requires the Corps to perform the necessary environmental and real estate activities to dispose of the cabin sites. In 2004, the Corps and the USFWS prepared an Environmental Assessment (EA) to meet the requirements of the National Environmental Policy Act (Corps and USFWS, 2004). Other environmental requirements include:

- Cultural resource inventories and surveys,
- Environmental Baseline Study to determine the presence of hazardous substances, and
- Evaluation of sewage and septic systems for compliance with the Clean Water Act and with the Montana "Sanitation in Subdivisions Act," if applicable.

Real estate requirements for the cabin sales include:

- Identify lot boundaries;
- Conduct a land survey of each lot and file survey with the relevant county. Cadastral surveys are required for public domain lands that were originally acquired for the Fort Peck project;
- Determine easements and deed restrictions such as flowage and sloughage easements;
- Estimate the "fair market value" of the property using an independent appraiser;
- Make offer for sale to the current lessee;
- Issue patents for public domain lands that were originally withdrawn for the Fort Peck project (The U.S. Department of Interior, Bureau of Land Management); and
- Issue deeds for the remaining lands (Corps).

STATUS OF CABIN SALES

At the date of this publication, the Corps had conducted the cultural resource inventories and surveys, Tribal consultation, an Environmental Baseline Study, an Environmental Assessment and tentatively identified lot boundaries. The Corps is awaiting Congressional appropriation of funds to complete the remaining environmental and real estate requirements.

MANAGEMENT OF PALEONTOLOGICAL RESOURCES

The Fort Peck project area has abundant paleontological resources (see the Paleontology Resources section of Chapter 2). These resources range in scale from small fossils exposed at the surface to complete dinosaur skeletons. Fort Peck project is working with Museum of the Rockies at Bozeman, Montana to develop a Memorandum of Agreement to assist with future evaluation and management of paleontological resources.

REGULATIONS GOVERNING PALEONTOLOGICAL RESOURCES

Fossils or other paleontological resources located on Federal lands are regulated under the Antiquities Act of 1906 (16 USC 431-433). This Act requires that persons who "appropriate or excavate" any object of antiquity must have the permission of the Secretary of the Department with jurisdiction over the land where the resources are located. The Act authorizes the Secretaries of Agriculture, Defense, and Interior to issue permits for the examination or excavation of paleontological resources to institutions qualified to carry out such studies and exactions. Any resources collected must be preserved in public museums.

There are no regulations for gathering or excavating paleontological resources on private lands. Permits are not required for excavations on private lands surrounding the Fort Peck project or on private in-holdings on the CMR.

COOPERATIVE AGREEMENTS

The Corps issues permits for excavation of paleontological resources on Fort Peck lands. The Museum of the Rockies in Bozeman, Montana, the University of Montana, and the University of Notre Dame, as well as other universities have conducted excavations on Corps property. The Corps developed a curation agreement with the Museum of the Rockies to curate and cast the Wankel *Tyrannosaurus rex* found at Fort Peck. A new curation agreement is being developed that will grant the Museum of the Rockies the right to curate all future paleontological resources discovered on Fort Peck project property, including the more recent Peck's rex.

The Fort Peck Paleontological, Incorporated (FPPI) is one of the cooperating partners of the Fort Peck Interpretive Center. FPPI is a nonprofit organization formed by eastern Montana residents to promote study and research of the area's fossils. FPPI maintains a Paleontological Field Station in the downstream area of the Fort Peck project in a building used as the laundry room during dam construction. The focus of the FPPI is preparing, molding, and casting large fossils.

In 2007, the University of Montana formed a partnership with FPPI to establish the University of Montana (UM) Paleontological Research Center housed in the building occupied by FPPI. The UM Paleontology Center will promote paleontology education and research and may in the future serve as a repository for important fossil discoveries. The Center will also house students and faculty participating in digs during summers. Other education opportunities offered by University of Montana through the Research Center may include geology, geography, and photography.

4. PUBLIC, TRIBAL, AND AGENCY INVOLVEMENT AND COORDINATION

In January 2007, the Corps publicly announced its plan to revise and update the Fort Peck Master Plan, which was last updated in 1992. The Corps has involved affected Tribes, Federal, State, and local agencies, and private citizens in the update process.

PUBLIC SCOPING MEETINGS AND COMMENTS

The Corps held public and agency scoping meetings in March 2007. The following mechanisms were used to advertise the meetings:

- Letters were sent to persons and organizations on the Fort Peck distribution list in January 2007, announcing the Master Plan update.
- News releases were sent out to local and State newspapers and radio stations in February 2007.
- News releases and a Fact Sheet on the Master Plan update were sent to local and State newspapers and radio stations March 7, 2007. Fact Sheets were also mailed to persons and organizations on the Fort Peck distribution list.

Public scoping meetings were held from 7:00 to 9:00 p.m. on March 12, 2007 at the Yogo Inn in Lewistown, March 13 at the Fort Peck Interpretive Center in Fort Peck, and March 14 at the Jordan Motor Inn in Glendive. The meetings were attended by seven, three, and ten members of the public, respectively. The Corps gave a brief presentation describing the Master Plan process, responded to questions, and met informally with attendees. Public comments were recorded at the meetings.

A public scoping comment period was conducted from March 7 to April 20, 2007. Comments could be submitted in writing or by email to the Fort Peck project office or to the Corps web site. All written and verbal comments received at the meetings are provided in Appendix F, along with responses. Comments were received on a wide range of topics including:

- Lake operations and water levels;
- Access to the lake during low water levels;
- Plan for expansion of recreation facilities;
- Improvements to existing facilities;
- Improvements to marinas;
- Road access;
- Improvements to interpretive facilities;
- Noxious weeds;
- Fisheries;

- Cabin sales; and
- USFWS management.

AGENCY SCOPING MEETINGS

The Corps held scoping meetings with Federal and State agencies directly involved with managing Corps project lands at Fort Peck. The Corps met with the USFWS and Bureau of Land Management (BLM) in Lewistown, Montana on March 13, 2007. This meeting focused on issues related to recreation on the CMR Refuge and at the BLM's James Kipp recreation area. The Corps met with the Region 6 office of the Montana Department of Fish Wildlife and Parks (MFWP) in Glasgow, Montana on March 14, 2007 and with the Region 7 office on March 15, 2007. These meetings focused on MFWP plans for the State managed facilities at Trout Ponds, Duck Creek, Rock Creek, and Hell Creek Recreation Areas.

TRIBAL COORDINATION

In April 2007, the Corps sent letters to the 25 Tribes who are parties to the Programmatic Agreement. The Corps also contacted representatives of the Fort Peck and Fort Belknap Tribes by telephone to determine if the tribes wanted to meet with the Corps to discuss their concerns about the Master Plan. The tribal representatives indicated that meetings were not needed, but that they wanted to review the Draft Master Plan and be kept informed of the process.

PUBLIC REVIEW AND COMMENT ON THE DRAFT MASTER PLAN/EA

The Draft Fort Peck Master Plan/EA was distributed to interested agencies, organizations, and individuals in January 2008. The Draft Master Plan/EA incorporated, as appropriate, review comments received on the preliminary draft from tribal members and representatives of State, Federal, and local agencies.

News releases announced the dates and times of open houses and informed the public that copies were available for public review at the Fort Peck administrative offices in Fort Peck, Montana, on the Corps web site, and at the following public libraries:

- Glasgow City-County Library, 408 Third Avenue South, Glasgow, Montana;
- Glendive Public Library, 200 South Kendrick, Glendive, Montana;
- Lewistown Public Library, 701 Main Street, Lewistown, Montana;
- Parmly Billings Public Library, 510 N. Broadway, Billings, Montana; and
- Montana State Library, 1515 East 6th Avenue, Helena, Montana.

Open house meetings on the Draft Master Plan/EA were held March 3 through March 6, 2008 at Lewistown, Fort Peck, Glendive, and Jordan, Montana. The meetings were attended by ten, thirteen, eleven, and nine members of the public, respectively. At each meeting, the Corps presented a brief summary of the Master Plan/EA and responded to questions from the public.

Public comments were taken at the meeting and comment cards were available to be left at the meeting or mailed. Several people provided verbal comments at the public meetings and five written comments were submitted. A majority of the comments received related to reservoir operations and lake levels. Major comments related to the Master Plan are summarized below. A more detailed summary of comments is provided in Appendix F.

- Road access, construction and maintenance;
- Permanent extension of boat ramps;
- Noxious and aquatic weed control;
- Identification program for paleontological resources;
- Opportunities for private sector recreation such as kayaking and diving;
- Closures and future development at Rock Creek;
- Improvements such as watering, maintenance, and equestrian facilities at Crooked Creek;
- Potential for a small boat ramp at McGuire Creek;
- Water supply at Rock Creek;
- Closure of Bear Creek;
- Concerns about resort development and fire control at The Pines; and
- Construction of wind generators to allow water to be kept in the lake.

The Corps also received comments from the USFWS, Montana Department of Transportation, MFWP, and National Park Service (NPS). Agency comments are summarized in Appendix F. The Sac and Fox Nation of Missouri in Kansas and Nebraska submitted a letter stating they had no comments on the Draft Master Plan.

The Corps evaluated all the public and agency comments and incorporated them into the Final Master Plan, as appropriate.

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5. LAND USE ALLOCATION AND LAND CLASSIFICATIONS

INTRODUCTION

This chapter presents the land use plan for the Fort Peck project area. In the plan, specific parcels of land are zoned into land use categories based on resource capability. Combined with the project-wide and site-specific resource objectives presented in this chapter and Chapter 6, respectively, the land use plan provides a conceptual guide for use, management, and development of all project lands. Together, these three elements are the heart of this Master Plan.

The Fort Peck project lands are divided into management areas. Division of the project into individual areas was an integral part of the planning process and facilitated identification of the most appropriate land and resource uses of the various project areas. The boundaries of the management areas are based on physical, administrative, and operational characteristics.

LAND ALLOCATION

Land allocations identify the authorized purposes for which project lands were acquired. The entire Fort Peck project has a land allocation of Operations. Operations lands are those lands acquired to provide safe, efficient operation of the project for its authorized purposes. Project purposes include flood control, hydropower, navigation, irrigation, domestic and sanitary water supply, water quality, fish and wildlife, and recreation.

LAND CLASSIFICATIONS

All lands acquired for project purposes are further classified to provide for development and resource management consistent with authorized project purposes and other Federal laws. The classification process refines the land allocations to fully utilize project lands and considers public desires, legislative authority, regional and project specific resource requirements, and suitability. Management and use of the lands assigned to each land classification must be compatible with the Operations allocation. The land classifications are discussed in connection with the appropriate resource objectives in the following section. The locations of the various land classifications are shown on Plates 6 through 11.

The land classifications for Fort Peck were developed originally in the 1965 Master Plan and updated with the new Corps classifications in the 1992 Master Plan. Since the 1992 Master Plan, the land classifications have been revised to include Mitigation lands; however, there are no designated Mitigation lands at the Fort Peck project. No changes to land classifications are proposed as part of this Master Plan update.

The approximate acreage in each land classification was calculated by digitizing the Corps' 1993 maps of land classification and estimating the acreage using the GIS software ESRI ArcMap 9.2.

The estimate does not consider relief or terrain elevation. The estimated acreage is shown in Table 5-1. There are no lands classified as Mitigation, Multiple Resource Management: Vegetation Management, or Multiple Resource Management: Inactive and/or Future Recreation Areas on the Fort Peck project. These categories are not included in Table 5-1.

The acreage shown in Table 5-1 includes the initial estimate of the lands that will be out-granted to the USFWS as part of the Memorandum of Agreement related to cabin sales at Fort Peck (see Cabin Sales section in Chapter 3). As part of the MOA, the Corps is in the process of out-granting in excess of 1,300 acres of land to the USFWS to be managed as Multiple Resource Management: Wildlife Management. The lands being out-granted include a combination of Recreation and Multiple Resource Management: Recreation – Low Density lands at the Rock Creek (Recreation), Nelson Creek (Low Density), McGuire Creek (Low Density), and Bear Creek (Low Density) Recreation Areas.

Table 5-1. Estimated Land Classification Acreage

Land Classification	***Approximate Acres***
Project Operations	1,020
Recreation – Intensive Use	8,285
Environmentally Sensitive Areas	102,905
Multiple Resource Management: Recreation – Low Density	4,265
Multiple Resource Management: Wildlife Management General	255,513

PROJECT OPERATIONS

This classification includes lands required for the dam and associated structures, powerhouse, operations center, administrative offices, maintenance compounds, and other areas that are used to operate and maintain the Fort Peck project. Where compatible with operational requirements, Project Operations lands may be used for wildlife habitat management, recreational use, or agricultural activities. Licenses, permits, easements, or other out-grants are issued only for uses that do not conflict with operational requirements.

RECREATION – INTENSIVE USE

These lands are designated for intensive levels of recreational use to accommodate and support the recreational needs and desires of project visitors. They include lands on which existing or planned major recreational facilities are located and allow for developed public recreation facilities, concession development, and high-density or high-impact recreational use.

In general, no uses of these lands are allowed which would interfere with public enjoyment of recreation opportunities. Low-density recreation and wildlife management activities compatible with intensive recreation use are acceptable, especially on an interim basis. No agricultural uses are permitted on those lands except on an interim basis for maintenance of scenic or open space values. Permits, licenses, and easements are not issued for non-compatible manmade intrusions such as pipelines; overhead transmission lines; and non-project roads, except where warranted by the public interest.

MITIGATION

Mitigation lands are acquired or designated specifically to offset losses of wildlife habitat associated with development of the project. The Fort Peck Dam/Fort Peck Lake project has no lands with this land classification.

ENVIRONMENTALLY SENSITIVE AREAS

This classification consists of areas where scientific, ecological, cultural, or esthetic features have been identified. Development of public use on lands within this classification is normally limited or prohibited to ensure that the sensitive areas are not adversely impacted. Agricultural or grazing uses are not permitted on lands with this classification.

MULTIPLE RESOURCE MANAGEMENT LANDS

This classification includes lands managed for one or more of the following activities.

a. Multiple Resource Management: Recreation – Low Density. These lands are designated for dispersed and/or low-impact recreation use. Development of facilities on these lands is limited. Emphasis is on providing opportunities for non-motorized activities such as walking, fishing, hunting, or nature study. Site-specific low-impact activities such as primitive camping and picnicking are allowed. Facilities may include boat ramps, boat docks, trails, parking areas and vehicle controls, vault toilets, picnic tables, and fire rings.

Manmade intrusions, including powerlines, non-project roads, and water and sewer pipelines, may be permitted under conditions that minimize adverse effects on the natural environment. Vegetation management, including agricultural activities that do not greatly alter the natural character of the environment, are permitted for a variety of purposes, including erosion control, retention and improvement of scenic qualities, and wildlife management. Where not in conflict with the safety of visitors and project personnel, hunting and fishing are allowed pursuant to tribal or State fish and wildlife management regulations.

b. Multiple Resource Management: Wildlife Management General. These lands are designated for wildlife management. They contain valuable wildlife habitat components that are maintained to yield habitat suitable for a designated wildlife species or group of species. These lands may be administered by other public agencies under a lease, license, permit, or other formal agreement. At the Fort Peck project, the USFWS has primary jurisdiction for wildlife management activities. The Corps supports these objectives. Private use of wildlife lands is prohibited except for agricultural activities undertaken to improve wildlife habitat. Licenses, permits, and easements are not allowed for such manmade intrusions as pumping plants, pipelines, cables, transmission lines, or non-project roads. Exceptions to this policy are allowable where necessary for the public interest. Wildlife lands are available for sightseeing, wildlife viewing, nature study, and hiking. Consumptive uses of wildlife, including hunting, fishing, and trapping, are allowed when compatible with the wildlife objectives for a given area and with Federal and State fish and wildlife management regulations.

c. Multiple Resource Management: Vegetation Management. Management activities in these areas focus on the protection and development of forest resources and vegetative cover. The Fort Peck project has no project lands with this sub-classification, but all project lands are managed to protect and develop vegetative cover in conjunction with other land uses.

d. Multiple Resource Management: Inactive and/or Future Recreation Areas. This sub-classification consists of lands for which recreation areas are planned for the future or lands that contain existing recreation areas that have been temporarily closed. There are no project lands with this classification on the Fort Peck project.

EASEMENT LANDS

This classification consists of lands for which the Corps did not acquire fee title but did acquire the right to enter onto the property in connection with the operation of the Fort Peck project and the right to occasionally flood the property. Planned use and management of easement lands will be in strict accordance with the terms and conditions of the easement estate acquired for the project. An extensive discussion of easement lands is not included in this Master Plan.

6. PLAN FOR RESOURCE USE, MANAGEMENT, AND DEVELOPMENT

INTRODUCTION

This chapter describes the primary recreation areas located around Fort Peck Lake. It provides background information and specific resource objectives and development needs for each recreation area. The resource objectives and development needs include proposals for improvements at the recreation areas. These proposed improvements were used to develop the Master Plan alternatives described and evaluated in Chapter 7.

Seventeen recreation areas are located around Fort Peck Lake. These areas range from fully developed campgrounds to primitive access points. The existing recreation areas are listed in Table 6-1. All the areas are managed by the Corps unless indicated. The areas have been divided into two categories—Intensive Use and Low Density Use—based on the land classification system described in Chapter 5. The acreage for the two land use categories is provided in Table 6-1. The recreation areas are shown on Plate 12.

Table 6-1. Fort Peck Recreation Areas

Intensive Use	8,285 acres
• Downstream • Fort Peck West • The Pines • James Kipp (BLM)	• Crooked Creek • Hell Creek (MFWP) • Rock Creek (Corps/MFWP)
Low Density Use*	4,265 acres**
• Duck Creek (Corps/MFWP) • Bone Trail • Fourchette Bay • Rock Creek West (USFWS) • Slippery Ann (USFWS)	• Turkey Joe (USFWS) • Devil's Creek • Nelson Creek • McGuire Creek • Flat Lake
Total Acreage	12,550 acres

*The Bear Creek Recreation area is being eliminated. See the discussion at the end of this chapter.
** Includes acreage that will be out-granted to USFWS and reclassified as Wildlife Management.

This chapter provides detailed descriptions of each recreation area in the Fort Peck project area. The descriptions are organized into nine categories, and include:

- Land Classification – the designated land use classification category for each recreation area. The five classification categories are described in detail in Chapter 5.
- Management Agency – the agency or agencies directly responsible for the management of the recreation area.

- Location – a brief description of the location of the recreation areas, including visitor access points.
- Description – a brief description of the site focusing on the natural and cultural resources that affect use of the area. The description includes topography and soils, vegetation, fish and wildlife, and cultural resources. Prior to any future development at or near the recreation areas, an evaluation must be made to determine if the development would affect any historic properties that may be eligible for the National Register or any Traditional Cultural Properties and the best way to avoid, minimize, or mitigate potential impacts.
- Visitor Use – the predominant uses of the recreation area. More detailed information on visitation is provided in Chapter 2.
- Resource Objectives – a list of the resource objectives for each recreation area. Resource objectives are defined as attainable goals for development, conservation, and management of natural, cultural, and manmade resources at the Fort Peck project. The objectives establish guidelines for attaining maximum public benefit, while minimizing the potential for adverse impacts to the local environment. The resource objectives presented here are specific to each recreation area and build on the project-wide resource objectives identified in Chapter 1. Each recreation area has more than one resource objective, but the resource objectives are not prioritized. In some of the areas, the resource objectives may not be implemented for some time.
- Development needs – summary descriptions of the actions that could or should be undertaken to implement the resource objectives for each recreation area. The development needs include a range of construction projects and management strategies that could be used to implement the resource objectives. They are based on needs identified for each recreation area with input from the public, as well as State and Federal agencies. The BLM, USFWS, MFWP, and marina operators were consulted regarding development needs for the recreation areas they manage. The development needs will be further refined and detailed in subsequent planning and design documents, including Operational Management Plans (OMP) and future Design Memorandums. Final decisions regarding the actions to be implemented will be made following coordination between the Corps, Tribes, Federal, State and local agencies, and the private sector, where appropriate and as opportunities arise. Prior to site-specific development, additional environmental studies would be conducted.
- Rationale – a discussion of the need and intent of the identified resource objectives and recommended development needs.
- Special Site Conditions - a summary of administrative and/or site-specific factors that may influence or constrain implementation of area resource objectives. This component does not apply to all recreation areas.

INTENSIVE USE AREAS

Seven recreation areas at the Fort Peck project have been classified for intensive use (refer to Chapter 5). They are: Downstream, Fort Peck West, The Pines, James Kipp, Crooked Creek, Hell Creek, and Rock Creek. Existing development in these areas includes camping loops, picnic sites and shelters, play areas and structures, marinas, concession buildings, parking lots, roads, and landscaping. Typically, the natural character of the environment has been altered by development. However, in some cases, small undeveloped parcels exist within these intensively developed and highly used recreation areas.

DOWNSTREAM RECREATION AREA

The Downstream Recreation Area includes the following public use areas:

- Downstream Campground and Kiwanis Park;
- The Fort Peck Interpretive Center;
- Dredge Cuts;
- Roundhouse Point; and
- Floodplain.

a. Land Classification: Recreation – Intensive Use

b. Managing Agency: Corps of Engineers/Montana Fish Wildlife and Parks

c. Location: The Downstream Recreation Area is located on the left bank of the Missouri River immediately downstream from Fort Peck Dam in Valley County (Plate 7). Access to the area is by Yellowstone Road, which runs along the base of the dam. The Fort Peck historic town site and the Leo B. Coleman Wildlife Exhibition Pasture are located to the northwest of this recreation area (Figure 6-1). State Highways 117 and 24 pass through or are immediately adjacent to the area. Internal circulation roads in this recreation area are in excellent condition.

d. Description: The Downstream Recreation Area consists of several individual recreation areas located near Fort Peck Dam. The area is primarily flat land and much of the recreation area contains a remnant floodplain forest stand dominated by cottonwood trees and a native midgrass groundcover.

The Downstream Recreation Area is the most developed of the Corps recreation areas in the Fort Peck project, and receives the highest visitation of any Fort Peck recreation area. The area is in close proximity to several cities and towns and is on tourist routes across northern Montana. It is also the most easily accessed recreation area at the Fort Peck project. In addition to the public use areas described below, the area includes the historic structures in the Town of Fort Peck and

the project structures. A brief description of each of the five public use areas in the Downstream Area follows.

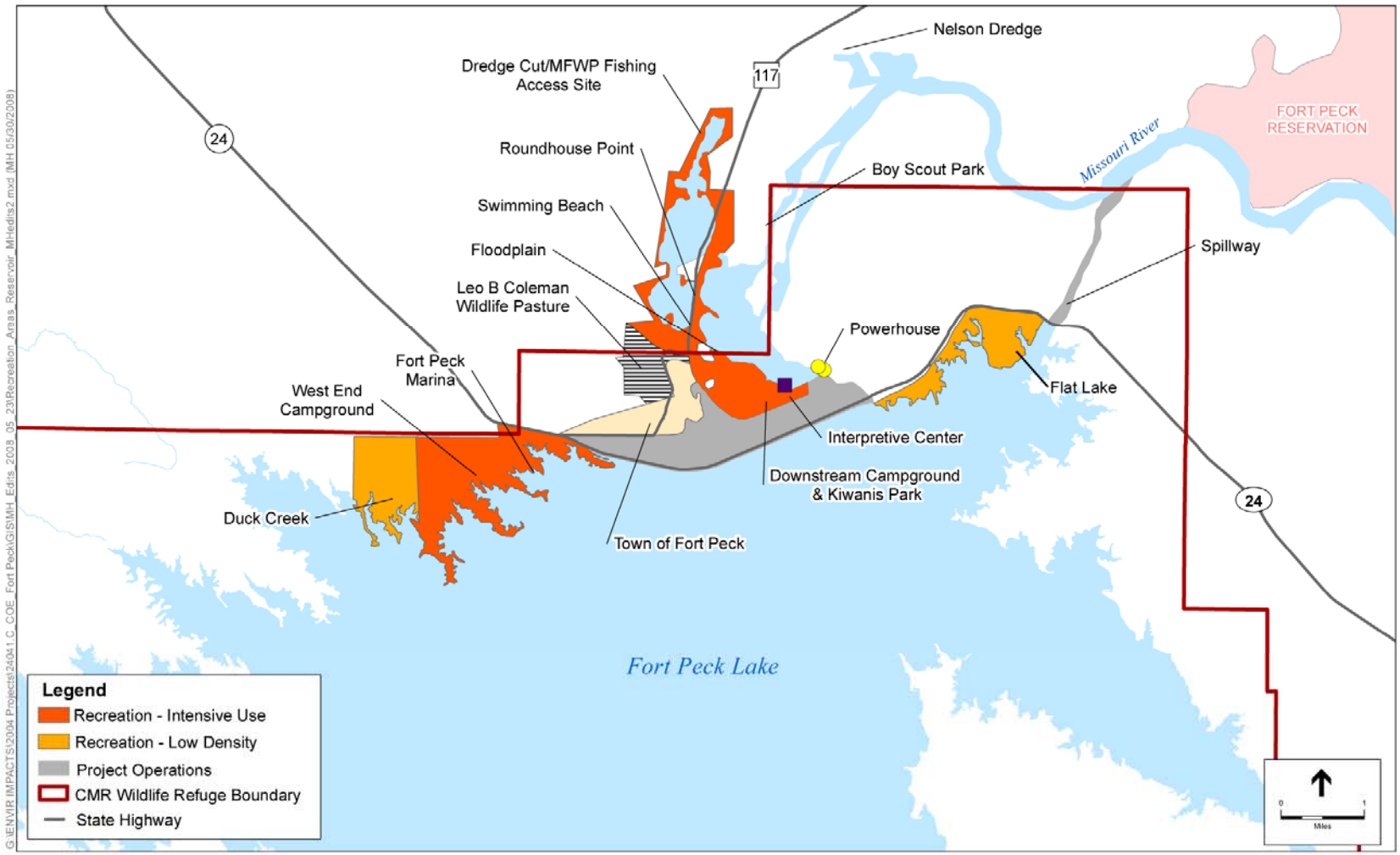
1. Downstream Campground and Kiwanis Park. The campground and park are located immediately below the dam on the southwest side of the tailrace (Figure 6-2). The site is dominated by a cottonwood bottom land forest and marsh, offering a diversity of habitat and recreational opportunities. Access to the area is via a single entrance off of Yellowstone Road. Currently, it is necessary to drive through the day use picnic area to reach the campground. The campground offers facilities for RV and tent camping and a group picnic shelter. It also features a group camping area with picnic shelter, playground equipment, comfort station, amphitheater, and access to the nature trail.

   The Kiwanis Park picnic area is located immediately adjacent to Yellowstone Road. There are numerous large cottonwood shade trees and scattered grass ground cover. The picnic area is a popular spot for church group activities, family reunions, company picnics, and other special events. Many of the families staying at the campground reserve shelters in the picnic area for family reunions. Two popular community events, the Longest Dam Race and the Governor's Cup Walleye Tournament, are also based at Kiwanis Park each summer.

   The Beaver Creek Nature Trail, accessible from the campground, Kiwanis Park, or the Interpretive Center is a flat self-guided trail approximately 2.5 miles long. This paved trail provides opportunities for bicycling, walking, roller-blading, cross-country skiing, wildlife viewing, and also serves as access to Beaver Creek, a trout stream, and three fishing ponds.

2. Fort Peck Interpretive Center. The Fort Peck Interpretive Center is located on Highway 117 east of the Downstream Campground and Kiwanis Park (Figure 6-2). The Interpretive Center opened in 2005. It is a cooperative effort of the Corps of Engineers, the U.S. Fish and Wildlife Service, and Fort Peck Paleontology Incorporated. The Center features exhibits on wildlife of the Charles M. Russell National Wildlife Refuge, paleontology, and Fort Peck area history including homesteading, dam construction, and boomtowns. The Center also showcases the two largest aquariums in Montana, displaying native and game fish of Fort Peck Lake and the Missouri River.

   The Interpretive Center conducts interpretive programs, theater presentations, and amphitheater programs. Nature hikes covering a wide variety of topics are presented throughout the summer. The Beaver Creek nature trail connects the Interpretive Center with both the Kiwanis Park and the Downstream Campground. Tours of the Powerhouse begin at the Interpretive Center. For additional information on the Interpretive Center see the discussion in Chapter 2.



SOURCE: ESRI, 2005; USACE, 1992, 2007; USFWS, 2001, 2004.

Fort Peck Dam/Fort Peck Master Plan. 204041.C

Figure 6-1

Recreation Areas near Fort Peck Dam
Fort Peck, Montana

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3. Dredge Cuts. The area consists of four dredge ponds totaling 650 acres of open surface water and 60 acres of shoreline edge (Figure 6-1). Three of the four ponds are connected. The Dredge Cuts were created when the area was dredged to provide fill material for dam construction. The ponds are located approximately 3 miles downstream from the dam and are accessed from State Highway 117. The process of excavating the ponds and subsequent erosion has resulted in steep shorelines along the edge of the Dredge Cuts.

   The ponds are popular for fishing and are also used for swimming, picnicking, boating, and water-skiing. The public recreation opportunities on the Dredge Cuts include three swimming beaches, Nelson Dredge and the MWFP Fishing Access Site.

   Three swimming beaches are located along the west side of Highway 117. Two beaches have been developed with facilities by the Corps, and the third is partially developed. The first beach is on the west side of the south, or first, Dredge Cut pond. Facilities include a bathhouse, picnic shelters, and a paved parking lot on the high bank adjacent to the swim beach. Steps provide access to the beach, and trees line the access and beach area. The other developed swimming beach is centrally located on the middle Dredge Cut pond, north of Park Grove along State Highway 117. Steps provide access to this developed beach area from the paved parking area. A vault toilet and an information kiosk are located in the parking area.

   The third beach area has limited facilities, with a vault toilet and gravel parking lot This area is located north of the developed swimming beaches on the west side of Highway 117. This area could be further developed because of its popularity, central location, and favorable site conditions. Minimal additional facilities should include improved shoreline access such as reshaping the shoreline with steps or a walkway. When recreation development occurs, it is recommended that bank lines be reshaped to improve the gradient leading to the shoreline. The result would be not only improved access, but also an improved opportunity for dispersed shoreline use. During peak weekends all three beach areas are intensively used.

   The MFWP Fishing Access Site at the Dredge Cut Ponds is located at the north end of the dredge cuts. The area (formerly known as the Trout Pond) and its shoreline are leased to MFWP as a fishing access site. The lease includes approximately 115 acres. Facilities at the site include an ADA accessible vault toilet, a concrete boat ramp, a boat dock, two fishing piers, a picnic shelter, and a gravel parking lot. The area is a day use area primarily utilized by locals. The available fish include bass, perch, northern pike, and other game fish species.

   The Nelson Dredge is located approximately four miles north of Fort Peck and is accessed via Highway 117. The area is a remnant floodplain with some cottonwoods and is part of what was an irrigated farm prior to

construction of the dam. The Missouri River makes a sweeping turn east toward North Dakota at the mouth of Nelson Dredge. Facilities at the area include a boat ramp with all-weather gravel road and a parking lot with vault toilet. A courtesy dock is located at the boat ramp. The area is popular for fishing and upland bird and waterfowl hunting.

4. Roundhouse Point Area. Roundhouse Point extends into the Missouri River downstream from the dam and tailrace (Figure 6-2). The area is located on the east side of State Highway 117 across from the first Dredge Cut pond. Facilities include a boat ramp with courtesy dock on the south side of the point and a picnic area in the center surrounded by large cottonwood trees. The picnic area is accessible directly from State Highway 117. A universally accessible fishing access with paved parking, vault toilet, sidewalk, and a fishing pier is located adjacent to the Park Grove Bridge on Highway 117 and can be accessed via Roundhouse Point.

   Because the area is one of the main access points to the river downstream from the dam, it is heavily used as a launching point for fishing excursions, canoe float trips, and waterfowl hunting. The Roundhouse Point picnic area is also used for camping, primarily by those with self-contained vehicles or pickup campers. No drinking water is available on the site.

   Boy Scout Park is a 100-acre area located immediately downstream of Roundhouse Point and directly across State Highway 117 from the second Dredge Cut pond. The riverside area is a remnant floodplain forest with flat terrain. Approximately 90 percent of the area is covered by mature cottonwood trees. Midgrasses grow in scattered open areas on the site and under trees. The area has a high wildlife value with cottonwood trees located along the river used as roosts by wintering bald eagles. Public facilities in Boy Scout Park include an all-weather gravel road to the boat ramp and parking area. The area is used as an important public fishing and hunting access point to the river. The Boy Scouts have approximately 35 acres of this area under lease as a quasi-public use area for weekend camping trips and special events.

5. Floodplain Area. The Floodplain Area (formerly known as the Winter Harbor Area), located 0.5 miles east of Fort Peck off Yellowstone Road, includes a permanent concrete boat ramp, gravel parking lot, courtesy dock, two vault toilets, primitive camping sites, and a picnic shelter. Access to this area is via a paved road which also provides access to the Winter Harbor Fishing Pond. The Fishing Pond area includes a vault toilet, handicapped fishing access, a concrete boat ramp, and a gravel parking lot. Access to the Winter Harbor Fishing Pond is limited to boats using electric trolling motors only.

The following sections on visitor use, resource objectives, development needs, and rationale apply to the entire Downstream Recreation Area.

e. Visitor Use: The entire Downstream Recreation Area is intensively developed and supports a wide variety of activities, including camping, swimming, waterskiing, tubing, fishing, boating, picnicking, nature hiking, wildlife viewing, and hunting. In the fall, the Downstream Campground hosts a deer hunt for persons with limited mobility. Facilities include boat ramps, horseshoe pits, playground equipment, picnic tables, firepits, a potable water supply, restrooms, and both primitive and recreational vehicle camping facilities.

The Downstream Area attracts more non-local visitors than the other Fort Peck project recreation areas. Visitor survey information from the early 1990s indicates that many visitors to the Downstream Area resided beyond a 100-mile radius of the project site and were from various regions of the U.S. and Canada. Specific visitation information on the Downstream Area is provided in Chapter 2.

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

- Maintain the quality, quantity, safety, and diversity of recreational opportunities and facilities;
- Provide and maintain river access for boating, fishing, and hunting;
- Provide and maintain recreation facilities for day use and various intensities of camping;
- Provide additional facilities to meet the increasing demand for group day use activities and camping;
- Provide interpretation of the natural, historical, and unique ecological resources found in the area;
- Maintain and manage vegetation in the area to improve habitat for wildlife;
- Preserve, monitor, and protect any cultural resources;
- Provide opportunities for the elderly and handicapped to participate in a variety of activities; and
- Promote ecological integrity by controlling noxious weeds.

g. Development Needs: Development needs for this The Downstream Recreation Area include the following, not in priority order:

- Maintain the current activity diversity;
- Develop additional group facilities; and
- Separate the day use facilities from overnight camping facilities and activities.

Specific developments for expansion and improvement of facilities at the Downstream Recreation Area public sites follow.

1. Downstream Campground and Kiwanis Park:

- Develop a new 27-acre Cottonwood loop with bathhouse (comfort station);
- Add water and upgrade electrical hookups to 50 amps at each campsite;
- Develop a 12-site tent camp loop;
- Add a comfort station to serve the new tent loop and existing sites 31 to 51;
- Relocate campground entrance to the west side, eliminating access through Kiwanis Park;
- Add an additional group camping facility(s);
- Expand campground to the west to meet increasing overnight use demands; and
- Improve interpretation including displays for wildlife and habitat, the Missouri River, and the Powerhouse.

2. Fort Peck Interpretive Center:

- Expand and enhance the dam history section;
- Expand the display on sea creatures;
- Expand outreach and educational opportunities;
- Expand the current historic (three building) displays into separate rooms; and
- Maintain cooperative relationships with the USFWS, FPPI, and Museum of the Rockies.

3. Dredge Cuts/Roundhouse Point:

- Provide the Dredge Cuts area with a boat ramp, parking area, and beach that is more accessible to the handicapped;
- Introduce native vegetation to enhance views and provide shade;
- Upgrade comfort station at First Dredge Cut;
- Plant trees and install irrigation at Nelson Dredge to create a cottonwood bottom area;
- In the long term, consider expanding recreation facilities in the Boy Scout Park area; and
- Develop hiking trails to complete the connection between the Beaver Creek Nature Trail, Downstream Campground and Kiwanis Park, and Floodplain Day Use Area.

4. Floodplain Area:

- Expand the camping area, but maintain as primitive to meet the demand for non-developed camping; and
- Provide interpretation of the historic and natural resources of the area.

h. Rationale: The Downstream Recreation Area is a natural convergence point for non-destination campers and resident day users. The area features a wide array of recreational facilities, activities, attractions, open spaces, wildlife resources, and historic sites. The nearby historic buildings in the town of Fort Peck; the project structures, such as the dam, powerhouse, and spillway; the Interpretive Center; the wildlife viewing area; the Fort Peck Theater; and nearby lake access contribute to the diversity and quality of attractions that draw visitors to the Downstream Recreation Area. These facilities and activities attract the majority of visitors, including non-resident visitors to the Fort Peck project. The Downstream Recreation Area has an adequate land base and forested areas to provide for the potential expansion of campground and day use facilities.

FORT PECK WEST RECREATION AREA

a. Land Classification: Recreation - Intensive Use

b. Management Agency: Corps of Engineers/Direct Concessionaire

c. Location: The Fort Peck West Recreation Area is located on the north shore of the reservoir adjacent to the left abutment of the dam (Plate 7). Located entirely within Valley County, this recreation area is 2 miles west of the town of Fort Peck and approximately 20 miles southeast of Glasgow. The recreation area is accessed by a 0.5-mile paved road leading from State Highway 24. Circulation through the recreation area is provided by paved and gravel roads and trails.

d. Description: The area consists of 350 acres and extends for 2 miles along the shoreline of Fort Peck Lake. The topography is flat to gently rolling, with mostly moderate slopes from the shoreline up to a plateau 20 to 30 feet above the normal maximum operating pool. Vegetation in the area consists primarily of midgrasses, with some shrubs and trees located in drainage areas and ravines. A few trees are also scattered along the upland areas near the campground. In general, the shorelines along the Fort Peck West Recreation Area have been eroding since 1965, especially along the small peninsulas. The waves causing the erosion are created by high winds over a long fetch of the lake.

Facilities at the recreation area are comprised of a day use picnic area, the Fort Peck Marina, and campground. Day use facilities include enclosed shelters, open picnic shelters, a playground, a comfort station, a fish cleaning station, and vault toilets. The 13-site Class A campground provides electrical hookups, sanitary facilities, and potable water. The Fort Peck Cabin Area with 120 cabins is located immediately west of the recreation area.

There are two boat ramps in the recreation area—one with a bottom elevation of 2208 feet msl (operated as part of the marina); the other with a bottom elevation of 2200 feet msl. A gravel parking lot and vault toilet is maintained by the Corps at the temporary low water access. A 40-acre area adjacent to the boat ramps is leased to Fort Peck Marina, Inc., a direct concessionaire. The marina provides approximately 150 boat slips. In addition, its services include boat repair and service, a restaurant, storage, and tackle sales. The concession offers camping sites with water and electric hookups. A rock breakwater was constructed in 1998 and helps provide a safe harbor during normal to high water periods.

e. Visitor Use: The Fort Peck West Recreation Area is used for both water-oriented and land-based recreation activities. The primary activities include fishing, power boating, waterskiing, picnicking, camping, group activities, and sailing. Fort Peck West is the primary lake access for the east end of the lake. In addition to having two boat ramps, this area has the most developed of the three marinas operating in the Fort Peck project area.

Visitation at the Fort Peck West Recreation Area is relatively constant throughout most of the summer recreation season. The results from surveys in 1990 indicated that visitors to the Fort Peck West Recreation Area are primarily local residents from Valley, McCone, and Roosevelt Counties. Residents from other counties in northeastern Montana also visit the area and utilize the facilities.

The Fort Peck West Recreation Area hosts the largest walleye tournament held at Fort Peck Lake. The Montana Governor's Cup Walleye Tournament, first organized in 1988, is sponsored annually by the Glasgow Area Chamber of Commerce and Agriculture. The tournament field has grown from a maximum of 130 teams in 1988 to 200 in 2006. In the past, the Fort Peck West Recreation Area hosted a tournament cosponsored by Cabela's, Inc. and In-Fisherman magazine. The Cabela's/In-Fisherman Walleye Trail, a four-tourney circuit, is the biggest of the national walleye tournaments and draws teams from across the United States and Canada. Because of restrictions in the Fort Peck Fisheries Management Plan (MFWP, 2002a), the tournament may not return to Fort Peck Lake. Because of low lake elevations, the Fort Peck Marina has also hosted the Fall Classic, formerly hosted at Crooked Creek Marina, and has occasionally hosted a Fall Salmon Derby as well as an ice fishing derby in February.

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

- Develop the area into a major regional destination recreation area;
- Improve low water lake access for water-oriented recreation;
- Improve marina facilities;
- Provide recreational facilities for day use and various camping intensity levels;
- Provide additional facilities to meet the increasing demand for group day use activities and camping;
- Provide access to and interpretation of the historic and natural resources of the area;
- Promote non-consumptive wildland activities such as hiking, photography, wildlife viewing, and sightseeing;
- Preserve, monitor, and protect any cultural resources;
- Provide opportunities for the elderly and handicapped to participate in a variety of activities; and
- Promote ecological integrity by controlling noxious weeds.

g. Development Needs: Development needs for this recreation area include the following, not in priority order:

- Develop plans for rip rap and erosion protection;
- Develop a comprehensive site plan to address development of the entire area;
- Provide additional marina facilities (e.g., slips, rentals, supplies, and dry dock and storage space) to serve powerboats, sailboats, and houseboats;

- Consider expanding the existing marina area to allow for development of a major destination marina/resort complex with commercial campground and rental cabins;
- Expand the marina basin, possibly through dredging, to provide a safe deep-draft harbor;
- Develop a Class A Campground with camp host area, group camping facilities, and dump station, overlooking the lake at the old Shelter 3 and 4 area;
- Include group camping facilities at the Class A Campground;
- Eliminate primitive camping at Shelter 1 and expand day use;
- Replace and modernize day use facilities at Shelter 2; and
- Provide additional sanitation facilities, including marine and trailer dump stations.

h. Rationale: The Fort Peck West Recreation Area can be expected to remain the primary recreation area on Fort Peck Lake in the near future. The proximity of local population centers, paved access, developed infrastructure and marina, and diversity of the existing and planned recreational facilities and activities all contribute to the area's continuing attraction. The Fort Peck West area is the most suitable location for the development of a major destination marina/resort complex. The potential exists to expand the existing marina facilities and incorporate resort development.

The boat ramps at the Fort Peck West Recreation Area provide a significant water access point to other recreation areas and reaches of the lake. The recreation area can serve as a major access point linking other recreation areas on the lake into a water trail system. Boat rentals, outfitters, guide services, and informational brochures could be used to promote the linkage of the various concession operations via the water trail. This linkage would contribute not only to a redistribution of visitation but also would contribute to the economic viability of other concessions.

i. Special Site Considerations: The Fort Peck West Recreation Area is immediately adjacent to the face of the dam which is a historic nesting area for piping plovers, a federally listed threatened species. At this time, there is no apparent conflict of use between the plovers and the dispersed shoreline recreational facilities and activities. However, if additional development takes place in the immediate vicinity or the potential for conflicting use increases, this portion of the dam shoreline area should be protected by posting signs and/or fencing. The site-specific EA prepared for the development would address potential impacts to piping plover nesting areas.

Dredging may be required in the future to maintain access to boat ramps. If dredging is required, the Corps will conduct a separate EA on the dredging and will comply with Montana Department of Environmental Quality requirements for disposal of dredge materials.

THE PINES RECREATION AREA

a. Land Classification: Recreation - Intensive Use

b. Management Agency: Corps of Engineers

c. Location: The Pines Recreation Area, commonly referred to as "The Pines," is located approximately 15 miles upstream from Fort Peck Dam on the north shore of the reservoir in Valley County (Plate 7). The Pines area is located 26 miles southwest of State Highway 24 and 35 miles south of Glasgow. It is situated on the end of Fifth Ridge, a peninsula that extends into the reservoir.

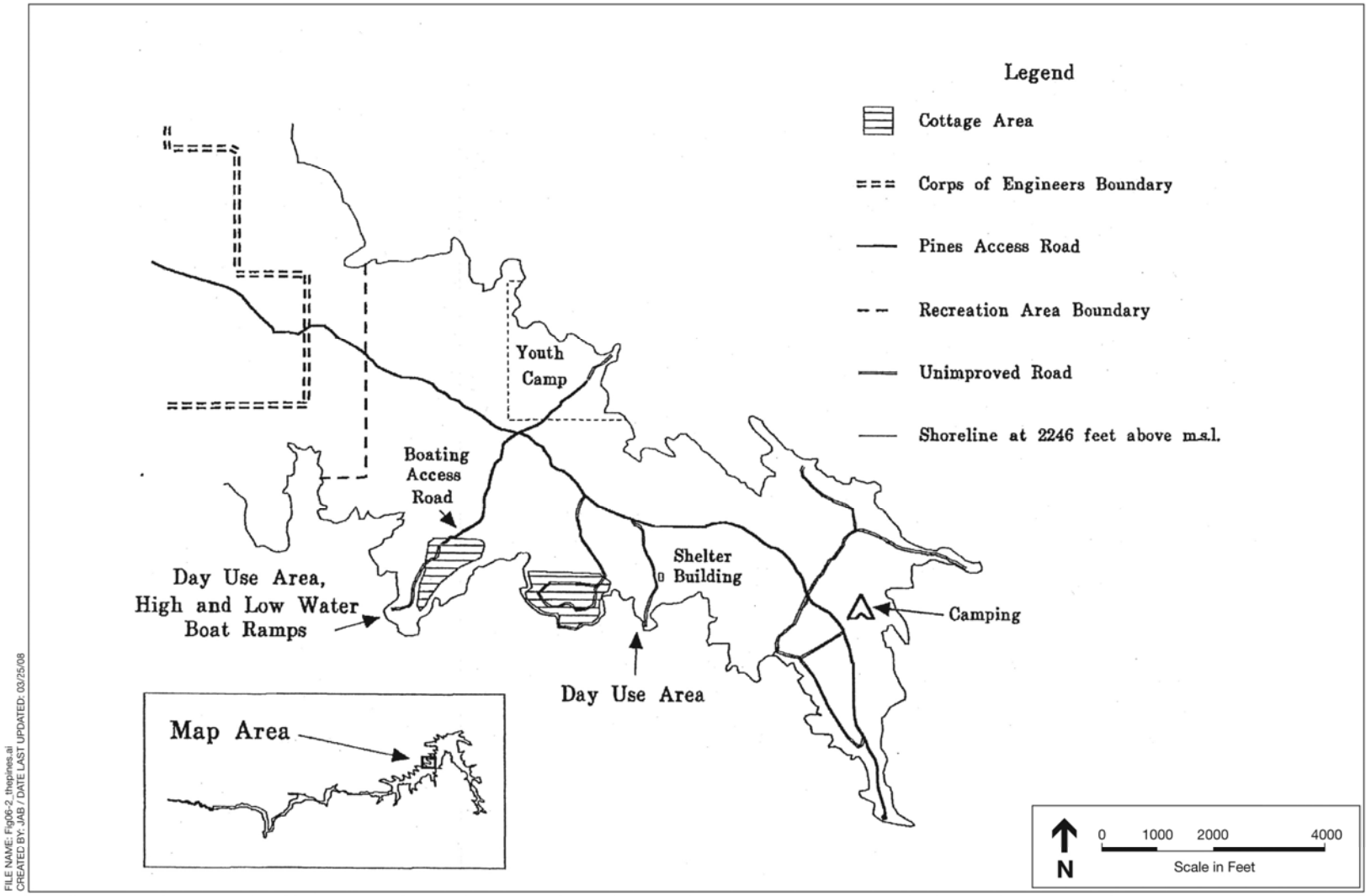
d. Description: This recreation area (Figure 6-2) is located within a mature pine forest, a feature unique among the recreation areas at the Fort Peck project. The topography is gently rolling, with extensive, mildly sloped shorelines. Vegetation is dominated by Ponderosa pines and junipers with midgrasses in the open areas of the pine savannas. Some forbs and shrubs are present in the understory.

The access road to The Pines was initially upgraded to all-weather status in 1989 through the cooperative efforts of Valley County, the USFWS, the BLM, and the Corps. These entities have continued to cooperatively maintain and upgrade access roads to The Pines from Highway 24. Twenty-six miles of gravel road have now been improved to all-weather access.

Facilities at The Pines Recreation Area include three boat ramps (two permanent ramps and a temporary low water ramp), courtesy dock, fish cleaning station (installed cooperatively by the Corps, Walleyes Unlimited and The Pines Cabin Association), picnic and camping areas, an enclosed shelter with electric grill, a playground, non-potable water, and vault toilets. The water system has been out-granted to The Pines Cabin Association for maintenance and operation. The Association also provides water to the fish cleaning station.

The Pines Cottage Area (100 acres) with 75 cabins and The Pines Youth Camp (54 acres) are located within The Pines Recreation Area. The Youth Camp, a summer camp for school-age children, is operated and maintained by the Prairie Fellowship Church. Facilities at the camp include camper cabins, a comfort station, a dining hall, a chapel, equestrian facilities, and canoes.

e. Visitor Use: Most visitors to The Pines reside in nearby communities in northeastern Montana. The primary summer activities in this recreation area include boating, fishing, picnicking, waterskiing, swimming, and camping. The three boat ramps in The Pines provide water access when pool elevations are greater than 2197 feet msl. Deer and elk hunters use the area from September through November and ice fishermen use the protected bays during the winter.



SOURCE: Corps, 1992.

Fort Peck Dam/Fort Peck Lake Master Plan . 204041.C

Figure 6-2
The Pines Recreation Area
Montana

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

- Develop The Pines into a major regional destination recreation area, accentuating the natural resources of the area;
- Provide interpretation of the natural and unique ecological resources found in the area;
- Provide lake access for boating and fishing;
- Provide recreation facilities for day use and camping;
- Upgrade the quality of habitat for both upland and big game species;
- Promote non-consumptive wildland activities such as hiking, hunting, backpacking, photography, and sightseeing;
- Implement Wildland Fire Fuels Reduction measures identified in Charles M. Russell NWR Wildlands Fuels Assessment;
- Preserve, monitor, and protect any cultural resources;
- Provide opportunities for the elderly and handicapped to participate in a variety of activities;
- Maintain the quality, quantity, safety, and diversity of recreational opportunities and facilities; and
- Promote ecological integrity by controlling noxious weeds.

g. Development Needs: Development needs for this recreation area include the following, not in priority order:

- Develop a comprehensive site plan for the peninsula, that provides alternatives for more intensive public use and resource protection;
- Promote development of the Youth Camp area as a concession resort development site if the current lease is not extended. The concession may include fuel, supplies, and rental slips;
- Improve existing and develop new RV campground facilities and primitive camping areas;
- Provide additional day use facilities, including picnic facilities and playgrounds for individuals and groups;
- Modernize existing shelter;
- Support improvements to the potable water system;
- Improve internal circulation roads and parking;
- Identify a potential low water ramp development site;
- Develop a trail system; and

- Provide facilities for non-consumptive wildland activities such as interpretation, hiking, hunting, backpacking, sightseeing, photography, and horseback riding.

h. Rationale: The Pines Recreation Area is one of the major regional recreation areas on the north side of Fort Peck Lake. Development of The Pines will contribute to a viable water route link between the Fort Peck West and Hell Creek Recreation Areas. The easily accessible shoreline in this area makes it attractive for water-oriented activities, although the topography limits the potential to extend the low water ramp at the current location.

Because of the unique mature pine forest located on Fifth Ridge, development at The Pines should be resource oriented. Development should focus on expanding campgrounds, and day use facilities and activities. The existing Youth Camp has been underutilized in recent years. In 2007, the Corps requested that the lessee promote and use the Camp or the lease would be terminated. The lessee responded with a request for a three-year extension on the lease. The Corps will reevaluate the lease in 2009. If the current lessee decides not to maintain the facility and continue the lease, the facility could become the site of a concession resort development or possible group use facility.

i. Special Site Conditions: Because The Pines is located on a peninsula of Fort Peck Lake, it is exposed to heavy wave action. The soil in the area is composed of friable material and is easily erodible. Stable beaches have developed along some areas of shoreline, but bank erosion continues in other areas. The tip of the land point on which the navigation light is located receives particularly heavy wave action, and littoral currents sweep most of the eroded material away from the peninsula.

JAMES KIPP RECREATION AREA

a. Land Classification: Recreation - Intensive Use

b. Management Agency: Bureau of Land Management

c. Location: The James Kipp Recreation Area is situated on the right bank of the Missouri River at the upper end of the Fort Peck project adjacent to U.S. Highway 191 and State Highway 19 in Fergus County (Plate 11). Access to the recreation area is on the east side of Highway 191 approximately 0.5-miles south of the Fred Robinson Bridge. It is located within the Missouri River Breaks National Monument and the scenic portion of the Upper Missouri Wild and Scenic River. The land adjacent to the recreation area is public domain land administered by the USFWS as part of the CMR. The recreation area occupies the site known historically as McNulty Bottom.

d. Description**:** This 222-acre recreation area (Figure 6-3) occupies project land on both the west and the east sides of U.S. Highway 191; however, the majority of the facilities and activities are located on the east side.

Facilities at James Kipp include a concrete boat ramp with parking, dump station, fish cleaning station, public pay phone, a day use area with picnic tables and vault toilets, and an interpretive kiosk. There is a 34-site camping area with picnic tables, fire rings, potable water, and eight vault toilets. All of the camping sites are handicapped accessible. There is a BLM contact station with on-duty campground hosts from April through November. In addition, there is a separate camping area and shuttle parking for people floating the river.

The James Kipp Recreation Area was initially developed by the Corps, but was later out-granted to the MFWP and operated under the State Park system as the James Kipp State Recreation Area. In July 1990, MFWP returned management of the area to the Corps. The BLM then assumed responsibility of the area, operating and developing it as an integral part of its Upper Missouri River National Wild and Scenic River and Upper Missouri River Breaks National Monument.

The area is bounded by the Missouri River on the north and bluffs on the south. The area is generally flat to gently sloping and is dominated by stands of mature cottonwood trees, remnants of the original floodplain forest. Other vegetation includes midgrasses and forbs in the open meadows and riparian shrubs and willows along the riverbanks. The banks of the river range from gentle slopes along the east end to steep cutbanks along the west end.

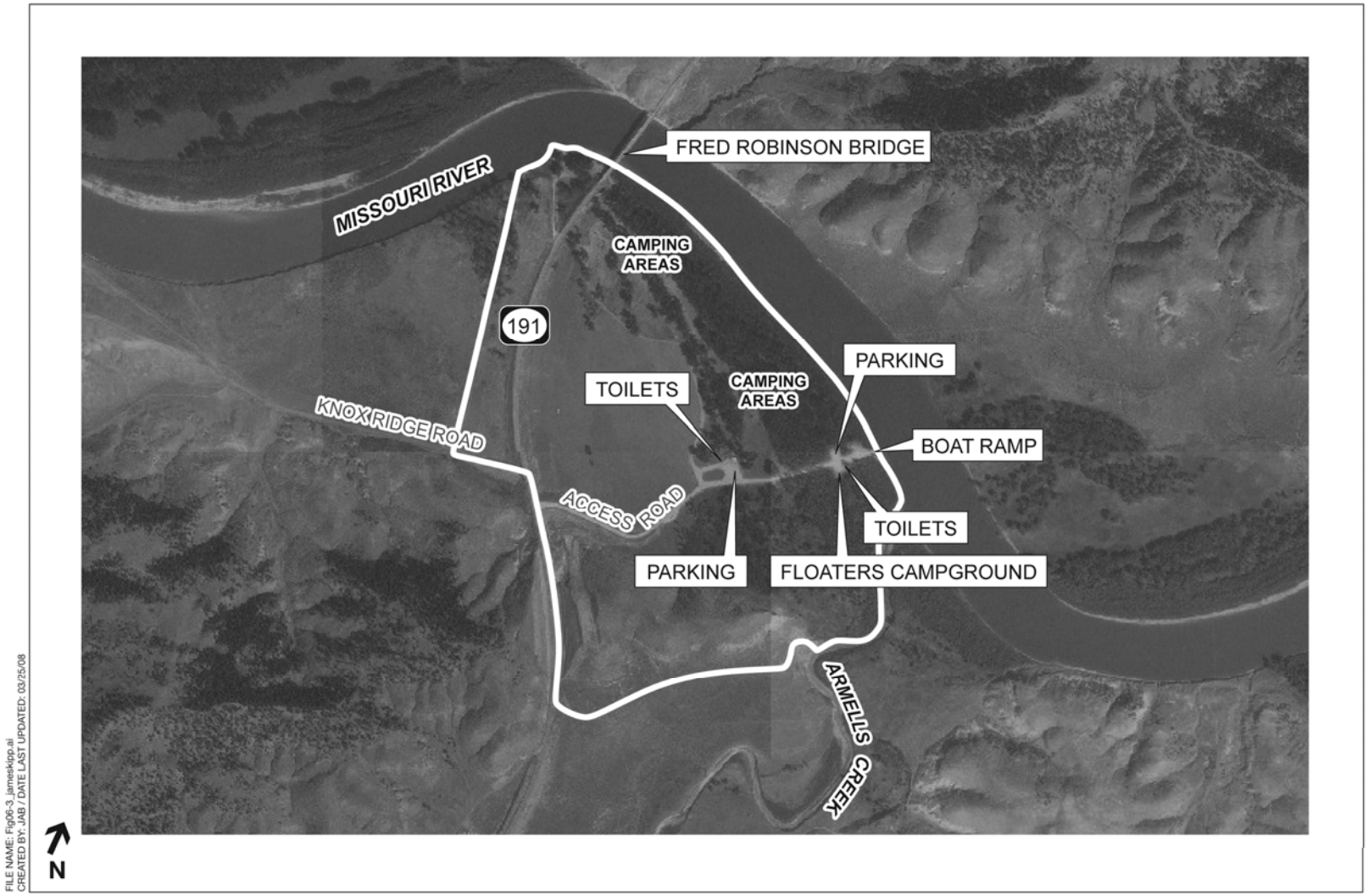


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Figure 6-3
James Kipp Recreation Area
Montana

The soils generally have a loamy texture on the surface and are underlain by textures ranging from loam to fine sandy loam. Although the soils are suitable for development, permeability is moderate.

Vegetation in the area provides excellent habitat for many game and nongame species found in this region. The most common big game species are white-tailed deer and mule deer. The red osier dogwood and peach-leaf willow understory provides excellent wintering habitat for these deer species. The riparian vegetation also provides habitat for numerous songbirds. As a result, the area provides excellent wildlife viewing opportunities, attracting birders from around the U.S. and Canada.

The sport fishery resource in the river includes paddlefish, northern pike, catfish, shovelnose sturgeon, walleye, sauger, and ling cod. The pallid sturgeon, listed as endangered under the Endangered Species Act, is also found in this section of the river. Numerous species of rough fish are also present.

The James Kipp Recreation Area is not part of any grazing allotment. On the west portion of the area, there is an easement (livestock water lane) that allows livestock access from the Knox Ridge Road to the river. Although the easement is fenced on both sides, there is a sand point well that has been used in the past to water livestock at the rivers edge. No other livestock grazing has occurred at the site for over 30 years.

Historically, this area offered the potential for use by the Native American Indians like other bottomland deltas on the river. However, an archeological survey of the area in 1990 identified no prehistoric sites. The first homestead on this bottomland was built in 1916 by the McNulty family. The original homestead was built near the location of the original boat launch on the west side of the bridge. After repeated flooding, the homestead was moved to the southeast portion of the present recreation area. The McNulty's farmed and ranched in this area until 1945 when the Fort Peck project was completed. One structure from the homestead remains, a log building with a sod roof typical of the era of its construction. A road leads from the developed portion of the recreation area to the homestead location.

e. Visitor Use: The James Kipp Recreation Area is one of the most popular and widely visited recreation areas in central Montana. It receives year-round use from a wide array of users, including both local resident and non-resident visitors.

This recreation area serves as the terminus for boaters enjoying the Missouri River Breaks National Monument and the Upper Missouri Wild and Scenic River and provides boating access to the upper reaches of the Missouri River that are part of the Fort Peck project. The BLM restricts motorized boating on the Wild and Scenic section of the river from the Saturday before Memorial Day through the Sunday after Labor Day. During that period, no motorized boating is allowed upstream of the Fred Robinson Bridge (Highway 191) at River Mile (RM) 92.5 to Holmes Council Island at RM 149. Motorized boating is allowed on the portion of the Wild and Scenic River downstream of the Fred Robinson Bridge, but a no-wake speed is enforced. A no-wake speed is defined as a speed where no white water occurs in the path of the vessel or in waves created by the vessel.

The BLM has indicated that the most popular activity at the recreation area is day use. The different types of day use consist of floaters taking out their crafts from the river, fishing (mostly bank side, but some use boats in the river east of the bridge), picnicking, wildlife viewing, sightseeing, and roadside use (only to use the toilets). The majority of the overnight use is by fishermen, destination and transient campers, and hunters.

There are three relatively distinct use seasons—spring paddlefishing, summer use, and fall hunting. Much of the day use is scattered throughout the year. The spring paddlefishing season begins as soon as the ice is out of the river and the water levels have begun to rise. This sport is becoming more popular and is attracting more fishing visitors to the site. Sport fishing for other species, such as catfish, walleye, and pike is also popular at this time of the year.

The summer use season is when most recreation occurs, coinciding with most of the floating season and more than half of the general fishing season.

The fall hunting season begins in early September with the archery season and ends late in November with the end of the rifle season. This season also covers the post-Labor Day fishing season and late float season. During this time, hunters use the recreation area as a place to set up base camp. They hunt in the surrounding "breaks" area and along the river during the day, but return to the recreation area in the evening.

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

- Recognize the significance of both water-oriented and land-based resources;
- Provide and maintain river access for boating, fishing, and hunting;
- Provide and maintain year-round recreation facilities for day use and camping;
- Improve the quality of habitat for both upland game and other wildlife species;
- Provide interpretation of historical, natural, and unique ecological resources found in the area;
- Promote non-consumptive wildland activities such as hiking, hunting, backpacking, photography, and sightseeing;
- Preserve, monitor, and protect any cultural resources;
- Promote ecological integrity by controlling noxious weeds;
- Provide opportunities for the elderly and handicapped to participate in a variety of activities; and
- Maintain the quality, quantity, safety, and diversity of recreational opportunities and facilities.

g. Development Needs: Development needs for this recreation area include the following, not in priority order:

- Partner with Walleyes Unlimited to construct a fish cleaning table;

- Develop an interpretive trail along Armells Creek, using the existing two-track road;
- Seek partnerships to add handicapped fishing access;
- Construct shelters in picnic area;
- Provide additional interpretation of area resources, including fisheries, geology, and noxious weeds;
- Coordinate with USFWS to modify area boundaries to improve enforcement of the "no hunting" area;
- Develop a strategy to find funding for assistance with maintenance costs of the area's use as a rest stop; and
- Provide facilities to promote non-consumptive wildland activities such as hiking, hunting, backpacking, photography, and sightseeing.

h. Rationale: The James Kipp Recreation Area will remain a major recreation area because it serves as access to the Upper Missouri Breaks National Monument and the Wild and Scenic River. The area is the only Fort Peck Recreation Area that is located on a major highway, which provides easy access to recreation activities. Its location on U.S. Highway 191 also means that a dominant use of the area is as a "rest area." This increases the BLM's maintenance costs, including garbage collection.

i. Special Site Conditions: Because of its location on the river, the James Kipp area experiences periodic flooding, particularly in association with spring snowmelt and mountain runoff. Although the flooding is usually of short duration, it may submerge existing recreation facilities and often leaves camping areas muddy and unusable and circulation roads impassable. Heavy rains can also result in similar conditions.

CROOKED CREEK RECREATION AREA

a. Land Classification**:** Recreation - Intensive Use

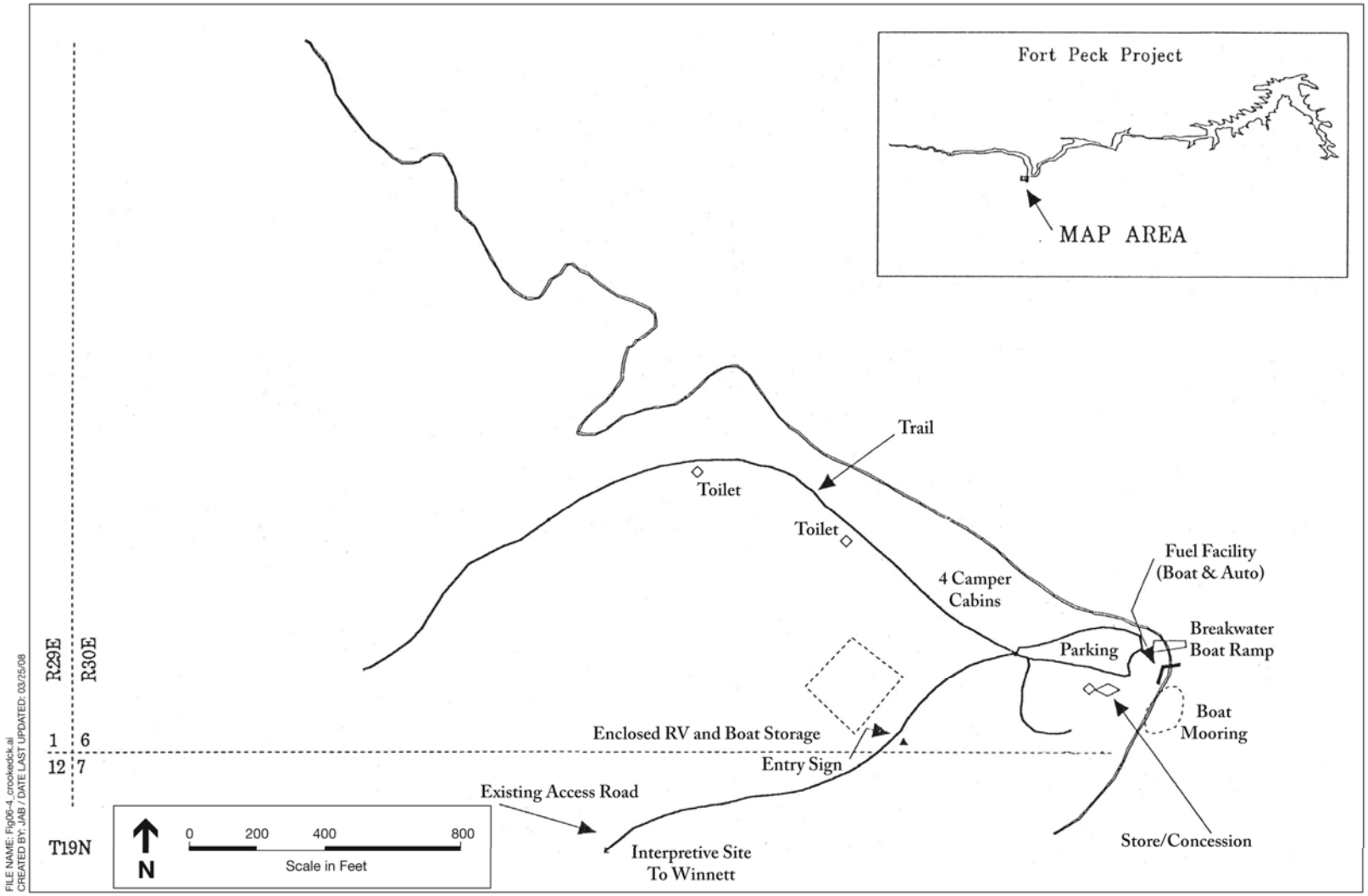
b. Management Agency: Corps/Direct Concessionaire

c. Location: Crooked Creek Recreation Area is located at the extreme southwest corner of the reservoir at the confluence of the Musselshell River and the Sacagawea River (locally known as Crooked Creek), approximately 98 miles upstream from Fort Peck Dam (Plate 12 and Figure 6-4). This area, which is relatively remote, is about 50 miles east of U.S. Highway 191 via unpaved roads and is about 100 miles from Jordan, Lewistown, and Roundup. The area is located in northeastern Petroleum County and is the closest access point to Billings, Montana's most populated city. The access road crosses a mix of BLM and private land for the first 45 miles. The last 3.5 miles cross CMR land with the last 0.5 miles within the Corps' project boundaries.

d. Description: The road into the Crooked Creek Recreation Area offers outstanding views of pine forests, wildlife, buttes, both the Judith and Little Rocky Mountains, and many other expansive vistas. The land immediately surrounding the Crooked Creek area is composed of steep terrain and covered by an open Ponderosa pine forest. The 440-acre recreation area is characterized by rolling open terrain with areas suitable for development scattered along the shoreline and adjacent drainageways. Vegetation consists primarily of native midgrasses and forbs with some sage and greasewood. Tall trees are confined to the draws and are generally scattered throughout the area.

The UL Bend National Wildlife Refuge is located on a peninsula north of the confluence of the Musselshell River with Fort Peck Lake and to the northeast of the Crooked Creek Recreation Area (Plate 5). The UL Bend area is both a designated wildlife refuge and wilderness area and provides outstanding habitat for ducks, geese, swans, and other migratory birds. Because of its proximity, the Crooked Creek Recreation Area is an excellent area for bird watching and waterfowl hunting.

The Corps originally constructed a boat ramp and related facilities at the Crooked Creek Recreation Area. In 1985 the recreation area was out-granted to Petroleum County under a 25-year park and recreation lease. A third party concessionaire, the Fort Musselshell Marina, provided recreational services and supplies. In 2000, Petroleum County requested that they be removed from the lease agreement resulting in the Corps initiating a direct concession lease with Bill Harris, owner of Fort Musselshell Marina. This new agreement reduced the concession lease area to approximately 20 acres and the Corps retained management of the remaining approximately 420 acres.



SOURCE: Corps, 1992.

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Figure 6-4
Crooked Creek Recreation Area
Montana

During the late 1860s and early 1870s, the mouth of the Musselshell River was an active trading point on the upper Missouri River. The trading post, known at various times as Kerchival City, Musselshell, Musselshell City, Camp Reeve, and Fort Sheridan, rivaled Fort Benton, the uppermost point of navigation on the Missouri. When a competing trading post was established 35 miles farther up the Missouri River the outpost was abandoned. The only remnant of the outpost is a small cemetery. More information regarding the area's history is available at the marina.

e. Visitor Use: The Crooked Creek Recreation Area is the most significant land and water access site to the southwestern portion of the Fort Peck project. It is the only substantially developed recreation area between the Hell Creek and James Kipp Recreation Areas and provides the farthest upstream water access to Fort Peck Lake. The primary users of the area are the local residents of Petroleum, Musselshell, Golden Valley, and Fergus Counties. This area provides the closest lake access point for persons living in these counties. Although there is river access at the James Kipp Recreation Area, it is difficult to maneuver a powerboat downstream to the main part of Fort Peck Lake.

The Crooked Creek Recreation Area affords year-round use. Because of the outstanding wildland qualities, this area ideally lends itself to a wide variety of both land-based and water-oriented recreational opportunities (when water levels permit). The main uses of the area include boating, camping, hunting, fishing, picnicking, hiking, and wildlife viewing. The area around the Crooked Creek Recreation Area experiences high elk hunting pressure. The minimum elevation needed for boat access at Crooked Creek is 2227 feet msl. During the periods 1988 to 1993 and 2001 to the present, water-oriented recreation was limited by the low pool level of the lake. Land-based recreation such as hunting, hiking, wildlife viewing, and sightseeing have continued at moderate levels.

The Crooked Creek Recreation Area was extensively upgraded in 1978 with funds from a special congressional appropriation. The Corps made further upgrades in 2003 and 2004, adding three new vault toilets, a camp loop with 30 campsites including defined pads, grills and tables. The recreation area also has a boat ramp, parking lot, sanitation facilities, two shelters a courtesy dock, picnic facilities, a concession building, and four camper cabins. The Corps has also constructed a well and a rock breakwater adjacent to the boat ramp, and the Crooked Creek Chapter of Walleyes Unlimited constructed a picnic shelter at Crooked Creek. In 2007, Walleyes Unlimited cooperated with the Corps to plant trees and install a drip irrigation system for watering.

In addition to the public use facilities on project lands, the Fort Musselshell Lodge, located on a tract of private land immediately southeast of the project, offers lodging facilities, an airplane landing strip, and platted lots for future cabin development. The facility is successfully marketed and operated as an outfitter for both resident and nonresident hunting parties.

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

- Maintain the all-weather access road;

- Recognize the significance of both water-oriented and land-based resources;
- Provide lake access for boating, fishing, and hunting;
- Provide recreation facilities for day use and camping;
- Improve the quality of habitat for both upland and big game species;
- Provide opportunities for the interpretation of natural resources and area history;
- Promote non-consumptive wildland activities such as hiking, hunting, backpacking, photography, and sightseeing;
- Preserve, monitor, and protect any cultural resources;
- Promote ecological integrity by controlling noxious weeds;
- Provide opportunities for the elderly and handicapped to participate in a variety of activities; and
- Maintain the quality, quantity, safety, and diversity of recreational opportunities and facilities.

g. Development Needs: Development needs for this recreation area include the following, not in priority order:

- Establish additional tree cover in the campground and day use areas to provide needed shade and shelter for visitors and provide benefits to the resident wildlife;
- Replace the existing boat ramp to improve grade and surface;
- Install facilities, including hitching posts and feeding areas, to accommodate equestrian use;
- Provide interpretation of natural resources and area history; and
- Improve the signage along the access road.

h. Rationale: The Crooked Creek Recreation Area serves as the most significant land and water access site to the southwestern portion of the Fort Peck project. No practical alternative location for another access point is available in this reach of the lake.

Because of its location on the lake, the Crooked Creek Recreation Area is planned to be a major destination recreation area. The Crooked Creek area could complement development at the Hell Creek State Recreation Area and The Pines and Fort Peck West Recreation Areas as part of the water trail on Fort Peck Lake. The area offers supplies and fuel for those boaters visiting the upper reach of the Fort Peck project. However, boat access to the Crooked Creek area is limited during low water periods.

i. Special Site Conditions: Currently, the bottom of the boat ramp is at elevation 2223 feet msl and cannot be extended. Because of the boat ramp elevation and the ramp's location on the upper end of the reservoir in a tributary arm, the Crooked Creek Recreation Area is one of the first recreation areas to lose water access as a result of low pool elevations and drawdowns on Fort Peck Lake.

The portion of the recreation area along Sacagawea River is well protected from waves. Gently sloping beaches have developed, stabilizing the shoreline against erosion. Along the Musselshell River Arm, the erosion potential is greater. Wave action in the area is more severe because of a greater expanse and longer fetch of water available for wave buildup.

Past sediment studies in the area show that there has been a delta buildup on the mainstem reach at the confluence of the Musselshell River and Fort Peck Lake. This delta buildup can be expected to encroach upon the Musselshell River Arm. A study in 1986 estimated that based on the rate of aggradation, the Crooked Creek boat ramp area could be used for approximately 25 to 30 years. The boat ramps have been unusable since 2001 because of the low lake levels. The Corps began new sedimentation surveys of the area in the summer of 2007. Additional information about sedimentation rates and the future of the boat ramps at Crooked Creek may be available in the future.

HELL CREEK RECREATION AREA

a. Land Classification: Recreation - Intensive Use

b. Management Agency: Montana Fish Wildlife and Parks/Third Party Concessionaire

c. Location: The Hell Creek State Recreation Area is located on the west bank of Hell Creek on the south shore of the reservoir approximately 35 miles southwest of Fort Peck Dam and 30 miles north of Jordan (Plate 9). The area is located in north-central Garfield County.

d. Description: Along the 26-mile access road to the Hell Creek State Recreation Area, the terrain varies with rolling slopes and low buttes and sparse tree cover. This road is listed as one of the key wildlife viewing areas in Montana's Missouri River Country. Wild turkey, sage grouse, and sharp-tailed grouse can be seen along this route. Pronghorns, mule deer, and golden eagles are also common. Through the cooperation of Garfield County and various State and Federal agencies surrounding Fort Peck Lake, this access road was upgraded to all-weather status in 1989 with additional work to maintain all-weather status completed by the Corps in 1999, Garfield County in 2005, and Fish and Wildlife Service in 2007.

This 337-acre recreation area (Figure 6-5) is characterized by gently rolling to level areas near the shoreline and by steep hills to the west and south. Most of the vegetation is native midgrasses with sagebrush and forbs. Trees are scarce in this area, but the MFWP has planted and maintains ash and cottonwood seedlings in the campground. Evergreens, primarily Ponderosa pine and Rocky Mountain juniper, are abundant in the nearby hills. The area attracts elk and a variety of songbirds, including horned larks, brown thrashers, kingbirds, and western meadowlarks. In Hell Creek Bay, nesting osprey, white pelicans, and Canada geese can be found. During the migration season, this area provides opportunities for viewing common loons.

The Hell Creek State Recreation Area was initially developed by the Corps as a water access site with camping and day use facilities. In 1949, the area was licensed to the State of Montana. The State requested that the license be extended for an additional 16 years to facilitate its construction and development plans. In 1966, the recreation area was out-granted to the State under a 25-year park and recreation lease. A new lease was signed by the State in 1994 extending the term to 2021.

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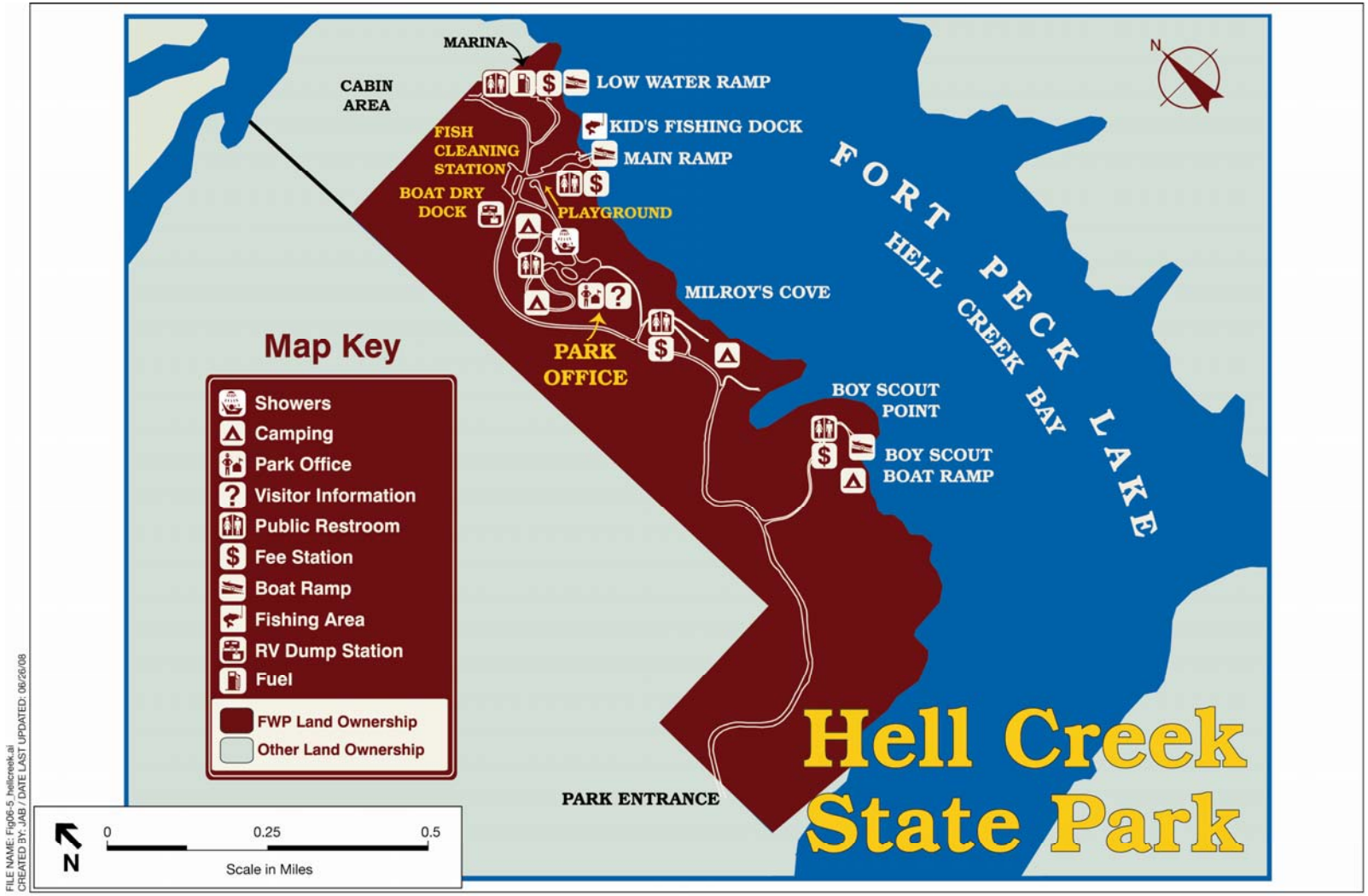

SOURCE: MFWP, 2007.

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Figure 6-5
Hell Creek State Park
Montana

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In response to increased visitation to the area, MFWP has extensively upgraded the Hell Creek State Park facilities starting in 2001. Improvements include:

- Expansion of parking areas and boat launching facilities;
- Expansion of the marina's dry dock storage area;
- Installation of a potable water system with hydrants in the campground;
- Construction of a wastewater treatment plant for the park and campground;
- Electrification of 44 camp sites;
- Construction of a restroom/shower facility and a dump station;
- Renovation of the group use shelter building (in cooperation with the Jordan Chapter of Walleyes Unlimited);
- Construction of a fish cleaning station building (in cooperation with the Jordan Chapter of Walleyes Unlimited); and
- Construction of a playground building (in cooperation with the Jordan Chapter of Walleyes Unlimited).

In response to low lake levels, the Corps drilled a 1,200 foot well in 2004 to provide water for the recreation area until lake levels rise. The well currently provides water for the State Park, marina, and cabin area. Because of low water quality, the well water is treated at the MFWP treatment facility for facilities within the State park.

Approximately 4 acres of the State-leased area are operated as the Hell Creek Marina by a third party concessionaire. The Hell Creek Marina, located at the northern end of the State park, provides boat docking facilities, rental cabins, a concession for selling tackle and other supplies, an enclosed dry dock storage area, and facilities for providing marine fuel and other services. The main marina building was destroyed by fire in winter 2005. As of 2007, the facility was still operating out of a temporary structure until a replacement building could be constructed.

The 56-acre Hell Creek cabin area with 50 cabin sites is located due north of the marina. The cabin area is accessed by an internal park road located to the west of the campground.

Four boat ramps are located in the Hell Creek State Recreation Area, three permanent and one temporary. The main ramp is located near the marina concession at the northern end of the recreation area (Figure 6-5). The main ramp is a double ramp with a bottom elevation of approximately 2220 feet msl (extended by MFWP in 2002). This ramp has not been usable since 2002. The Boy Scout Point boat ramp is located approximately 0.5 miles south of the marina and has a bottom elevation of 2229 feet msl. The area around this ramp becomes shallow during low water levels and the ramp has not been usable since 2002. A low water ramp with a bottom elevation of 2202 feet msl, constructed by the Corps in 1990 is located north of the marina. In 2005, the Corps constructed a new, temporary low water ramp with a courtesy dock north of the recreation area. This temporary ramp is accessed by a 1.25 mile road to a gravel parking lot with a vault toilet. This ramp is not usable at elevation 2198 feet msl.

The Hell Creek State Recreation Area is located far enough into Hell Creek Bay to be protected from severe wave action, and therefore shoreline erosion is not a serious problem. All facilities and cabins are located far enough from the reservoir not to be impacted by erosion. Past sediment range profiles showed that about 4 feet of sediment deposition occurred in Hell Creek Bay between 1961 and 1972.

e. Visitor Use: The Hell Creek State Recreation Area is one of the most important areas on the eastern portion of Fort Peck Lake for water-oriented and land-based recreational activities. Primary activities include boating, camping, fishing, picnicking, hiking, swimming, waterskiing, hunting, and sightseeing. The area serves as a key water access to Fort Peck Lake on the south side of the lake. Many visitors originate from Jordan, Circle, Glendive, Miles City, Forsyth, and other communities in east-central Montana.

The Jordan/Hell Creek Walleye Tournament, first held in 1987, was the first "big money" tournament to be organized on Fort Peck Lake. This event is held yearly during the last weekend in July. Interest in this tournament, noted for its good fishing, is high, and the 100-team field fills early. Walleye and smallmouth bass are the primary species caught in the vicinity of Hell Creek. Because of the improved facilities, excellent fishing and the Jordan/Hell Creek Walleye Tournament, visitation increased substantially from 1995 to 2003. Visitation has declined somewhat during the current low water years, but is still relatively high (see Table 2-33).

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

- Complete improvements to develop the Hell Creek State Recreation Area into a major regional destination recreation area;
- Provide improved lake access for boating and fishing;
- Provide improved marina facilities;
- Provide recreation facilities for day use and camping;
- Upgrade the quality of habitat for both upland and big game species;
- Provide interpretation of the geologic, paleontological, and historic resources;
- Promote non-consumptive wildland activities such as hiking, hunting, backpacking, photography, and sightseeing;
- Preserve, monitor, and protect any cultural resources;
- Promote ecological integrity by controlling noxious weeds;
- Provide opportunities for the elderly and handicapped to participate in a variety of activities; and
- Maintain the quality, quantity, safety, and diversity of recreational opportunities and facilities.

g. Development Needs: Development needs for this recreation area include the following, not in priority order:

- Maintain recently upgraded facilities;
- Dredge the boat ramp and marina areas as needed to maintain boat access;
- Develop a trail system into the surrounding backcountry;
- Establish additional tree cover in the campground and day use areas; and
- Construct a community sewage system to serve the park, marina, and cabins.

h. Rationale: The easily accessible shoreline in the Hell Creek area makes it attractive for water-oriented recreational activities. At low lake elevations, Hell Creek is the only intensely developed recreation area and marina usable on the south side of Fort Peck Lake. The inherent quality of the resources of the surrounding CMR contributes to the area's wide variety of land-based recreational activities, including hunting, backpacking, hiking, photography, and other backcountry experiences.

Because of its location on the lake, the Hell Creek State Recreation Area should be maintained as a major destination recreation area. This area complements future development at the Crooked Creek, The Pines, and Fort Peck West Recreation areas by offering supplies and fuel for those boaters visiting the middle reach of the Fort Peck project. Dredging may be required in the future to maintain access to boat ramps. If dredging is required, the Corps will conduct a separate EA on the dredging and will comply with Montana Department of Environmental Quality requirements for disposal of dredge materials.

ROCK CREEK RECREATION AREA

a. Land Classification: Recreation - Intensive Use

b. Management Agency: Corps of Engineers/Montana Fish Wildlife and Parks/Direct Concessionaire

c. Location: Rock Creek Recreation Area is located in McCone and Garfield Counties on the Big Dry Creek Arm of Fort Peck Lake, approximately 18 river miles upstream from the dam and 32 highway miles from the town of Fort Peck (Plate 8). The area is accessed via a gravel road leading from State Highway 24, which runs north-south just east of the area.

d. Description: The Rock Creek Recreation Area consists of three separate public use areas: the Rock Creek MFWP fishing access site, the existing Rock Creek Marina (South Fork), and the Proposed Marina location (North Fork). The Rock Creek Cottage Area (Figure 6-6) is also located near these public use areas. The Corps-managed Rock Creek Recreation Area includes approximately 2,800 acres of project lands that are characterized by rolling, grass-covered plains and low buttes. On the north side of Rock Creek Bay, the State of Montana leases 5 acres as a fishing access site. Approximately 0.5 miles to the south, on a small peninsula in Rock Creek Bay, a private concessionaire leases 16 acres from the Corps for operation of the Rock Creek Marina. Also on the north side of Rock Creek Bay, the concessionaire leases approximately 83 acres surrounding the MFWP fishing access site. The Rock Creek Cottage Area with 122 cabin leases is located in six scattered sites at the Recreation Area. Twelve cabins are located on the South Fork.

The Rock Creek Recreation Area includes the following public use areas.

1. Rock Creek MFWP Fishing Access Site. The MFWP formerly operated a State park at the Rock Creek area. In 1991, MFWP indicated it was not interested in maintaining the State park facilities. A new lease for a 5-acre fishing access site was developed and extends to April 2021. The MFWP removed the facilities from the old State park area. These lands will be included with lands out-granted to the USFWS as part of the MOA with the Corps (see the discussion in Chapter 3).

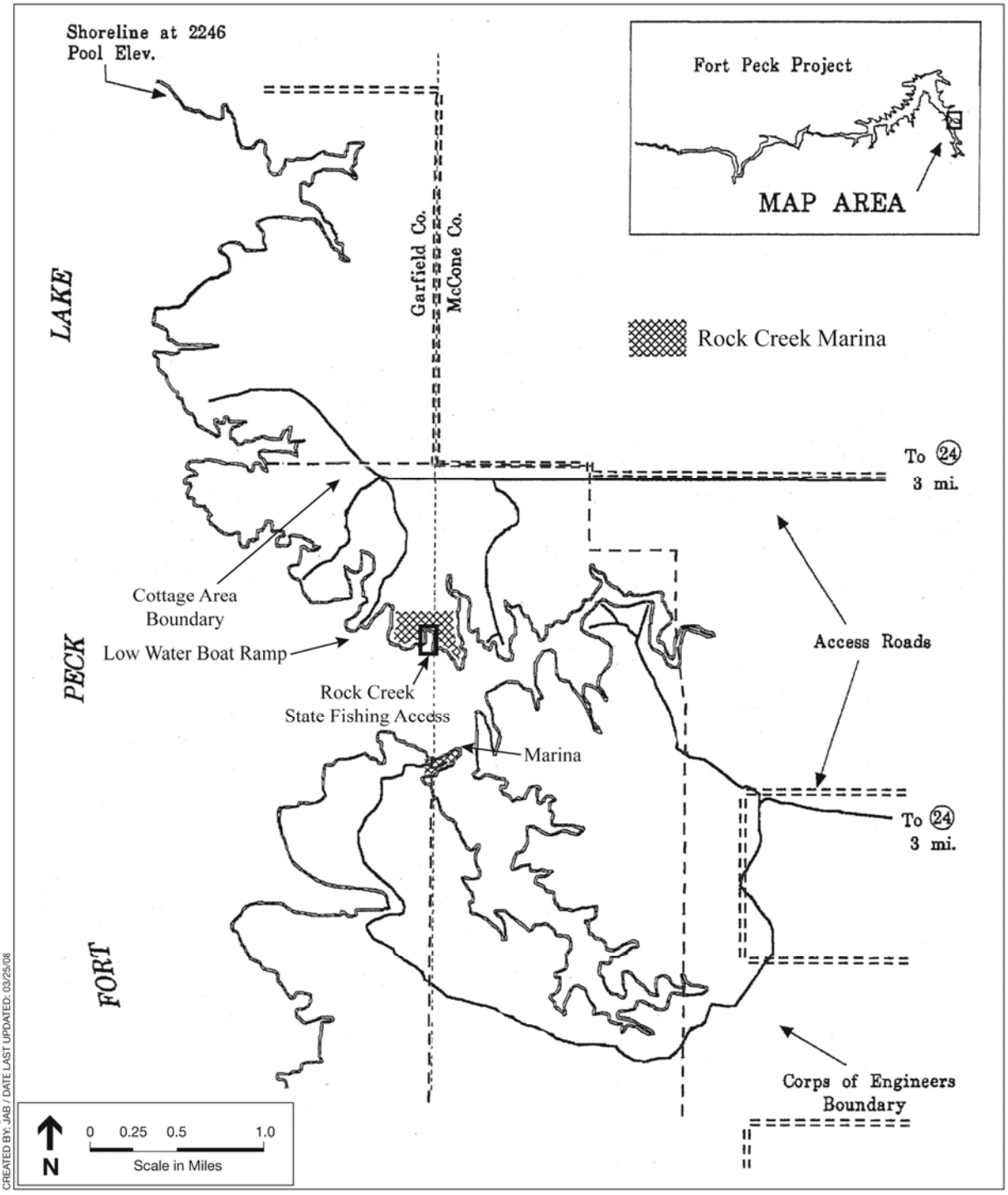
   The MFWP fishing access site is located north of and across Rock Creek Bay from the Rock Creek Marina, within the Rock Creek Cottage Area. Facility development at the site is minimal and includes permanent high (State owned) and low (Corps owned) water permanent ramps, a well, vault toilet, and sail boat rigging pole. The site also includes campsites with picnic tables and fire rings. Access to the MFWP fishing access site is good and during prolonged drought provides the only access on the Big Dry Arm.

2. Existing Rock Creek Marina (South Fork). The 16-acre leased area on the South Fork of Rock Creek occupies portions of Garfield and McCone Counties. The marina and public use area are situated on a narrow peninsula that juts out into Rock Creek Bay to the northeast. Much of the natural vegetation in the immediate vicinity of the marina has been altered and, in some cases, has been replaced with introduced trees, shrubs, and lawn grass.

   A concession has been present at Rock Creek Marina since 1954. The lease has changed hands a number of times and is currently held by a partnership, the Rock Creek Marina and Associates, Inc. The marina facilities include rental boat slips, rental cabins, and a restaurant. In addition, fuel, tackle, and supplies are available at the marina. A l0-year plan submitted by the current concessionaire calls for development of a public campground and playground, expansion of the boat docking facilities, improvement of the boat ramp, expansion of the store and restaurant, and expansion and modernization of rental cabins.

   The original lease for the marina authorized "overnight and vacation housing" consisting of 12 or more "cabin units." Rather than cabin units, the original concessionaire allowed long-term parking of private trailers and mobile homes in the leased area. After many years of negotiation between the Corps, various concessionaires, and the trailer owners, the current use of public land by private trailers was "grandfathered" and allowed to remain under the direct management and control of the concessionaire. Under the terms of the existing lease agreement, permanent placement of additional trailers or replacement of existing trailers will not be permitted. This arrangement recognizes the role and responsibility of the concessionaire to manage the area, the economic contribution of the trailer residents to the viability of the marina concession, and also responds to the desires of the trailer owners to maintain the status quo.

   Special Site Conditions: There are several site conditions that limit future development at the Rock Creek Marina. Although Rock Creek Bay provides excellent deep-draft water access, the marina and public use area are poorly located and difficult to access. Access to the marina is via 5 miles of unimproved road from the end of the all-weather gravel road leading from State Highway 24. The road is impassable when wet and rainy weather conditions often result in vehicles being stranded at the marina until road conditions improve. The road crosses both Corps and USFWS lands and passes through two counties, neither of which has the financial means to invest the substantial amount of money required to upgrade the road to all-weather status.



Fort Peck Dam/Fort Peck Lake Master Plan . 204041.C

SOURCE: Corps, 1992.

Figure 6-6
Rock Creek Recreation Area
Montana

The soils are poorly suited to development, and the peninsula on which the concession is located is exposed to severe wind-wave erosion when the lake is at the normal pool elevation. Past wave action has been severe along the northern shoreline of the peninsula. Wind-wave action at higher lake levels can threaten the marina, the trailers, and other improvements and property.

Although the Montana State Health Department has grandfathered the existing sanitation facilities, the State has placed the concessionaire and the mobile home owners on notice that any modification or new construction of sanitation and water supply facilities will be required to meet State codes and regulations. It will be difficult to accommodate the necessary spacing requirements for new facilities because of limitations with the existing area.

Given the space limitations and other restrictions of the site, the Corps has determined that further development opportunities are limited at the existing Rock Creek Marina location and therefore are difficult to justify. In order to meet the demand and need for improved lake access and recreation facilities on the Big Dry Creek Arm of the lake, the Corps recommends relocation of the existing marina concession to the North Fork area of Rock Creek. The marina owners have indicated an interest in maintaining some facilities on the South Fork to serve the mobile homes. The Corps and the USWFS do not support road development and maintenance at both sites.

3. Proposed Marina Location (North Fork). The Corps has identified an alternative location for relocating and consolidating the Rock Creek MFWP fishing access area and the Rock Creek Marina concession. The relocation would allow for improved recreation facilities and activities and provide an opportunity to develop a destination recreation area for both local and non-resident visitors, improve economic opportunities for the concessionaire, and meet public demand for future expansion on the Big Dry Creek Arm of the lake.

The 83-acre site proposed for public use development is located on the south shore of the North Fork Rock Creek Arm of Rock Creek Bay. The site is located in Garfield and McCone Counties and can be accessed by an all-weather gravel road, the same road that accesses the existing MFWP fishing access site and cottage area.

The area identified for potential public use is relatively flat, with a gently sloping shoreline to the south. The area is bordered by the Rock Creek Cottage Area to the west and east. Open, rolling, grass-covered plains and low buttes extend to the north and east. The vegetation in the area consists primarily of native midgrasses and forbs, with some woody shrubs in small drainage areas.

A series of north-south peninsulas extending into the North Fork Rock Creek Arm provide a natural breakwater system for the area. This

arrangement would eliminate the need for construction of a breakwater, a limiting factor at other nearby sites. The proposed area is also sheltered from strong southeasterly and northwesterly winds by natural barriers of upland ridges and low buttes that will further provide screening of the adjacent cabin development and other manmade features, contributing to the isolated, wildland quality of the area.

The following sections on visitor use, resource objectives, development needs, rationale, and site-specific characteristics apply to the entire Rock Creek Recreation Area.

e. Visitor Use: The Rock Creek Recreation Area is an important regional recreation area serving the entire area east of the Big Dry Creek Arm. It offers the only commercial marina services and supplies south of the dam on the Big Dry Creek Arm. The primary recreational activities in the area include boating, fishing, camping, picnicking, hunting, sightseeing, wildlife viewing, and general dispersed shoreline use.

Although this recreation area covers a large expanse of land, the recreation facility development is concentrated within the designated intensive use areas. The expressed public demand for facilities and services is far beyond the existing level of development. Site conditions at the Rock Creek Marina are limiting factors in satisfying the existing and future demand for recreation facilities and activities in the area.

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

- Develop the area into the major regional destination recreation area on the Big Dry Creek Arm;
- Provide a consolidated public recreation area and marina concession separate and distinct from the Rock Creek Cottage Area;
- Provide lake access for boating and fishing;
- Provide improved marina facilities;
- Provide recreation facilities for day use and camping;
- Provide interpretation of the natural, historic, and geological resources;
- Promote non-consumptive wildland activities such as hiking, hunting, backpacking, photography, and sightseeing;
- Preserve, monitor, and protect any cultural resources;
- Promote ecological integrity by controlling noxious weeds; and
- Provide opportunities for the elderly and handicapped to participate in a variety of activities.

g. Development Need:. Development needs for this recreation area include the following, not in priority order:

- Maintain the current access from State Highway 24 into the North Fork as all-weather;
- Support the relocation of the marina to the North Fork;
- Provide expanded marina facilities to serve powerboats, sailboats, and houseboats. This would include rental slips, boat rentals, supplies, services, and storage;
- Dredge the boat ramp and marina areas as needed to maintain boat access;
- Develop a campground plan for the North Fork;
- Develop overnight accommodations such as cabins and/or a lodge facility;
- Provide a reliable water supply to the fish-cleaning station;
- Provide a reliable potable water supply for the entire area. This could include coordination with the Dry-Redwater Regional Water Authority;
- Provide a dry dock storage area for boats, trailers, and campers;
- Provide separate day-use areas including picnic shelters, a playground, a designated swim beach, and attendant facilities;
- Develop/maintain an alternate low-water boat access point; and
- Provide a hiking/equestrian trail system to access and interpret the area's unique wildland qualities.

h. Rationale: The Rock Creek Recreation Area is the most important public use area on the Big Dry Arm of Fort Peck Lake. Recreation facilities and opportunities fall short of meeting the existing and potential future demand. Site conditions at the existing Rock Creek Marina make the eventual relocation inevitable. The Corps supports relocation of the facilities to the North Fork.

The proposed relocation site was first identified for recreational development and quasi-public use in a revised layout of the Rock Creek Recreational Area presented in the 1947 Fort Peck Master Plan. Originally proposed for development as an organized youth camp, the site has adequate land area to provide facilities for day use and overnight activities to satisfy existing demand as well as future expansion. The site also provides excellent deep-draft water access.

The area was identified as the most suitable site for relocation by a site review team composed of representatives from the Corps, the MFWP, the Rock Creek concessionaires, the Rock Creek Cottage Area, and the Rock Creek Marina trailer owners. The MFWP supports the relocation of the marina facilities to the North Fork where the existing MFWP fishing access site is located. Development of a full-service marina, a modern RV campground, and rental cabins would provide the services and facilities necessary to satisfy public demand and support development of a destination recreation area on the Big Dry Arm of Fort Peck Lake. The proposed relocation site for the Rock Creek Marina and public use area is easily accessible from State Highway 24 and the all-weather road leading to the existing MFWP fishing access site.

Dredging may be required in the future to maintain access to boat ramps. If dredging is required, the Corps will conduct a separate EA on the dredging and will comply with Montana Department of Environmental Quality requirements for disposal of dredge materials.

The Fort Peck Lake shoreline to the west and south of the existing marina and public use areas has been identified as historical nesting habitat for piping plovers, a federally listed threatened species. In response to the nesting activities on the area's sandy substrate by a threatened species, and the fact that the existing sand dunes are unique to the eastern Montana area, the USFWS has proposed that the Rock Creek Sand Dunes be recognized as a Research Natural Area. Conflicting use of the area's nesting beaches between plovers and dispersed shoreline recreation has become a wildlife management problem. In order to protect the area signage has been placed near nesting areas and illegal off-road travel is enforced. Relocation of the existing marina to the designated North Fork marina site may help reduce conflicting uses in this sensitive wildlife area.

i. Special Site Conditions: Special accommodations will be needed to affect a smooth transition from the existing public use area and marina concession to the proposed recreation area. Relocation and development will likely take place over several years. In the interim, the concessionaire should be allowed to operate the existing concession as a satellite while the infrastructure is constructed and the new concession is developed.

Relocation and development will require additional studies. An assessment of the sedimentation impacts for the proposed recreation area including bank erosion, littoral drift, and aggradation should be completed prior to the preparation of final plans for the proposed site. It is recommended that the depth of newly deposited material be verified. Projected erosion lines should also be established. A preliminary assessment of the cultural resources inventories conducted in the area has identified no known cultural resources in the vicinity of the proposed relocation site.

The proposed site for the future recreational development will remain available for general recreation and dispersed shoreline use. No additional development will be allowed until specific site investigations and development plans have been completed.

LOW DENSITY USE AREAS

The following sections describe the seven Corps-managed low density use recreation areas at the Fort Peck project. Development in these areas is limited to facilities that promote or allow public use, but do not greatly alter the natural character of the area. Facilities permitted in these areas include trails, parking areas, boat ramps, vault toilets, picnic tables, and fire rings. Vegetation management, including agricultural activities that do not greatly alter the natural character of the environment, is permitted for a variety of purposes, including erosion control, retention and improvement of scenic qualities, and wildlife management. The seven Corps-managed areas at the Fort Peck project that have been classified for low density recreational use are the Duck Creek, Bone Trail, Fourchette Bay, Devils Creek, Nelson Creek, McGuire Creek, and Flat Lake Recreation Areas. In addition, the USFWS maintains the Rock Creek West, Slippery Ann, and Turkey Joe low-intensity recreation areas.

DUCK CREEK RECREATION AREA

a. Land Classification: Multiple Resource Management: Recreation - Low Density Use

b. Management Agency: Corps of Engineers, Montana Fish Wildlife and Parks

c. Location: Duck Creek Recreation Area, located in Valley County, is approximately 1.5 miles west of the Fort Peck West Recreation Area (Plate 12). It is adjacent to the western extent of the Fort Peck cabin area. This recreation area is accessed by all-weather gravel roads.

d. Description: The Duck Creek Recreation Area is scenic, with level to gently rolling topography. Vegetation in the area consists primarily of crested wheatgrass along the roadways, and prairie grasses on the ridge top. Some shrubs and trees are located in the drainage areas, and a few trees are also scattered along the upland areas.

The Corps manages the majority of the Duck Creek Recreation Area for primitive camping with designated campsites, a vault toilet, and a temporary low water boat ramp. In 1989, MFWP obtained a 12-acre lease within the recreation area for a fishing access site. The MFWP fishing access site includes a boat ramp, courtesy dock, a parking area, two vault toilets, and security lighting.

e. Visitor Use: Primary recreation activities in the area include fishing, boating, swimming, waterskiing, picnicking, primitive camping, and dispersed shoreline use. The area is popular for its gently sloping graveled beaches. The Duck Creek Recreation Area provides excellent all-weather access to Fort Peck Lake. The concrete boat ramp is sheltered from major lake wave action by a long, narrow ridge across the bay to the west, providing fishing opportunities during periods of high wind. Duck Creek Bay is a popular spot for walleye and northern pike fishing. The Duck Creek Recreation Area also experiences a considerable amount of shoreline fishing. Northern pike are taken in the backwater areas during the spring and late

fall. The Duck Creek Recreation Area provides a low-density alternative to the intensively developed Downstream and Fort Peck West Recreation Areas.

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

- Provide resource-oriented development;
- Maintain lake access for boating and fishing;
- Provide separate recreation areas and facilities for day use and primitive camping;
- Provide a buffer between the valuable wildlife areas to the west and the intensively developed public use areas to the east;
- Promote non-consumptive wildland activities such as hiking, backpacking, photography, and sightseeing;
- Preserve, monitor, and protect any cultural resources;
- Upgrade the quality of habitat for wildlife species;
- Provide opportunities for the elderly and handicapped to participate in a variety of activities and;
- Promote ecological integrity by controlling noxious weeds.

g. Development Needs: Development needs for this wildlife management area include the following, not in priority order:

- Maintain existing access and circulation roads and parking areas;
- Improve signage of parking to control conflicting uses during low water periods;
- Improve sanitary facilities near the temporary boat ramps;
- Establish and maintain additional vegetation in the primitive camping and day use areas to provide shade and shelter for visitors and area wildlife.
- Provide picnic shelters for day use by individuals and groups; and
- Establish a hiking trail system to interconnect various points within the Duck Creek Recreation Area.

h. Rationale: The Duck Creek Recreation Area will continue to serve as an important alternative to nearby intensive use areas. The area provides land based and water-oriented recreation consistent with existing visitor-use patterns and responds to expressed and observed public demands for low-intensity recreation.

BONE TRAIL RECREATION AREA

a. Land Classification: Multiple Resource Management: Recreation - Low Density Use

b. Management Agency: Corps of Engineers

c. Location: Bone Trail Recreation Area is located in Valley County approximately 30 miles west of The Pines Recreation Area and roughly 20 miles east of the Fourchette Bay Recreation Area (Plate 12). Access to this area is by 60 miles of gravel and dirt roads that pass through private, BLM, CMR, and Corps lands. The last 0.5 miles of access road has been upgraded, but it contains numerous hairpin turns. The road is passable by most passenger cars during fair weather conditions, but may become impassable by most vehicles under wet road conditions. In 2007, Valley County graveled Willow Creek Road to the Bone Trail turn-off.

d. Description: The Bone Trail Recreation Area is scenic and remote, with level to gently rolling terrain. Moderate to steep slopes are present in some areas, and moderate erosion occurs along the shoreline. Vegetation in the area is composed of midgrasses, forbs, and a few scattered shrubs and trees. Existing development includes permanent high water and temporary low water concrete boat ramps, two vault toilets, a picnic shelter, and seven primitive campsites with tables and grills.

e. Visitor Use: The predominant use of this area is for fishing and hunting access. Visitors to the Bone Trail Recreation Area are primarily local residents from Valley and Phillips Counties. Visitation is light; it is also seasonal, coinciding with early-season fishing and fall hunting. Because of its location midway between The Pines and the Fourchette Bay Recreation Areas, this area also serves as an important takeout location for boaters during bad weather or other emergency situations and during low water periods.

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

- Maintain lake access for boating, fishing, and hunting;
- Provide opportunities for dispersed water-oriented recreation;
- Maintain recreation facilities for day use and primitive camping;
- Maintain the quality, quantity, safety, and diversity of recreational opportunities and facilities;
- Preserve, monitor, and protect any cultural resources; and
- Maintain and manage the existing vegetation to provide habitat for upland game birds and other wildlife species.

g. Development Needs: Development needs for this recreation area include the following, not in priority order:

- Upgrade and maintain the access road to the area; and
- Maintain boat access.

h. Rationale: The Bone Trail Recreation Area should be maintained as a primitive lake access point with limited facility development. The area serves as an emergency takeout point for boaters on the middle portion of the lake. The small land base and the difficult road access limits the potential for development. Maintaining the area with limited facilities lessens the potential negative impact on wildlife habitat in the area.

FOURCHETTE BAY RECREATION AREA

a. Land Classification: Multiple Resource Management: Recreation - Low Density Use

b. Management Agency: Corps of Engineers

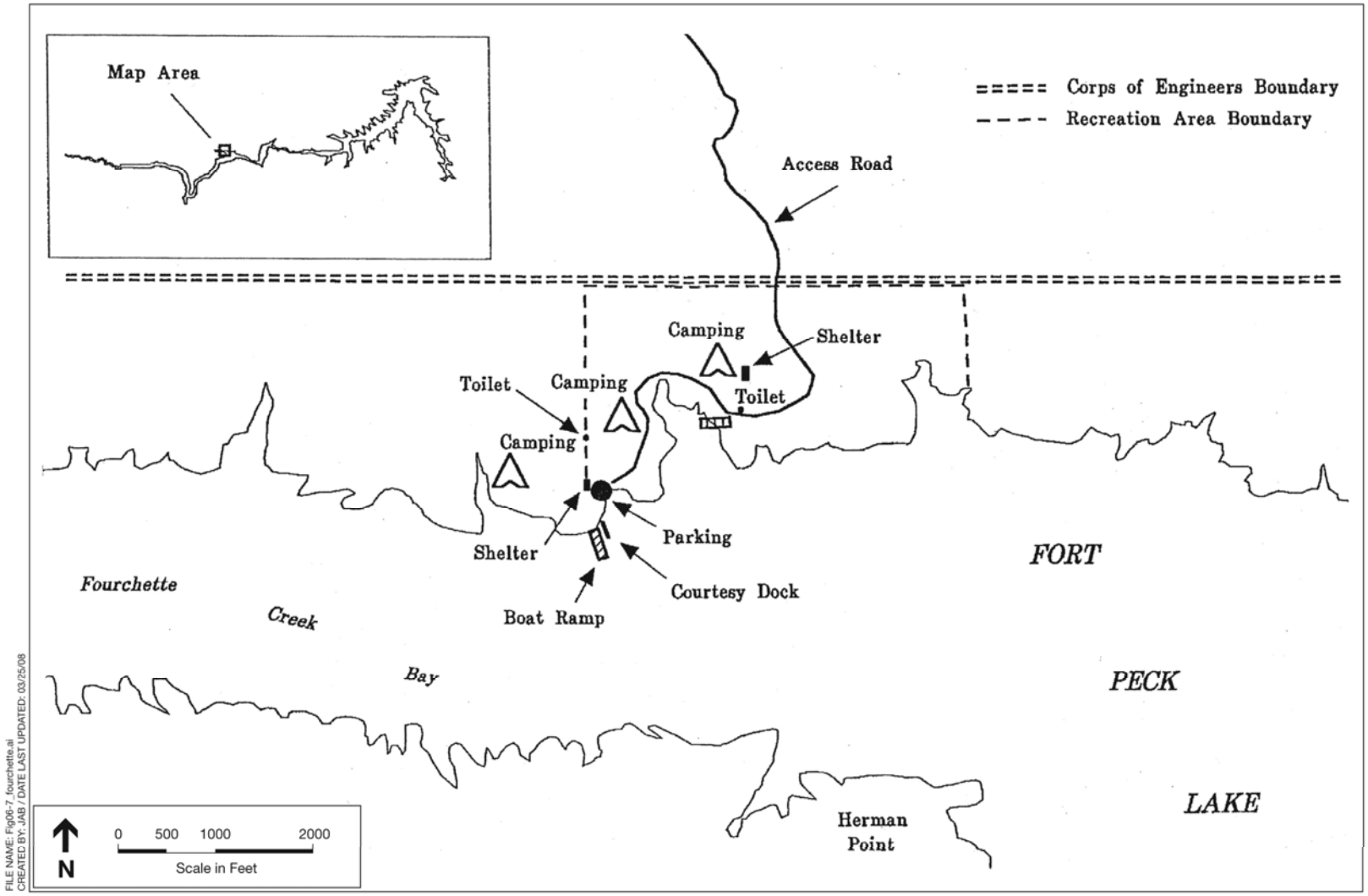
c. Location: Fourchette Bay Recreation Area is located on the north shore of the reservoir near the mouth of Fourchette Creek in southeastern Phillips County (Plate 12 and Figure 6-7). The recreation area is approximately 65 miles upstream from the dam, roughly midway along the length of the reservoir. The remote site is approximately 56 miles south of Malta. The area is accessed by all-weather graveled roads. The first 48 miles of the road are on private land, and approximately 8 miles traverse CMR land. The last 0.5 mile is within the Fort Peck project boundaries.

d. Description: This recreation area covers approximately 80 acres. The landscape of the area is typical of the Missouri Breaks topography, consisting of hilly to very steep areas with barren shale slopes. Vegetation consists of native midgrasses and forbs and a few scattered woody shrubs.

Facilities at Fourchette Bay Recreation Area include a parking area, two vault toilets, 44 designated campsites with tables and grills, two picnic shelters, a boat ramp, and a courtesy dock. In 1989, the access road was upgraded to all-weather status through the cooperative efforts of Phillips County, the USFWS, and the Corps. The Corps did additional road work within the recreation area in 1998. Phillips County worked on upgrading the county portion of access roads again in 2003 and 2004, and the USFWS completed work from the CMR boundary into the recreation area in 2006.

A review of sediment range profiles indicates that Fourchette Bay has a bottom elevation of 2180 feet msl. This is deep enough for boating access and general boating during the normal low pool elevations. The sediment range profiles also show that only about 2 feet of sediment deposition occurred at the mouth of the bay between 1958 and 1972, which does not indicate a major problem. However, since the bay is exposed to a long fetch of open water, consequent heavy wave action could result in shoreline erosion.

e. Visitor Use: The Fourchette Bay Recreation Area is the most significant land and water access site in the northwestern part of the Fort Peck project. It is also the only substantially developed recreation area along the north shore of Fort Peck Lake between The Pines and the James Kipp Recreation Areas. The primary users of this area are the residents of Malta, Lewistown, Havre, Great Falls, and the surrounding small communities. The recreation area also serves an expanded area to the southwest when water access is unavailable at Crooked Creek during low water. The main uses of the Fourchette Bay Recreation Area consist of both water-oriented and land-based recreation activities, including boating, fishing, primitive camping, and hunting.



SOURCE: Corps, 1992.

Fort Peck Dam/Fort Peck Lake Master Plan . 204041.C

Figure 6-7
Fourchette Bay Recreation Area
Montana

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

- Maintain lake access for boating and fishing;
- Maintain recreation facilities for day use and camping;
- Provide an emergency takeout/safety water access point;
- Promote non-consumptive wildland activities such as hiking, hunting, wildlife viewing, backpacking, photography, and sightseeing;
- Preserve, monitor, and protect any cultural resources;
- Maintain the quality, quantity, safety, and diversity of recreational opportunities and facilities;
- Promote ecological integrity by controlling noxious weeds; and
- Upgrade the quality of habitat for both upland and big game species.

g. Development Needs: Development needs for this recreation area include the following, not in priority order:

- Maintain existing primitive camping and day use facilities;
- Provide facilities to promote non-consumptive wildland activities such as hiking, hunting, backpacking, photography, and sightseeing; and
- Develop facilities, such as hitching posts and feeding areas, to accommodate equestrian use.

h. Rationale: Although the terrain is steep and areas of barren shale are present, this area currently receives a great deal of regional use, especially when lake elevations allow access. The year-round, all-weather access roads, the low-water boat ramp, and excellent walleye and smallmouth bass fishing make this location a favorite recreation area for visitors to the northwestern part of the lake. Although the boat ramp was not usable during the 2001 to present low water years, the ramp does remain usable at lower elevations that Crooked Creek. Fourchette Bay serves as an alternate access to the lake for those who would normally use the Crooked Creek access point. Fourchette Bay is also a popular ice fishing access.

The diversity of wildlife habitat, along with the area's isolation, is valuable to wildlife. As a result, the Fourchette Bay area receives considerable hunting pressure. Development should be directed toward maintaining a diversity of wildlife habitat. The rugged topography and steep slopes require careful design and placement of facilities in the limited space available.

Because of the area's distance from all-weather roads and the rough terrain, opportunities for public access to the north side of Fort Peck Lake are limited. The Fourchette Bay Recreation Area plays an important role in providing all-weather access and public use facilities to the region.

ROCK CREEK WEST (PHILLIPS COUNTY) RECREATION AREA

a. Land Classification: Multiple Resource Management: Recreation - Low Density Use

b. Management Agency: U.S. Fish and Wildlife Service

c. Location: The Rock Creek West Recreation Area is located in south Phillips County approximately 10 miles east of the Fred Robinson Bridge (Plate 12). Access to the area is by gravel roads. The site is located along the Missouri River adjacent to the Upper Missouri National Wild and Scenic River and the Upper Missouri River Breaks National Monument.

d. Description: The Rock Creek site is a 3-acre primitive camping area located adjacent to the Missouri River. Terrain is generally flat with steep, eroding river banks. Vegetation in the area is comprised primarily of greasewood, western wheat grass, and cottonwoods.

Because the site is located within the floodplain of the Missouri River, vehicle maneuverability at the site is impossible during wet conditions. The only facilities at the site are a primitive boat launch and a chemical toilet.

e. Visitor Use: Visitation in this recreation area is low during most of the year. Visitors to this site are primarily from Phillips County and counties to the south and west of the CMR. The predominant use for this site is fishing and hunting access. However, during the spring paddlefish season, this area is very popular and crowded conditions exist. Four-wheel drive trucks have no problem launching boats except when the ramp is wet.

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

- Maintain the quality, quantity, safety, and diversity of recreational opportunities and facilities;
- Maintain river access for fishing and hunting; and
- Maintain facilities for day use and primitive camping.

g. Development Needs: Development needs for this recreation area include the following, not in priority order:

- Provide facilities to promote non-consumptive wildland activities such as hiking, hunting, backpacking, photography, and sightseeing;
- Upgrade the existing toilet facilities; and
- Maintain the medium-sized boat ramp to restrict large boats.

h. Rationale: This site should remain a primitive area/river access point with limited facility development. This strategy is in keeping with the CMR management objectives of preserving the rugged and wild nature of the Missouri River Breaks area. Minimizing development will lessen potential negative impact to wildlife and habitat in the area.

SLIPPERY ANN RECREATION AREA

a. Land Classification: Multiple Resource Management: Recreation - Low Density Use

b. Management Agency: U.S. Fish and Wildlife Service

c. Location: Slippery Ann Recreation Area is located in south Phillips County adjacent to the Missouri River approximately 5 miles east of the Fred Robinson Bridge (Plate 12). The area is accessed by gravel roads.

d. Description: The Slippery Ann Recreation Area is a primitive camping area located on the floodplain of the Missouri River. Vegetation in the area is comprised primarily of snowberry and western wheat grass with a mature cottonwood overstory.

The terrain is generally flat with moderate sloped, eroding river banks. Because of the eroding banks, boat launch facilities are not available at this site. Vehicle maneuverability at the site is impossible when the camping area trails are wet. Facilities include a vault toilet, interpretive signs, and an elk viewing area accessed by the Auto-Tour Interpretive Route.

e. Visitor Use: The Slippery Ann Recreation Area is used predominantly for fishing and hunting access. Visitors to the site are primarily from Phillips County and counties to the south and west of the CMR. Like Rock Creek West, this area is very popular during the spring paddlefish and big game hunting seasons and crowded conditions can occur. The Auto-Tour Interpretive Route is popular for wildlife viewing and local communities run bus tours to the area in the fall.

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

- Provide river access for fishing and hunting;
- Promote non-consumptive wildland activities such as hiking, hunting, wildlife viewing, backpacking, photography, and sightseeing;
- Provide and maintain facilities for day use and primitive camping; and
- Maintain wildlife viewing opportunities on the Auto-Tour Interpretive Route.

g. Development Needs: Development needs for this recreation area include the following, not in priority order:

- Upgrade the existing toilet facilities; and
- Provide facilities to promote non-consumptive wildland activities such as hiking, hunting, backpacking, photography, and sightseeing.

h. Rationale: The Slippery Ann Recreation Area is located adjacent to the Missouri Breaks National Monument and the Upper Missouri National Wild and Scenic River. This site should be maintained as a primitive area/river access point with limited facility development. This strategy is in keeping with the CMR management objectives of preserving the rugged and wild nature of the Missouri River Breaks area. Minimizing development will lessen the potential negative impact to wildlife habitat in the area.

TURKEY JOE RECREATION AREA

a. Land Classification: Multiple Resource Management: Recreation - Low Density Use

b. Management Agency: U.S. Fish and Wildlife Service

c. Location: The Turkey Joe Recreation Area is located in northern Fergus County approximately 20 miles east of U.S. Highway 191 on Wilder Trail (Plate 12). Access to the area is by dirt roads and trails that are impassable to all vehicles when wet.

d. Description: The Turkey Joe Recreation Area is a 4-acre primitive camping area located adjacent to the Missouri River. Vegetation in the area is predominantly greasewood, sagebrush, and western wheat grass. The terrain is generally flat with steep, eroding banks. Boat launching is difficult for all but light watercraft. A chemical toilet is the only facility present.

e. Visitor Use: The predominant use for this site is fishing and hunting access. Visitors to the Turkey Joe Recreation Area are primarily from counties to the south and west of the CMR. Although access to the area is difficult, crowded conditions generally exist during the peak of the spring paddlefishing season and during the early portion of the big game archery season.

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

- Promote non-consumptive wildland activities such as hiking, hunting, wildlife viewing, backpacking, photography, and sightseeing;
- Provide and maintain river access for fishing and hunting; and
- Provide and maintain facilities for day use and primitive camping.

g. Development Needs: Development needs for this recreation area include the following, not in priority order:

- Provide facilities to promote non-consumptive wildland activities such as hiking, hunting, backpacking, photography, and sightseeing and;
- Upgrade the chemical toilet facility.

h. Rationale: The Turkey Joe Recreation Area should be maintained as a primitive area/river access point with limited facility development. This strategy is in keeping with the CMR management objectives of preserving the rugged and wild nature of the Missouri River Breaks. Minimizing development will lessen potential negative impacts to wildlife habitat in the area.

DEVILS CREEK RECREATION AREA

a. Land Classification: Multiple Resource Management: Recreation - Low Density Use

b. Management Agency: Corps of Engineers

c. Location: Devils Creek Recreation Area is located on the south shore of the reservoir approximately 48 miles northwest of Jordan in Garfield County (Plate 12 and Figure 6-8). Access to the area is by 56 miles of gravel and dirt roads adjacent to steep slopes with a high potential for erosion and slumping. These roads are impassable when wet.

d. Description: The Devils Creek Recreation Area is located in the Missouri Breaks region. The 400-acre recreation area consists of rugged, open terrain and several small buttes. Vegetation consists primarily of native midgrasses and forbs with a considerable cover of shrubs such as greasewood and sagebrush. A few scattered stands of ponderosa pine can be found in the area. Facilities include permanent high water and temporary low water concrete boat ramps, a vault toilet, a picnic shelter, and six campsites.

The sediment contribution from the 30-square-mile Devils Creek drainage is relatively low compared to adjacent tributary drainages, but the capacity of the embayment is also limited by shallow depths. The Devils Creek Recreation Area is located on the main body of the reservoir and, as such, is exposed to heavy wave action. Severe bank erosion is evident along portions of the shoreline. Because of the erosion, only a few spots along the shoreline are suitable for the construction of a boat ramp.

Prior to the impoundment of the reservoir, State Highway 39 led directly to the Devils Creek site, where a river ferry provided a crossing to southern portions of Phillips County and other localities north of the Missouri River. Ferry service was discontinued at this location in the mid-1930s.

e. Visitor Use: Primary activities include fishing and hunting. This area also serves as an emergency takeout point during times of inclement weather. During periods of low lake elevations, Devils Creek provides important access to the central and western portions of the project. In recent years it has also became a popular ice fishing access.

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

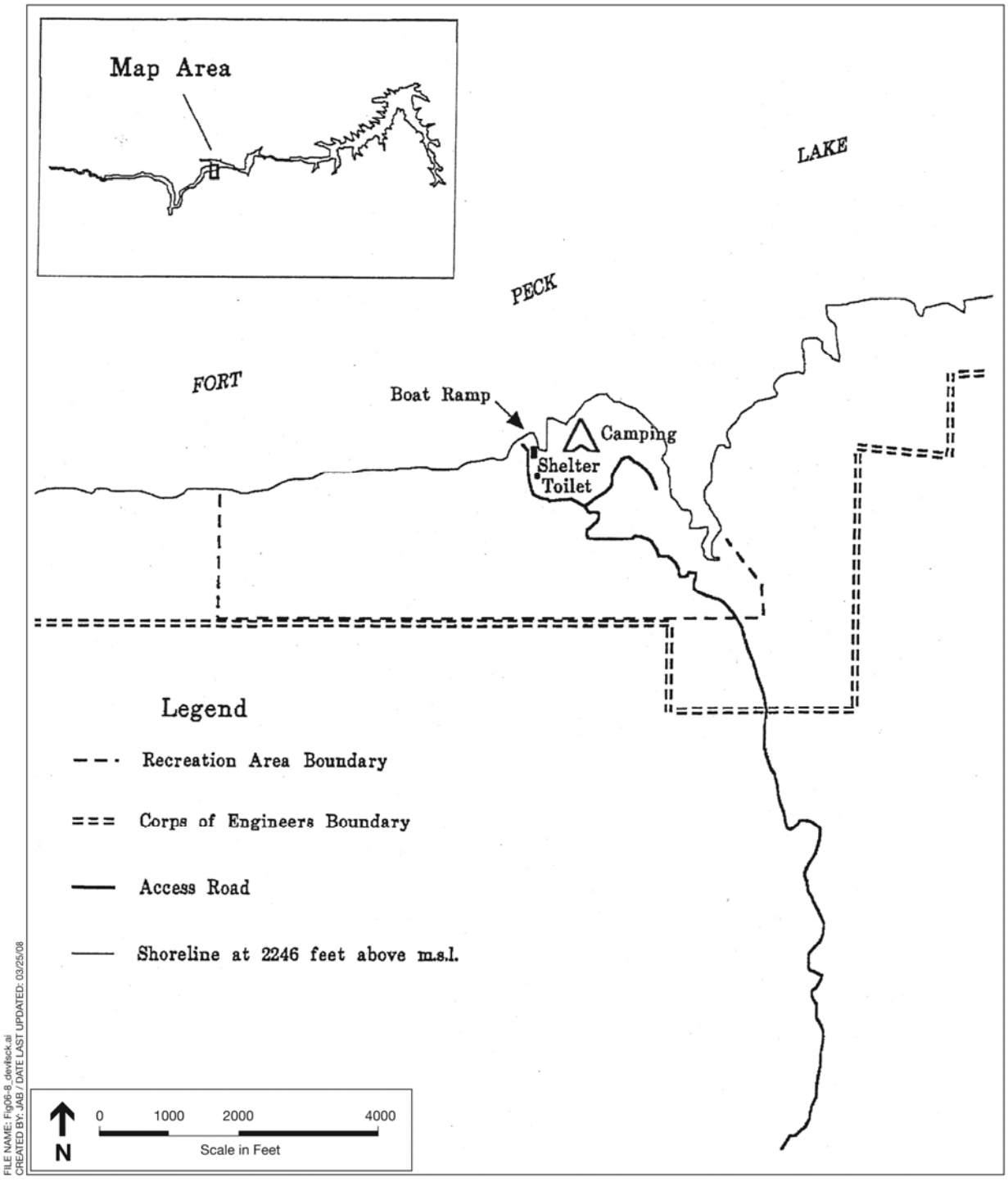
- Provide and maintain lake access for boating, fishing, and hunting;
- Provide opportunities for dispersed water-oriented recreation;
- Provide and maintain recreation facilities for day use and primitive camping;
- Preserve, monitor, and protect any cultural resources;

- Promote non-consumptive wildland activities such as hiking, hunting, wildlife viewing, backpacking, photography, and sightseeing;
- Promote ecological integrity by controlling noxious weeds; and
- Maintain and manage the existing vegetation to provide habitat for upland game birds and other wildlife species.

g. Development Needs: Development needs for this recreation area include the following, not in priority order:

- Improve access roads;
- Develop facilities, such as hitching posts and feeding areas, to accommodate equestrian use;
- Provide facilities to promote non-consumptive wildland activities such as hiking, hunting, backpacking, photography, and sightseeing;
- Control bank erosion where necessary; and
- Promote non-consumptive wildland activities such as hunting, hiking, backpacking, photography, and sightseeing.

h. Rationale: The Devils Creek Recreation Area serves as a primitive lake access point. Maintaining limited facilities at Devils Creek lessens any potential negative impact on wildlife habitat in the area.



Fort Peck Dam/Fort Peck Lake Master Plan . 204041.C

SOURCE: Corps, 1992.

Figure 6-8
Devils Creek Recreation Area
Montana

NELSON CREEK RECREATION AREA

a. Land Classification: Multiple Resource Management: Recreation - Low Density Use

b. Management Agency: Corps of Engineers

c. Location: Nelson Creek Recreation Area is located at the southern end of the Big Dry Creek Arm in McCone County (Plate 12). It is on the bluff at the confluence of Nelson Creek with the reservoir. Covering 468 acres, this recreation area is about 5 miles northwest of State Highway 24 and is accessed by an excellent all-weather gravel road.

d. Description: The Nelson Creek Recreation Area was developed in 1978 with a congressional appropriation of $500,000. Facilities include a two-lane boat ramp, a parking lot/turnaround, a picnic shelter, 30 primitive campsites with tables and grills, a hand pump water well, and four vault toilets. The entire recreation area is fenced.

The terrain around the Nelson Creek Recreation Area is mostly flat except near the shoreline where slopes are moderate and rolling. The sparse vegetation consists of native midgrasses and forbs with few trees. The bluff offers a panoramic view across the Nelson Creek confluence with the Big Dry Creek Arm. A prairie dog colony is located in the area south and east of the recreation area.

The bottom elevation of the boat ramp is 2220 feet msl. Studies in the 1980s indicated that a delta on Big Dry Creek was advancing out into the Big Dry Creek Arm at the rate of about 22 feet per year. Because of this delta advancement and sedimentation, when pool levels drop or drawdown occurs, the Nelson Creek Recreation Area is one of the first areas to lose water access. Because of its sheltered location, this recreation area is well protected from severe wave action. The bank contains coarse materials, and an outcrop of sandstone in the area limits erosion. The boat ramp is well protected by riprap and receives limited exposure to wave action.

Thirteen different soil series are found in this recreation area. Five of these series have steep slopes ranging from 8 to 60 percent and are not suitable for recreational development. The remaining eight soil series have slopes ranging from 0 to 8 percent and have limiting properties for recreational development. Recreation facilities can be designed to minimize or offset these limiting soil properties. The adjacent lands are being grazed by cattle.

The Nelson Creek Recreation Area was surveyed for cultural resources in 1980, and a sparse lithic scatter was identified. The site has not been evaluated for its eligibility for the NRHP.

The MFWP operates a walleye spawning station at Nelson Creek; however, it has not been usable since 2001 because of low water levels.

e. Visitor Use: Visitation to the Nelson Creek Recreation Area has historically been high because this recreation area is the closest one for residents of Sidney, Circle, Glendive, and other communities in eastern Montana. Visitation figures for 2001 to the present are

comparatively low because of the low pool levels in Fort Peck Lake. The recreation area is 3 to 4 miles from the current pool instead of being adjacent to the lake.

When pool levels are higher, the primary activities enjoyed by visitors to this recreation area include fishing, boating, waterskiing, swimming, and camping. When pool levels are normal, walleye fishing is good year-round. In the fall, this area also provides an access point for hunters.

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

- Provide and maintain recreation facilities for day use and camping;
- Provide and maintain lake access for boating, fishing, and hunting;
- Provide opportunities for dispersed water-oriented recreation;
- Maintain and manage the existing vegetation to provide habitat for upland game birds and other wildlife species;
- Preserve, monitor, and protect any cultural resources;
- Promote ecological integrity by controlling noxious weeds; and
- Promote non-consumptive wildland activities such as hiking, backpacking, hunting, photography, and sightseeing.

g. Development Needs: Development needs for this recreation area include the following, not in priority order:

- Improve and sign the internal circulation road;
- Maintain and improve existing day use and camping facilities;
- Provide facilities to promote non-consumptive wildland activities such as hiking, hunting, backpacking, photography, and sightseeing;
- Provide shade by planting trees or building shelters; and
- Interpret the area resources, including displays for prairie dogs and local geology.

h. Rationale: The Nelson Creek Recreation Area is the most southern access point on the Big Dry Creek Arm. The all-weather access road, the excellent boat ramp, and the excellent walleye and smallmouth bass fishing make this area a popular spot for visitors from east-central Montana. The presence of both the prairie dog town and the local geology provide opportunities for interpretation.

Because of development constraints, Nelson Creek should remain an area of limited development designed to minimize impacts to the environment. During low lake elevations, Nelson Creek is the first recreation to lose access to the lake. Soils at the area limit the potential for development. The presence of the prairie dog town near the recreation area and the regional topography also limit potential development. Approximately 55 acres of Low-Density

Recreation land at Nelson Creek will be out-granted to the USFWS and managed for Wildlife Management as part of the cabin sales MOA (see Chapter 3).

MCGUIRE CREEK RECREATION AREA

a. Land Classification: Multiple Resource Management: Recreation - Low Density Use

b. Management Agency: Corps of Engineers

c. Location: McGuire Creek Recreation Area is located in McCone County on the Big Dry Creek Arm of Fort Peck Lake between the Rock Creek and Nelson Creek Recreation Areas (Plate 12). Access to the area is by 7 miles of gravel/dirt road from State Highway 24. The road is of poor quality with numerous hairpin turns and coulee and dry creekbed crossings. The road is impassable by most passenger cars during fair weather conditions. Under wet road conditions, it is impassable by almost all vehicles.

d. Description: The remote McGuire Creek Recreation Area is scenic, with level to gently rolling terrain. Moderate to steep slopes are present along the shoreline. Shoreline erosion is moderate. Vegetation is composed of midgrasses, forbs, and a few scattered shrubs and trees. The area is fenced to restrict livestock. Existing facilities in this area are limited to a vault toilet and 10 primitive campsites with tables and grills.

e. Visitor Use: The predominant use of this area is for fishing and related camping and picnicking. Visitors to the McGuire Creek Recreation Area are primarily local residents from nearby communities. Visitation is light to moderate; it is also seasonal, coinciding with early-season fishing and fall hunting. Some camping occurs during the summer months. The most popular public use area within this recreation area is the south side of McGuire Creek Bay.

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

- Provide and maintain continued lake access for fishing, and hunting;
- Provide opportunities for dispersed water-oriented recreation;
- Provide and maintain recreation facilities for day use and primitive camping;
- Promote non-consumptive wildland activities such as hunting, hiking, backpacking, sightseeing, and photography.
- Preserve, monitor, and protect any cultural resources;
- Promote ecological integrity by controlling noxious weeds; and
- Maintain and manage the existing vegetation to provide habitat for upland game birds and other wildlife species.

g. Development Needs: Development needs for this recreation area include the following, not in priority order:

- Maintain existing primitive facilities to promote non-consumptive wildland activities such as hunting, hiking, backpacking, sightseeing, and photography;
- Improve the access road where feasible; and
- Provide improved signage informing the public of poor road conditions and limited facilities.

h. Rationale: The poor quality of the access road and limited area suitable for development limit significant improvements to the area. Approximately 215 acres of Low-Density Recreation land at McGuire Creek will be out-granted to the USFWS and managed for Wildlife Management as part of the cabin sales MOA (see Chapter 3).

FLAT LAKE RECREATION AREA

a. Land Classification: Multiple Resource Management: Recreation - Low Density Use

b. Management Agency: Corps of Engineers

c. Location: Flat Lake Recreation Area is located approximately 5 miles east of the town of Fort Peck in McCone County and is adjacent to the east spillway (Plate 12 and Figure 6-9). Access to the boat ramp area is by a 1-mile paved road from State Highway 24. Access to the Flat Lake fishing pond is by gravel road.

d. Description: The Flat Lake Recreation Area consists of about 300 acres. Vegetation in the area is sparse and is primarily native grasses and forbs, with some heavy stands of greasewood. Flat Lake, a 15-acre pool, is impounded behind a manmade dam that was constructed in 1973 on a small arm of the reservoir. In the past, Flat Lake has been stocked with fish, primarily rainbow trout, by the MFWP. The conduit running between Flat Lake and Fort Peck Lake not only allows for the exchange of water when lake levels are high enough, but also allows for the passage of fish between the two lakes. As a result, perch, carp, and walleye are sometimes caught at Flat Lake.

e. Visitor Use: The primary users of the Flat Lake Recreation Area are residents of McCone and Valley Counties. This area is also close to the intensive recreation development at the Downstream and Fort Peck West Recreation Areas. Recreation facilities at the Flat Lake Recreation Area include a permanent concrete boat ramp with a bottom elevation of 2204 feet msl, a temporary concrete low water ramp, two vault toilets, four campsites with tables and grills, and a picnic shelter.

The Flat Lake Recreation Area complements the Fort Peck West Marina. The Flat Lake boat ramp is widely used for fishing or hunting in the Big Dry Creek Arm. Having this alternate ramp site on the east side of the reservoir reduces congestion at the Fort Peck Marina during peak visitation periods. During times of inclement or windy weather, the long fetch across the face of the dam is dangerous for boaters trying to travel back to the Fort Peck Marina. The Flat Lake boat ramp provides a safe takeout point on the east side of the reservoir.

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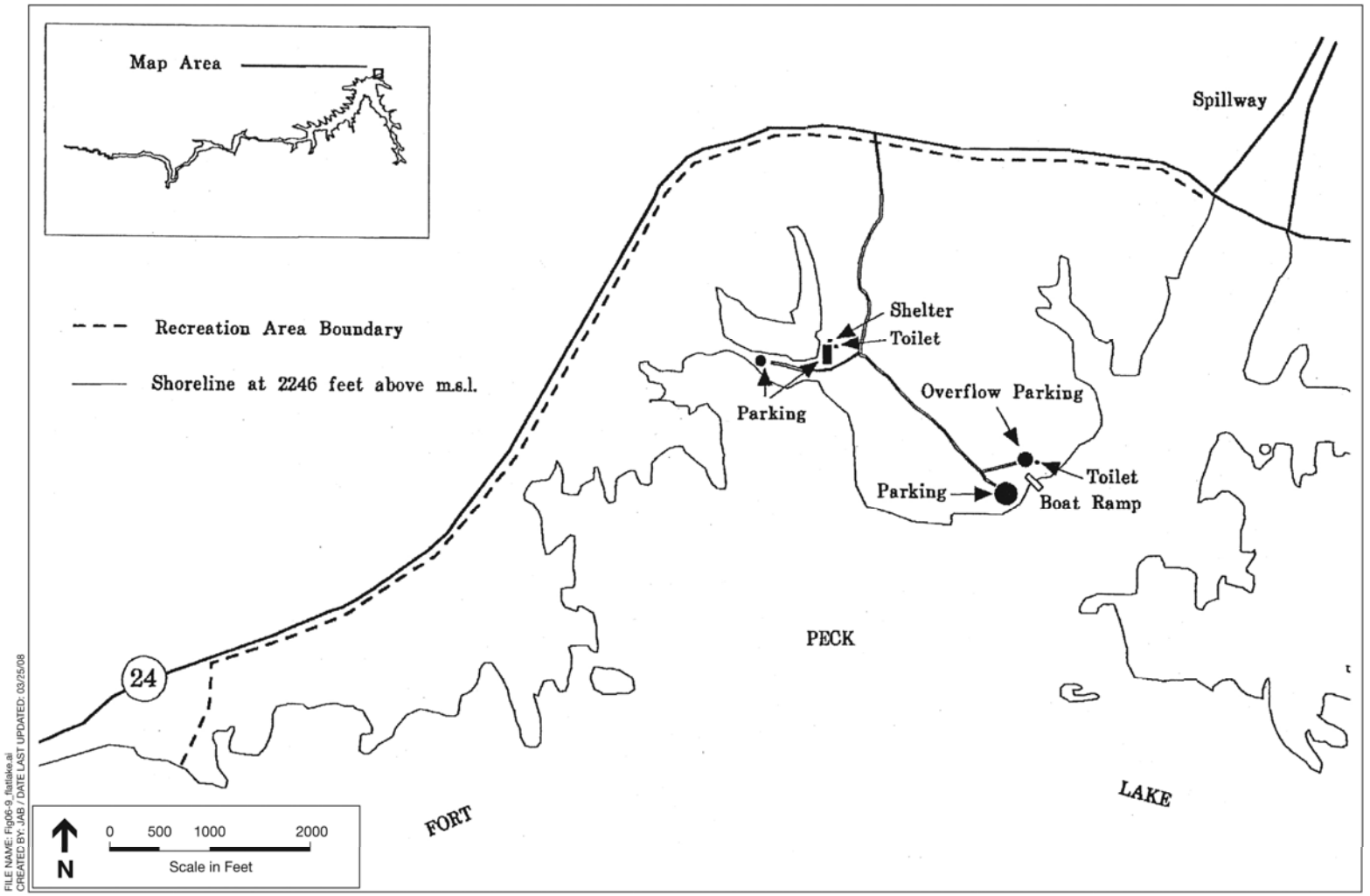

SOURCE: Corps, 1992.

Fort Peck Dam/Fort Peck Lake Master Plan . 204041.C

Figure 6-9
Flat Lake Recreation Area
Montana

f. Resource Objectives: Site-specific resource objectives for this recreation area include the following, not in priority order:

- Provide and maintain access to Fort Peck Lake for boating, camping, fishing, and hunting;
- Provide opportunities for dispersed water-oriented recreation;
- Provide recreation facilities for day use;
- Preserve, monitor, and protect any cultural resources;
- Promote ecological integrity by controlling noxious weeds;
- Maintain the quality, quantity, safety, and diversity of recreational opportunities and facilities;
- Promote wildland activities such as hunting, hiking, sightseeing, backpacking, and photography; and

Maintain and manage the existing vegetation to provide habitat for upland game birds and other wildlife species

g. Development Needs: Development needs for this recreation area include the following, not in priority order:

- Provide and maintain limited primitive camping and shoreline use with low-maintenance minimum facilities;
- Provide and maintain day use facilities such as picnic shelters, tables, and fire rings;
- Control bank erosion where necessary; and
- Maintain the Flat Lake fishery as water quality and quantity permit.

h. Rationale: The Flat Lake Recreation Area serves as a primitive lake access point. Visitors to the area enjoy the remoteness and scenic vistas afforded. Maintaining the area with limited facilities will help protect the important wildlife habitat in the area.

BEAR CREEK RECREATION AREA

The Bear Creek Recreation Area on the Big Dry Arm will be closed and eliminated as a recreation area as part of the cabin sales process described in Chapter 3. Bear Creek is a Low-Density recreation area with limited facilities and minimal visitation. As part of the cabin sales process, the Corps and USFWS entered into a Memorandum of Agreement that will out-grant recreation lands to the USFWS to be managed as Wildlife Management (U.S. Corps and USFWS, 2005). The lands that will be transferred include all of the Bear Creek Recreation Area. As part of the agreement between the Corps and USFWS, the Corps will remove the existing recreation facilities at Bear Creek, including the shelter pad, vault toilet, fire rings and picnic table. Access to the area for primitive camping and low impact recreation will remain, but the facilities will no longer be maintained.

7. ALTERNATIVE RESOURCE PLANS AND A COMPARISON OF POTENTIAL ENVIRONMENTAL IMPACTS

Chapter 7 describes and compares two alternative plans for managing, preserving, developing, or enhancing natural and man-made resources at the Fort Peck project. The alternatives include the Preferred Alternative and the No Action Alternative. The alternatives are described and the evaluation of potential effects of each alternative is presented later in this chapter.

PLAN FORMULATION

The Corps developed the alternatives for the Fort Peck Master Plan update in consultation with the USFWS, BLM, and MFWP. The USFWS, BLM, and MFWP provided input on proposed development for recreation areas they manage. The Corps also considered public comments that were submitted during the scoping period (see Chapter 4).

To develop the alternatives, the Corps considered:

- Development and improvement needs at existing recreation areas;
- Needs for resource protection;
- Visitation trends; and
- Public requests for development improvements.

The alternatives also incorporate revisions to Federal regulations, changes to socioeconomic conditions in the project area, and improvements that have been made at Fort Peck since the 1992 Master Plan.

The project-wide resource objectives formed the basis for establishing development needs at the project recreation areas. Specific development needs for each recreation area are presented in Chapter 6. These development needs were evaluated to formulate the Preferred Alternative. The major consideration in developing the alternatives was the overriding project objective (see Chapter 1):

> To give priority to the preservation or improvement of wildland values in all public use planning, design, development, and management activities.

The Preferred Alternative for Master Plan update proposes development or enhancement of facilities within existing recreation areas; however, no new roads for lake access are proposed. Some members of the public suggested such expansions in scoping comments. The Corps has considered expansion, but has determined that conditions do not warrant additional recreation areas during the foreseeable future. Visitor demand can be met by improvements at existing recreation areas for the foreseeable future. The Corps will consider additional expansion, if warranted, in future plans or supplements to this plan.

There are several limitations to creating new recreation areas at Fort Peck. A major limitation is access. Soil types make construction and maintenance of new roads difficult. The soils expand when wet, making dirt roads impassable and increasing maintenance of all-weather roads. Because of the distance of the lake shore from major roads, extensive road construction would be required to access new recreation areas. The long distances also restrict providing power and other utilities.

The development of recreation facilities at Fort Peck is also limited by the surrounding CMR Wildlife Refuge. The uses of the Fort Peck project lands must be compatible with the adjacent refuge lands. For that reason, most of the Fort Peck project lands have been classified as Environmentally Sensitive (approximately 28 percent) and Wildlife Management (approximately 68 percent). For a description of the Environmentally Sensitive and Wildlife Management classifications, see Chapter 5.

Because of these limitations on development, the Preferred Alternative proposes relatively minor changes to the 1992 Master Plan. The Preferred Alternative includes additional upgrades and expansions of facilities at existing recreation areas. It also includes improvements to natural resources and actions to make the Master Plan current with existing conditions and regulations.

The Master Plan update does not address water management of Fort Peck Lake or dam operations. Water management is established by the Corps Missouri River Basin Water Management Division, Northwestern Division and is described in the Missouri River Mainstem System Master Water Control Manual (Master Manual). The Master Plan update also does not address fisheries management and game hunting, which is primarily the responsibility of MFWP, or wildlife management, forage and grazing, and nongame hunting on the CMR, which is the responsibility of the USFWS. Therefore, the Master Plan update focuses primarily on recreation management. It also addresses water quality and the management and stewardship of cultural, historic, paleontological and natural resources.

Under both the Preferred Alternative and the No Action Alternative, the Corps would continue to implement its other management plans and comply with existing regulations that relate to management of project lands. These include the:

- Programmatic Agreement with USFWS regarding wildlife and grazing management;
- Missouri River Mainstem System Master Water Control Manual (Master Manual) which governs reservoir operations;
- Programmatic Agreement being developed with the Museum of the Rockies regarding paleontological resources;
- Fort Peck Cultural Resource Management Plan;
- Fort Peck Shoreline Management Plan; and
- Programmatic Agreement for the Operation and Management of the Missouri River Mainstem System for Compliance with the National Historic Preservation Act.

It is anticipated that the Master Plan update will be effective for approximately 20 years. Supplements will be prepared when needed. When specific actions are taken, the Corps will prepare separate EAs to evaluate potential impacts.

DESCRIPTION OF ALTERNATIVES

THE NO ACTION ALTERNATIVE

Under the No Action Alternative, this proposed Master Plan update would not be adopted and the 1992 Master Plan would remain in effect. The Corps would continue to implement actions under the 1992 Plan. The Corps would continue to maintain and upgrade existing facilities as outlined in the 1992 Master Plan. However, new proposals contained in the Master Plan update would not be implemented. The No Action Alternative would not meet the purpose and need of the Master Plan (Chapter 1). The purpose of the Master Plan is to provide guidance in Corps decision-making and provide a framework for development and implementation of the Operational Management Plan (OMP) and Annual Management Plans. The Master Plan must be kept current to provide effective guidance.

THE PREFERRED ALTERNATIVE

The Preferred Alternative proposes a low level of development at Fort Peck. The Preferred Alternative includes proposals to upgrade and expand facilities at existing recreation areas. The Preferred Alternative responds to the changes that have taken place since the 1992 Master Plan was adopted, including the closure of recreation areas around the lake and new facilities such as the Interpretive Center. The Preferred Alternative proposes additional upgrades and expansions, described below and in more detail in Chapter 6, based on changed economic conditions and visitation patterns. The Preferred Alternative also incorporates more natural resource management improvements than the No Action Alternative. These improvements are proposed to address recent problems, such as erosion and degraded water quality, and to help implement the Corps' Environmental Operating Principles (discussed below). No new recreation areas would be established and the existing land use allocations would not change under the Preferred Alternative. Land use allocation changes would occur as part of the Memorandum of Agreement with USFWS for the cabin sales (see Chapter 3), but that process is separate from this Master Plan. The Preferred Alternative proposes resort development at the Fort Peck West and The Pines recreation areas.

Upgrades and expansions would include:

- Expanding camping facilities at the Downstream, Fort Peck West, and Rock Creek areas;
- Developing potable water supplies at The Pines and Rock Creek;
- Improving sewage treatment at Hell Creek;
- Improving boat ramps as needed;
- Installing equestrian facilities at Crooked Creek, Fourchette Bay, and Devil's Creek;

- Improving day use facilities throughout the project;
- Replacing aged facilities; and
- Encouraging and facilitating the development of resort facilities at Fort Peck West and The Pines.

In addition the Corps proposes to increase interpretive facilities in the Downstream Recreation Area and at other project locations. Natural resource proposals include:

- Planting additional trees;
- Reestablishing a cottonwood bottom land forest at the Nelson Dredge area;
- Controlling erosion at Fort Peck West;
- Managing fire fuels at The Pines Recreation Area;
- Restoring native prairie at the wildlife viewing pasture west of the Fort Peck Townsite;
- Maintaining and improving tern and plover habitat on the lake shore and river below Fort Peck Dam; and
- Continuing to support studies evaluating the effects of river flows and water temperature on pallid sturgeon.

The Preferred Alternative includes encouraging the development of resort facilities at Fort Peck West and The Pines Recreation Areas. The resort facilities would be developed by private lessees at the recreation areas. At The Pines, resort development could utilize facilities at the existing Youth Camp or could be developed on other property that would be out-granted to the lessee. The Youth Camp has facilities for equestrian use and an equestrian-oriented resort could be appropriate. Development at The Pines would be limited to the area currently designated for Recreation - Intensive Use. At Fort Peck West, the existing marina out-grant could be used for resort development. To provide adequate land base for the resort, the Corps may expand the out-grant area and relocate existing day use facilities.

More detailed information on the proposed actions associated with the Preferred Alternative is located in Chapter 6. Chapter 6 includes a description of each recreation area, its resource objectives for development, and development needs.

EVALUATION AND COMPARISON OF POTENTIAL EFFECTS OF THE ALTERNATIVES

This section describes the No Action Alternative and Preferred Alternative's expected beneficial and adverse impact on the affected environment. Neither of the alternatives is expected to result in significant effects to the natural, human, or cultural environment. Any major development undertaken to implement the Master Plan would require additional NEPA review through an EA or Environmental Impact Statement prior to construction.

THE NO ACTION ALTERNATIVE

Under the No Action Alternative, the Corps would continue to implement the 1992 Master Plan. Existing recreation facilities would be maintained and improvements and developments outlined in the 1992 Plan would continue to be implemented as funds become available.

This alternative would result in the least impacts from construction, but would also result in the fewest improvements to recreation facilities, interpretive displays, and natural resource protection. There would be no erosion protection at Fort Peck West and no water supply improvements to The Pines or Rock Creek.

The No Action Alternative would not meet the public needs and desires for recreation area improvements. This alternative also would have limited potential for increasing visitation because few improvements to recreation facilities are proposed. Carrying capacity at some recreation areas could be exceeded if facilities are not expanded.

THE PREFERRED ALTERNATIVE

The Preferred Alternative includes many of the same plans as the 1992 Master Plan, but it also includes additional improvements and expansions. The Preferred Alternative proposes improvements to water supplies and wastewater treatment, new equestrian facilities, and expanded and/or enhanced campground facilities.

Expanding recreation facilities under this alternative would result in greater construction-related impacts than the No Action Alternative, but would also provide more improved facilities and increased recreational opportunities. The new equestrian facilities at Fourchette Bay, Crooked Creek, and Devil's Creek and the additional interpretive trails would increase land based recreation activities. The expanded camping facilities would not only increase the number of camping sites, but expand the type of camping by increasing RV sites, tent-only sites, and group camping. The expanded recreational facilities would better meet the public needs and desires for recreation area improvements. The facilities would also provide additional capacity to serve future increases in visitation.

The Corps anticipates that visitation to the Fort Peck project would continue to increase in the future. Even with continuing low lake levels, visitation at many recreation areas has increased moderately since the low levels at the beginning of the drought. When lake levels recover, visitation is likely to increase at rates similar to the pre-drought increases. The improvements and expansions proposed in the Preferred Alternative are intended to accommodate those visitation increases and minimize impacts to surrounding resource lands.

In order to maintain access to boat ramps in some recreation areas, the Corps may have to dredge those areas. If dredging is initiated, the Corps would complete a separate EA to assess the impacts. The State of Montana requires that dredge materials be tested for contamination and disposed of on an upland site. If the dredged materials are contaminated, the materials would be treated and/or disposed of in accordance with State requirements.

The Preferred Alternative proposes additional natural resource protection measures, including additional tree planting at many recreation areas, reestablishing a cottonwood bottom forest in the Downstream Area, and restoring native prairie at the wildlife viewing pasture. The Corps would also implement measures to control erosion at the Fort Peck West Recreation Area. The Corps will work with cabin owners at The Pines and with cabin owners and marina operators at Rock Creek to develop potable water supplies. At Hell Creek, the Corps will cooperate with MFWP, Hell Creek Marina, Inc., and the cabin owners to improve potable water supplies and waste water treatment. These actions will improve habitat conditions and water supply and water quality, improving natural resource management at the project. The management of fire fuels at The Pines would help reduce wildfires. Maintaining and improving piping plover and least tern may improve conditions for those ESA listed species.

Increased resort development at Fort Peck West and The Pines would be expected to attract additional visitors to these areas and have a positive impact on economic activity for the Fort Peck area. In addition, the resorts would provide a variety of recreation activities at the area.

Current conditions at Fort Peck make it unlikely that substantial development would occur in the near term. The low lake levels, combined with the isolation of Fort Peck Lake from large population areas, make the economic viability of any resort development uncertain. Although the 1992 Master Plan included resort development as a resource objective at two recreation areas, no private parties expressed any interest to the Corps. The existing private concessions at Fort Peck Lake have faced economic hardships with the low lake levels.

COMPARISON OF IMPACTS

Table 7-1 summarizes the potential beneficial and adverse impacts of the No Action and Preferred Alternatives. Generally the anticipated impacts would be the same for the two alternatives except there would be slightly increased construction related impacts under the Preferred Alternative because of the additional development of recreation facilities, especially the proposed resort development at Fort Peck West and The Pines. Because the Preferred Alternative includes additional natural resources management improvements, beneficial impacts are anticipated to water quality, vegetation associations, visitation and recreation activities, and interpretive facilities. Specific actions that are undertaken to implement the Master Plan will undergo separate environmental analysis.

Table 7-1. Summary of Impacts for the No Action and Preferred Alternatives

Affected Areas	*No Action Alternative*	*Preferred Alternative*
Land Accessibility	No changes to land accessibility; and no new roads are proposed. The Corps would continue to maintain existing roads that are under its management control.	Same as No Action Alternative.
Climate	No impacts anticipated.	No impacts anticipated.
Topography, Geology and Mineral Resources	No impacts anticipated.	No impacts anticipated.
Paleontology Resources	Resources would continue to be managed under existing policies and regulations. Corps would coordinate with Museum of the Rockies to survey resources.	Impacts anticipated. Corps would coordinate with Museum of the Rockies to survey resources.
Soils	No impacts anticipated.	No impacts anticipated.
Hydrology and Groundwater	No impacts anticipated.	No impacts anticipated.
Reservoir Operations	The Master Plan does not affect Reservoir Operations. The Corps would continue to operate Fort Peck Lake in coordination with other Missouri River reservoirs under the Missouri River Mainstem System Master Water Control Manual (Master Manual).	Same as the No Action Alternative.
Sediment and Erosion	The Corps would not implement measures to reduce erosion at Fort Peck West. Continued erosion of the campground area would be expected.	The Corps would install riprap or implement other measures to control erosion at Fort Peck West. Decreased erosion would be expected.
Water Quality	The Corps would continue to participate in the TMDL process for the Missouri River. No improvements to water supplies or treatment.	The Corps would continue to participate in the TMDL process for the Missouri River. In addition, the Corps would cooperate to improve potable water supplies and wastewater treatment at The Pines and Rock Creek, and Hell Creek Recreation Areas. Dredging may be required to maintain access to boat ramps at Fort Peck West, Hell Creek, and Rock Creek. Dredging would require Federal and State permits. Dredged materials would be disposed of on approved upland sites and be tested and treated for contaminants if required in accordance with MDEQ requirements.
Vegetation Associations	Recreation area development is unlikely to impact native vegetation since the areas are already disturbed. The Corps would continue with limited tree planting and revegetation plans.	Same construction impacts as the No Action Alternative. The Preferred Alternative proposes increased tree planting, reestablishing a cottonwood bottom forest, managing fire fuels at The Pines, and native prairie restoration at the wildlife viewing area. These actions would have a beneficial effect on vegetation.

Affected Areas	*No Action Alternative*	*Preferred Alternative*
Fish and Wildlife	No impacts anticipated.	No impacts anticipated. Vegetation improvements are intended to improve wildlife habitat.
Threatened and Endangered Species	No impacts anticipated.	Expanded shoreline development at Fort Peck West could impact potential piping plover nesting areas, although there are no nests there currently. Maintaining and improving piping plover habitat would benefit that species.
Terrestrial Invasive Species / Aquatic Nuisance Species	The Corps would continue to work with Federal, State, and local agencies to control invasive and nuisance species.	Same as the No Action Alternative.
Air Quality	Minor, temporary dust impacts during construction of improvements at recreation areas.	Same as the No Action Alternative, but larger-scale improvements and resort development at Fort Peck and The Pines may generate more dust and diesel fumes.
Noise	Minor temporary noise increases during construction of improvements at recreation areas.	Same as the No Action Alternative, but resort development at Fort Peck West and The Pines may generate more noise.
Visual Quality	Minor changes at recreation areas as facilities are improved. These changes are not expected to affect overall visual quality at the project area. Some facility developments may be considered visual improvements.	Same as the No Action Alternative, but resort development at Fort Peck West and The Pines would result in increased changes at recreation areas.
Cultural Resources	Cultural resources could be disturbed during construction of facility improvements. The Corps would implement measures in the Cultural Resource Management Plan and require contractors to report any cultural artifacts discovered during ground-disturbing activities.	Same as the No Action Alternative. There would be a slightly increased potential for disturbance with resort development. The Corps will follow the PA requirements for consultation and will prevent or mitigate potential impacts.
Socioeconomic Conditions	Provides few opportunities for economic development.	Expanded recreation facilities could increase economic development. Resort development could further increase economic development, but current economic conditions do not support such development.
Visitation and Recreation Activities	On-going upgrades to recreation areas would improve facilities for visitors. No new types of recreation activities are proposed in the 1992 Master Plan.	Improved and expanded recreational facilities would help meet future increased demand. Proposed additions to camping facilities would increase the number of sites and also expand the type of camping sites available. The proposed equestrian facilities at Fourchette Bay, Crooked Creek and Devil's Creek would provide new opportunities for land-based recreation. Resort development would expand the type of recreation facilities available to visitors.
Interpretive Facilities	The Corps would continue to maintain existing interpretive facilities.	The Corps would add interpretive facilities at various recreation areas. The BLM would add an interpretive trail at James Kipp and MFWP would add trails at Hell Creek.

CUMULATIVE EFFECTS

Cumulative effects are those that result from the incremental effects of the action when added to past, present, and reasonably foreseeable future actions within a region. The scope of this cumulative effects analysis includes the impact of land reclassification under the proposed Master Plan on lands surrounding Fort Peck Lake.

a. Past Actions. Numerous cumulative effects from past actions have occurred throughout the Fort Peck area and have impacted wildlife habitat and other aspects of the environment. Construction of Fort Peck Dam; filling of Fort Peck Lake; construction of the downstream dams and reservoirs; management of the Missouri River for flood control, navigation, water supply, and hydropower; development of the Missouri River floodplain for agricultural and residential uses; and alteration of the Missouri River channel have caused dramatic changes to the entire Missouri River system. These anthropogenic changes have caused cumulative effects to resources, ecosystems, and human communities. The Missouri River system is now primarily a passive, controlled system with reduced natural communities and habitats. Without a complete restoration of the Missouri River basin to its original ecological condition, these cumulative effects will not be reversed.

At Fort Peck, the construction of the dam impounded the Missouri River and created a large water body in an arid area. This altered both riverine and upland habitat conditions. The Fort Peck project is unique among the other Missouri River projects because the lands surrounding Fort Peck Lake are included in the CMR. This has protected and helped minimize effects to upland wildlife habitat. In addition, recreation areas are concentrated in limited areas, further reducing effects to the shoreline and upland habitat. The Corps and USFWS have reduced the number of recreation areas and access roads around Fort Peck Lake in the last 20 years. These closures have concentrated recreation impacts in a limited number of areas.

b. Present and Future Actions Associated with the Master Plan Alternatives. Neither the No Action Alternative nor the Preferred Alternative will change land classifications at the Fort Peck project. The lands surrounding Fort Peck Lake are primarily classified as Environmentally Sensitive or Wildlife Management. These classifications minimize impacts from human uses of the lands surrounding Fort Peck Lake (see Chapter 5). No new recreation areas are proposed in the Fort Peck Master Plan update. The Bear Creek Recreation Area is being closed as part of the Programmatic Agreement between the Corps and the USFWS (see the discussion in Chapter 6). The access road will remain, but facilities will be removed and the land will be managed by the USFWS as Wildlife Management. The old Rock Creek State Park lands and some land at McGuire Creek and Nelson Creek will also be removed from recreation area lands and will be managed by USFWS for wildlife. Most facilities have already been removed. Existing road access will remain. This will have a minor beneficial effect by reversing anthropogenic impacts on project lands.

The resource protection measures included in the Preferred Alternative will have minor incremental benefits on wildlife habitat and water quality. Increased tree planting will provide some additional wildlife habitat. Establishment of a cottonwood bottom forest in the

Downstream Area would benefit riparian habitat on the downstream portion of the Missouri River and would play a contributing role in the Corps' Missouri River Recovery Program.

c. Cumulative Effects Conclusion. Neither of the proposed Master Plan alternatives would contribute to significant negative or beneficial cumulative effects or dramatically reverse the effects of past actions. There are some minor beneficial effects that may potentially reduce the adverse cumulative effects that have occurred on the lands surrounding Fort Peck Lake. The updated Master Plan includes additional objectives for resource management. These resource objectives would help guide the use, development, and management of natural and manmade resources at the Fort Peck project. Resource objectives and development needs have been developed for each recreation area at Fort Peck Lake. These objectives and development needs have considered authorized project purposes, applicable Federal laws and directives, resource capabilities, regional needs, plans and goals of regional local governmental units, and expressed public desires. Implementation of these resource objectives and development needs may incrementally or slightly reduce cumulative effects.

COMPLIANCE OF THE MASTER PLAN WITH THE CORPS' SEVEN ENVIRONMENTAL OPERATING PRINCIPLES

In 2003, the Corps adopted seven environmental operating principles (EOPs). The purpose of the operating principles is to guide "the ways in which the U.S. Army Corps of Engineers missions must be integrated with natural resource laws, values, and sound environmental practices" (U.S. Army Corps, 2003). The Corps is integrating the Environmental Operating Principles into its business activities.

The following sections explain how the Fort Peck Dam/Fort Peck Lake Master Plan fulfills all seven Environmental Operating Principles.

ENVIRONMENTAL OPERATING PRINCIPLE #1.

Strive to achieve environmental sustainability. An environment maintained in a healthy, diverse, and sustainable condition is necessary to support life.

The Corps has worked collaboratively with Federal and State agencies to propose development plans that maintain a healthy, diverse and sustainable environment at Fort Peck. The Corps has also coordinated with Federal, State and local agencies and non-governmental organizations to develop, manage, and monitor resources at Fort Peck. The Corps works with the USFWS and MFWP to manage fish, wildlife and vegetation at the project.

The alternatives proposed in the Master Plan update are intended to maintain a healthy, diverse, and sustainable environment at Fort Peck Lake. The Master Plan does not propose developing new recreation areas, only upgrades and expansion of facilities at existing recreation areas. This will allow recreational needs to be met while continuing to protect the environment around Fort Peck Lake.

Most of the Fort Peck project lands are classified as Environmentally Sensitive or Wildlife Management and no changes are proposed to those classifications.

ENVIRONMENTAL OPERATING PRINCIPLE #2.

Recognize the interdependence of life and the physical environment, and consider environmental consequences of Corps programs and activities in all appropriate circumstances.

In the Master Plan, the Corps considers the interrelationships of human activities and the natural environment. These interrelationships are described in Chapter 2 of the Master Plan and evaluated in the previous section of this chapter. The EA considers the environmental consequences of the proposed recreational development and resource protection proposals in the Master Plan. These consequences are considered from both the scientific and legal perspective. Specific actions that are undertaken to implement the Master Plan will undergo separate environmental analysis.

ENVIRONMENTAL OPERATING PRINCIPLE #3.

Seek balance and synergy among human development activities and natural systems by designing economic and environmental solutions that support and reinforce one another.

The proposed Master Plan for the Fort Peck project seeks balance and synergy between human development and natural systems by focusing development activities in limited areas around the lake. This allows increased recreation development, but limits environmental damage. In addition, the Corps proposes actions, such as additional tree planting, vegetation restoration, and improvements to water and sewage systems. These will improve habitat conditions and water quality. The USFWS has closed roads to improve wildlife habitat on the CMR. The Corps worked with cabin associations and counties to upgrade roads and identify roads within recreation areas by number system to better serve access and routine maintenance. The proposed Master Plan continues the Corps policy to minimize environmental damage by focusing development activities in limited areas around the lake

ENVIRONMENTAL OPERATING PRINCIPLE #4.

Continue to accept corporate responsibility and accountability under the law for activities and decisions under our control that impact human health and welfare and the continued viability of natural systems.

This Master Plan/EA fulfills the requirements of the National Environmental Policy Act of 1969 (NEPA, 42 U.S.C. 4321-4347), which establishes a policy to " …encourage productive and enjoyable harmony between man and his environment; promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; enrich the understanding of ecological systems and natural resources important to the Nation …" The Master Plan/EA fulfills NEPA by:

- Describing the existing environmental conditions (Chapter 2) and environmental consequences associated with the proposed action on (but not limited to) the following resources: water quality, vegetation, fish and wildlife, threatened and endangered species, cultural resources, and socioeconomic resources; and
- Identifying and comparing the incremental and cumulative effects of the No Action Alternative and the Preferred Alternative (see the evaluation earlier in this chapter).

The Master Plan is also in compliance with other applicable environmental and cultural resource laws and Executive orders as described in Chapter 2. These include the Clean Water Act, Endangered Species Act, and Archaeological Resources Protection Act among others.

The Corps also accepts corporate responsibility and accountability for following Federal laws in regard to future activities undertaken to implement the Master Plan. The Corps will complete a NEPA Checklist for any ground-disturbing activity. Project staff will also follow procedures in the Fort Peck Cultural Resources Management Plan in order to comply with cultural resource laws. In addition, site-specific development proposals must be accompanied by an EA prior to interdisciplinary review at the Fort Peck project office and the Omaha District Office, any consultation with tribes as part of the Programmatic Agreement and the Corps' issuance of a Finding of No Significant Impact (FONSI) and declaration of land availability prior to any development.

The Master Plan fulfills stipulations of the Final Programmatic Agreement for the Operation and Management of the Missouri River Mainstem System for Compliance with the National Historic Preservation Act, as amended (PA). The Corps consulted with tribes that potentially would be affected by the Master Plan and will continue to inform them of development activities.

ENVIRONMENTAL OPERATING PRINCIPLE #5.

Seek ways and means to assess and mitigate cumulative impacts to the environment; bring systems approaches to the full life cycle of our processes and work.

The cumulative impacts of the proposed Master Plan were evaluated earlier in this chapter. The proposed Master Plan is not expected to contribute to significant cumulative impacts. Although recreational development would expand at some recreation areas, the development would be confined within the limits of existing recreation areas. Proposed recreation area improvements are intended to accommodate visitation demands and reduce impacts to resource lands.

The Corps has taken steps to mitigate past cumulative impacts of the Fort Peck project by classifying the majority of the lands surrounding Fort Peck Lake as Environmentally Sensitive and Wildlife Management. These classifications help offset the impacts of recreation development and protect upland habitat. The Corps has also reduced the number of recreation areas at Fort Peck Lake over the past 20 years, further reducing the effects of recreation use. The resource protection measures included in the proposed Master Plan will have minor, incremental effects of reversing past adverse cumulative effects of the Fort Peck project.

ENVIRONMENTAL OPERATING PRINCIPLE #6.

Build and share an integrated scientific, economic, and social knowledge base that supports a greater understanding of the environment and impacts of our work.

The Fort Peck project staff has developed an Environmental Management System (EMS) in compliance with Executive Order 13423. The EMS is a series of management processes and procedures that allow the Corps to identify, mitigate, control, and reduce any environmental impacts from the Corps' day-to-day activities. Details of the EMS are described in Chapter 2. The EMS supports a greater understanding of the environmental impacts of Corps work at Fort Peck.

This Master Plan update helps build an integrated, scientific, economic, and social knowledge base of the Fort Peck project. The Affected Environment section in Chapter 2 includes new information on project resources and the economic and social conditions of the project area. The Corps is also working with other agencies and organizations to develop and share knowledge of the project area. The Fort Peck project office works with the multi-State and multi-agency saltcedar task force to monitor and control saltcedar. They also work with State agricultural committees, the county invasive weed boards, and the USFWS to manage saltcedar and other invasive species.

A major focus of the Fort Peck project's educational efforts is the Interpretive Center. The Corps partners with the USFWS and the Fort Peck Paleontology Institute (FPPI) to operate the Interpretive Center. The Interpretive Center provides educational displays of the area's paleontology, natural resources, and the history of homesteading and dam construction. The Interpretive Center has been visited by over 20,000 visitors a year since it opened in 2005.

The Master Plan includes opportunities to educate the public about the natural environment, historic and cultural resources, and operation of the Fort Peck project. In addition to the Interpretive Center, the Corps provides interpretative displays of the natural, historic, and cultural resources at different recreation areas. Additional interpretive opportunities are proposed in this Master Plan update. The Corps also works with Walleyes Unlimited to provide educational information on Fort Peck Lake fish species.

ENVIRONMENTAL OPERATING PRINCIPLE #7.

Respect the views of individuals and groups interested in Corps activities, listen to them actively, and learn from their perspective in the search to find innovative win-win solutions to the nation's problems that also protect and enhance the environment.

The Corps has been proactive in seeking the views of individuals and groups interested in the Fort Peck Master Plan update. As documented in Chapter 4, the Corps has distributed mailings on the Master Plan update process and held scoping meetings at key locations around the project. The Corps recorded all comments presented at the scoping meetings and those submitted during the scoping period. Responses to the comments during the scoping period were developed by Corps staff and are incorporated into Appendix F. These comments were considered in developing the Preferred Alternative.

The Draft Master Plan update was released for public review in February 2008. The Corps conducted four public meetings around the project area to accept comments on the Draft Master Plan. The Corps also accepted written comments from the public and agencies. Those comments were considered and incorporated changes into the Final Master Plan update, as appropriate.

The Corps has also consulted with affected tribes (through the procedures of the Programmatic Agreement) and Federal and State agencies involved in managing Fort Peck project lands. The Tribes had no scoping comments on the development of the Draft Master Plan and no comments on the Draft Master Plan.

8. CONCLUSIONS

The Fort Peck project is located on the Missouri River in northeastern Montana. Fort Peck Dam was completed in 1940 and is the oldest and largest hydraulically filled earthen dam in the world. It impounds Fort Peck Lake which covers a surface area of approximately 249,000 acres or almost 390 square miles when full. It is the largest lake in Montana and attracts both local and out-of-state visitors for fishing, boating, waterskiing, swimming, camping, picnicking, hiking, and other recreational opportunities.

Most of the Fort Peck project lies within the Charles M. Russell National Wildlife Refuge (CMR) boundaries. Virtually all project lands are managed in conjunction with the goals and objectives set forth by the USFWS for the management of wildlife resources. The UL Bend National Wildlife Refuge, as well as a designated wilderness area and several areas proposed for wilderness designation are located with the boundaries of the Fort Peck project and CMR.

Road access is a limiting factor for the development of recreation facilities at Fort Peck. Local soils expand when wet, making dirt roads impassable and increasing the cost of constructing new roads and maintaining new roads. The shore of Fort Peck Lake is a long distance from major roads, requiring extensive road construction to access recreation areas. The Fort Peck project is located far from populous areas which limits visitation. Visitors are primarily residents of the surrounding area and the highest visitation is at recreation areas near the dam. For these reasons, there is limited expansion of existing recreation areas proposed in this Master Plan.

The natural and unspoiled character of the lake environment has been identified as Fort Peck's primary and most unique asset. To maintain that character, a single and overriding project has been established for the Fort Peck project:

- Give priority to the preservation or improvement of wildland values in all public use planning, design, development, and management activities.

This Master Plan proposes to maintain that character while providing upgrades and expansion of recreation facilities at existing sites. The proposed upgrades and expansions include:

- Expanding camping facilities at the Downstream, Fort Peck West, and Rock Creek areas;
- Developing potable water supplies at The Pines and Rock Creek;
- Improving sewage treatment at Hell Creek;
- Improving boat ramps as needed;
- Installing equestrian facilities at Crooked Creek, Fourchette Bay, and Devil's Creek;
- Improving day use facilities throughout the project;
- Replacing aged facilities;
- Increasing interpretive facilities in the Downstream Recreation area and other project locations; and

- Encouraging and facilitating the development of resort facilities at Fort Peck West and The Pines.

The Master Plan also includes several proposals to improve natural resources at Fort Peck, including:

- Planting additional trees;
- Reestablishing a cottonwood bottom land forest at the Nelson Dredge area;
- Controlling erosion at Fort Peck West;
- Managing fire fuels at The Pines Recreation Area;
- Restoring native prairie at the wildlife viewing pasture west of the Fort Peck Townsite;
- Maintaining and improving tern and plover habitat on the lake shore and river below Fort Peck Dam; and
- Continuing to support studies evaluating the effects of river flows and water temperature on pallid sturgeon.

Extensive coordination with Tribal, Federal, State, and local agencies as well as citizen involvement was incorporated in all aspects of this Master Plan. Planning for the development, preservation, or enhancement of project resources will continue to be coordinated through Tribal and other governmental agencies, interest groups, and members of the general public to ensure the efficient and timely implementation of the resource objectives.

9. RECOMMENDATIONS

It is recommended that this updated Master Plan guidance be closely followed in managing the land and water resources at the Fort Peck project. The plans and policies within this Master Plan are consistent with authorized project purposes and resource capabilities and accommodate Tribal, Federal, State, and local needs. They represent wise stewardship of resources and will result in increased opportunities for enjoyment of outdoor recreation activities.

The Corps should continue cooperating with Tribal, Federal, State and local interests to preserve and improve the natural and man-made resources at the Fort Peck project so that the project can provide improved outdoor recreation opportunities in eastern Montana for future generations of both residents and non-residents.

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APPENDIX A

APPENDIX A

THE U.S. ARMY CORPS OF ENGINEERS PLANNING PROCESS

The planning process is a structured approach to problem solving. Although ideally, the process starts with Step 1 (identifying problems and opportunities) and proceeds sequentially through the other steps, ending in Step 6 (selecting a plan), planning can begin with any step. Because the process can begin anywhere, it is an iterative process - as more information is acquired and developed, some of the previous steps may be reiterated. The six steps of the planning process are shown in figure 1 and are described as follows:

1. IDENTIFYING PROBLEMS AND OPPORTUNITIES

This is the most important step in the planning process. Once the problems and opportunities are described, the next task is to define the objectives and constraints that will guide efforts to solve those problems and achieve those opportunities. Problems are existing, negative conditions, whereas opportunities focus on desirable, future conditions. Objectives are statements that describe the results you want to get by solving the problems and taking care of the opportunities you identified. Constraints are statements about things you want to avoid doing, or things you cannot change, while meeting your objectives.

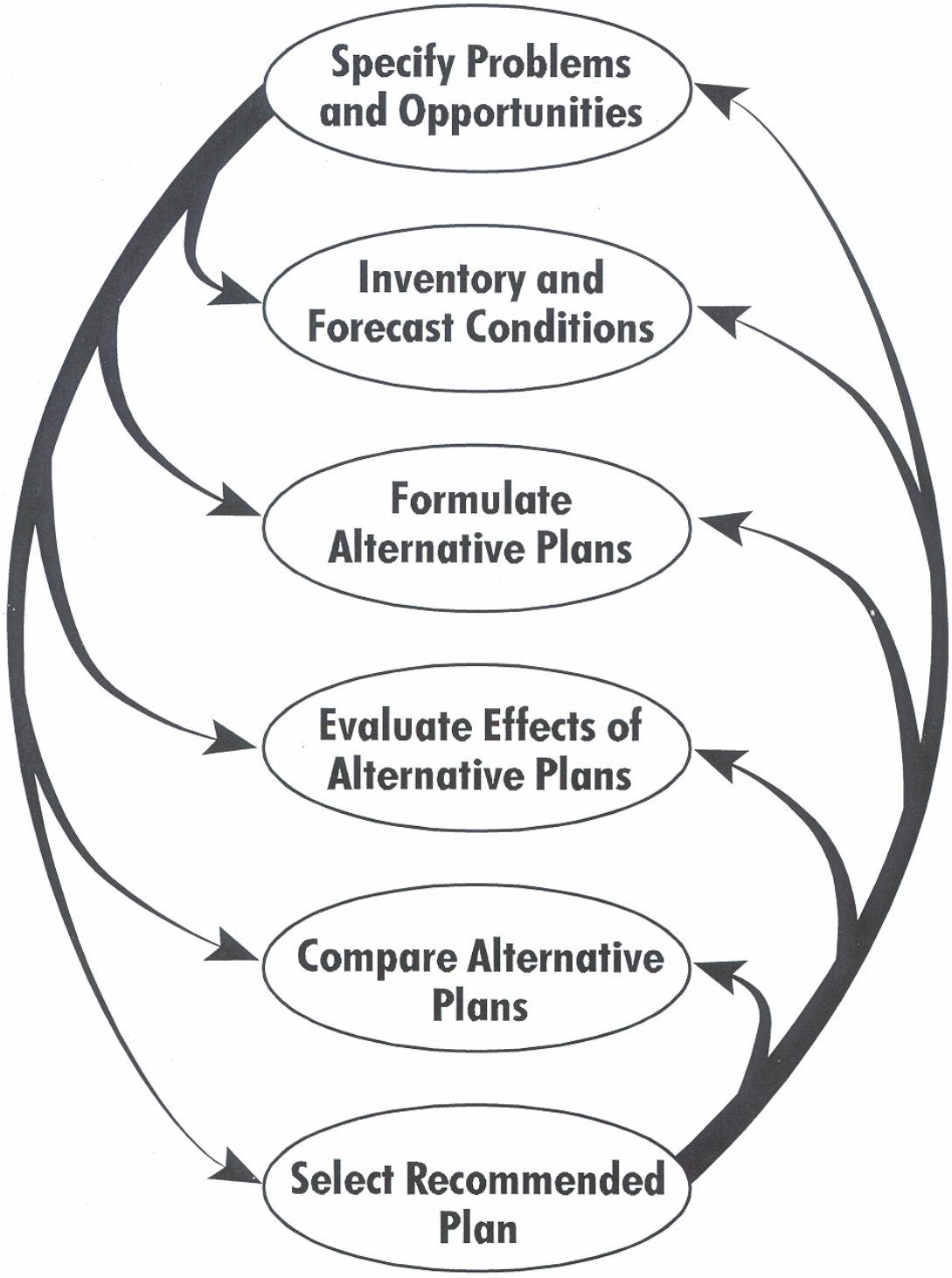
2. INVENTORYING AND FORECASTING CONDITIONS

This is the information gathering step. Inventories and forecasts are generally concerned with the historic, existing, and future conditions of resources that will be affected by solutions to the problems. These resources may be natural, economic, or social. They will help to shape the plans to be considered, or they will be affected, intentionally or unintentionally, by one or more of the plans to be considered.

3. FORMULATING ALTERNATIVE PLANS

Plan formulation is the process of identifying specific solutions to achieve planning objectives while avoiding constraints so as to solve the problems and realize the opportunities that got the investigation started. Solutions consist of alternative plans built from management measures. A management measure is a feature or an activity that can be implemented at a specific geographic site to address one or more planning objectives.

Figure 1. The U.S. Army Corps of Engineers Planning Process.



4. EVALUATING ALTERNATIVE PLANS

The evaluation step considers what difference each plan can make. The difference is quantified by comparing without project and with project conditions to identify the effects of alternative plans. The essential purpose of the evaluation step is to determine whether or not a formulated plan is worthy of further consideration

5. COMPARING ALTERNATIVE PLANS

In this step, the plans that qualified for further consideration are compared to come up with the best plan. Whereas in the previous evaluation step the effects of each plan were assessed individually, in the comparison step the important effects across all plans are assessed. The purpose of plan comparison is to identify the most important effects, and to compare the plans against one another across those effects. Ideally, the comparison will conclude with a ranking of plans or some identification of advantages and disadvantages of each plan for use by decision makers.

6. SELECTING A PLAN

This is the big decision making step. The first choice is always to do nothing. Planners have the burden of demonstrating that any plan that is recommended is better than doing nothing. The second choice is to select the plan that is required by law or policy, and the third choice is to do something else. Regardless of the choice, those who do the choosing must have good reasons for the final selection.

Source: U.S. Army Corps of Engineers. 1997. Planning Primer. Institute for Water Resources Report 97-R-15. http://www.au.af.mil/au/awc/awcgate/army/97r15.pdf.

APPENDIX B

FINAL

PROGRAMMATIC AGREEMENT FOR THE OPERATION AND MANAGEMENT OF THE MISSOURI RIVER MAIN STEM SYSTEM FOR COMPLIANCE WITH THE NATIONAL HISTORIC PRESERVATION ACT, as amended

MARCH 19, 2004

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PROGRAMMATIC AGREEMENT FOR THE OPERATION AND MANAGEMENT OF THE MISSOURI RIVER MAIN STEM SYSTEM FOR COMPLIANCE WITH THE NATIONAL HISTORIC PRESERVATION ACT, as amended

PREAMBLE[1]

BACKGROUND

The Missouri River corridor is approximately 2,315 miles long. Over the course of thousands of years of occupation, Indigenous Peoples have established and maintained cultures and traditions that revolve around the natural resources of, and wildlife attracted by, the Missouri River ecosystem. This ecosystem and its well being continue to be crucial to the worship practices and life ways of contemporary Indigenous Peoples. There is a direct relationship between the environment, traditional worship practices, and the continued survival of diverse indigenous groups. Animals such as the buffalo, eagle, wolf, turtle, migratory and non-migratory birds, a variety of fish and aquatic plants and animals, as well as several species of trees, shrubs, and plants are central to traditional worship beliefs and practices. Within the Missouri River corridor, important natural springs exist which are sacred to Indigenous Peoples and have been considered so for thousands of years.

For Indigenous Tribal Peoples, the Missouri River is characterized as "The Water of Life" and the very water that created the corridor is considered sacred. When the Army Corps of Engineers built six main-stem dams on the Missouri River, life for the Indigenous Peoples who called the River home changed immediately and dramatically. Gone are many of our ancient, river-bottom homes, our medicines, our sacred places, the earthlodge and tipi village and hunting camp sites created by our beloved ancestors. Gone also are many places intrinsic to our origin stories and to events in our oral histories that are alive in our Peoples' minds and hearts and in stories which are still related today. The loss of our river homes affected every aspect of the quality of our lives: spiritual, mental, physical, emotional, and socio-economic lifeways, all of which make up our very identity as Native Peoples. Altering the flow of the River altered the face of our Mother Earth, and we are still reeling from and dealing with the consequences of these man-made changes.

As a result of the creation of the Missouri River main stem and attendant dams, there are severe threats to many of the remaining sacred places and important resources that traditional Indigenous Cultures require for continuance. These threats include but are not limited to:

- Impacts caused by increasing development expanding out from urban areas (both on and off the water), which has historically been fueled by inadequate planning and management, as well as poor enforcement of applicable laws and regulations.
- The cultural resources, including traditional and sacred places, within the corridor are routinely raided and looted by pot hunters, at night and often from boats, and by 'vacation archaeologists' and pothunters who don't acquire federally required permits.

[1] This Preamble was authored by the Tribes that consulted on this PA. It is not intended to and does not reflect the views of the U.S. Army, Corps of Engineers and may not reflect the views of the consulting parties.

- The waters of the lakes created by the Missouri River dams are constantly eroding the shoreline by ice in winter and wind generated waves in summer, or the raising and lowering of lake levels, in places removing shoreline by up to 30 or more feet per year. This erosion is not only an environmental problem, it also erodes indigenous tribal burial sites, ceremonial sites, and occupation sites. The eroding shoreline is causing the disappearance of many wild gathering and harvesting areas crucial to the continuance of traditional ways of life.
- An increasingly serious siltation problem is forming deltas at the mouths of all drainages flowing into the corridor caused by the lack of free flowing water in the corridor itself.
- The dams have adversely impacted the fish populations, as well as nesting birds, river otters, migratory birds, and many other animal species that relied on the natural rhythms of the river, which directly result in several species being identified as listed, threatened, or endangered. Studies have yet to be completed which identify plant (medicines) species that have been impacted by the dams.
- Investments of cooperative initiatives (Tribal, State and Federal) in the reintroduction of habitat along the riverbanks are seriously impacted by rapid erosion, even those plantings designed to slow or halt erosion.
- Increasing concentrations of chemicals and other pollutants are having an adverse impact on the use of water in all areas of life, including ceremonial activities.

For Indigenous Nations, Cultural Resources include animals, plants, and natural resources, as well as burial, occupation, prayer/worship, gathering, and gardening sites. Cultural Resources from the perspective of land-based worshippers also include important viewsheds, buttes, mountains, high ridges, and other natural formations that do not fit any Federal concepts or definitions. This has been problematic for Tribes and Tribal Peoples who see these resources holistically. In contrast, Federal and State law often segment these resources and assign their well being and management to diverse and, at times, competing Federal or State agencies. Under the National Historic Preservation Act (NHPA), an area that is inhabited by a unique community of plants or animals can be recognized as eligible for the National Register of Historic Places because of its ongoing importance for the culture of a living human community as a traditional cultural property (TCP), but in the implementation of the NHPA, much more attention has been given to sites that contain archaeologically important components. In addition, the importance of these relationships is subject to the interpretation of people and agencies that have no connection to either the archaeological/historic component or the plant/animal component and little understanding of their perceived sacredness by Indigenous Peoples.

This Programmatic Agreement is an attempt to address all problems associated with cultural and historic resource impacts involved with the ongoing operation and maintenance of the Missouri River system of main stem dams. It is by design an initiative that will facilitate the development of processes and strategies to minimize, avoid, or mitigate the ongoing adverse impacts the system causes. It is an attempt to overcome barriers keeping worshippers from areas and resources that are essential to their continuing ability to carry out traditional worship pursuits. Furthermore, through the collective establishment and implementation of principles of Consultation, and Collaboration, and Shared Stewardship, this document will lay the groundwork for Tribes to achieve parity with the Corps of Engineers on issues directly affecting important historic, cultural, and natural resources. Though this document is limited in its scope to the application and enforcement of historic preservation and protection laws, it provides

the opportunity to develop a dialogue and forum for the various Indigenous Nations and Federal agencies to begin addressing all resources considered sacred or important by Indigenous Peoples.

PARADIGM SHIFT

Historically, the Army Corps and the Tribes have experienced difficulties in addressing these issues in a manner that produces positive change and benefits for Tribes. It is time now to affect a shift in the paradigm that has driven the "management" of tribal sacred and cultural places; a substantial change is, in fact, long overdue. Since the 1970s, according to an Army Corps document issued during the Master Manual comment period, a total of $1.9 million has been spent by the Omaha District Army Corps to stabilize shoreline for a total of 19 archaeological sites on the Missouri River. Recently, the Northwestern Division announced that $3 million would be available annually to support the Cultural Resources Office of the Omaha District, all of which should be spent to stabilize the shoreline of the most endangered sacred and cultural places. Recently, the Army Corps staff issued a comprehensive list of the most endangered sites on the Missouri River, which comes with a price tag of $77 million for shoreline stabilization. There is a tremendous disparity between available funds and what is still needed to preserve and protect our remaining cultural resources, and this disparity can only be addressed by an immediate and drastic change in the way our sacred places are cared for and maintained.

The Tribes expect the Corps to manage lands under its jurisdiction in a manner consistent with the Federal trust responsibility to Indian Tribes. The Corps acknowledges that the trust responsibility includes legal responsibilities and obligations to provide the highest standards of fiduciary care with respect to Federal and other activities that may affect the lands, other trust resources, and the exercise of the powers and rights of Indian nations.

All Corps actions, in the Missouri River Basin, directly or indirectly affect trust land, and some of the lands managed by the Corps are within reservation boundaries established by treaties where the Tribes and their members continue to have treaty-based rights even though lands have been taken out of trust status. Federal lands managed by the Corps (both within and outside reservation boundaries) include places that hold religious and cultural importance of the Tribes, and some of these places are crucial for the cultural identities of the Tribes and, as such, for the survival of the Tribes as distinct Peoples. Some of these places contain the graves of ancestors and funerary objects, in which Federal law recognizes the right of lineal descendants and culturally affiliated Tribes to take custody in the event that they are removed from the Earth. The Tribes expect the Corps to treat these sacred and cultural significant places as subject to the Federal trust responsibility.

This means that the Tribes must be engaged in consultation before decisions are made and that the Tribes expect to be equal participants in making decisions and in carrying out decisions. Consultation shall be both specific to individual Tribes and with as many comprehensive consultations attended by all affected Tribes as are necessary, with real efforts to reach consensus. Consultations shall be conducted in a positive manner, on a government-to-government basis, honoring all treaties and the trust doctrine which entail a fiduciary and fiscal responsibility of the Corps. Decisions will be made on a government-to-government basis. Finally, the Corps shall include, as consulting parties, affected Tribes in any review or update of the Master Manual.

The Tribes expect the Corps to exercise genuine stewardship with respect to places that hold religious and cultural importance for the Tribes and to share the stewardship of these special places with the Tribes. Whether this is called "shared stewardship" or "cooperative management" or some other term, the Tribes expect the relationship that develops between the Corps and the Tribes to be respectful and cooperative, with the ultimate objective of protecting these sacred and culturally importance places and assuring access for religious and cultural activities.

Finally, the Tribes anticipate that this shared stewardship document will ensure that our sacred and cultural places are regarded and understood from a native viewpoint with our values and customs applied to their protection, and not necessarily those of archaeology. For decades, the perceived archaeological value of our sacred places has been the only viewpoint considered, and that method of assigning value to our holy places has contributed to a recipe for their destruction: mix equal parts erosion, neglect and development; let this mixture 'rest' for fifty years, add a measure of 'salvage archaeology,' destroying the sites to extract data; let the rest fall into the water. And you have a meal that is unfit to eat for Native peoples, a meal which we have been force-fed since the 1930's, when construction of the first dam near the Ft. Peck Reservation was begun.

The Tribes expect that in the new paradigm, the fundamental value will be respect: respect for the River and for our sacred and cultural places; respect for our values, our culture, our beliefs; respect for Native Peoples and our contributions to the upper Missouri River environment; as well as respect for the tremendous sacrifices we made so that newcomers to our homelands could have flood control and electricity. We want to be taken seriously when we talk about our cultures, our needs, and our issues—and we want to be taken as seriously as archeologists are when they talk about our ancestors, our cultures, and our interests. And that is the second half of the paradigm shift our Nations are all working toward: to bring our interests and issues, articulated from our value system and from our point of view, to a 'key issue' priority level with the Omaha District of the Army Corps so that they receive the same attention and resources as other issues for which the Corps has responsibility. We know that what we want is not unreasonable. We also know that the Programmatic Agreement holds great potential to improve relations between the Missouri River Tribes and the Army Corps, and can be the tool we use to create a success story of which we can all be proud.

PROGRAMMATIC AGREEMENT
FOR THE
OPERATION AND MANAGEMENT OF THE MISSOURI RIVER
MAIN STEM SYSTEM
FOR
COMPLIANCE WITH THE NATIONAL HISTORIC PRESERVATION ACT

WHEREAS, the Omaha District and the Northwestern Division of the U.S. Army Corps of Engineers, (hereinafter the Corps) operate and manage the integrated system of multi-purpose reservoir projects and associated structures and lands on the Main Stem of the Missouri River for flood control, navigation, irrigation, municipal and industrial use, recreation, fish and wildlife protection, and other purposes as authorized by the Flood Control Act of 1944 (P.L. 78-543, as amended) and other relevant authorities; and

WHEREAS, the Corps' authorized operation and management of impounded waters of the Main Stem System results in adverse effects to properties included in or eligible for the National Register of Historic Places (hereinafter, historic properties) through inundation, erosion, exposure, and other factors; and

WHEREAS, the Corps' authorized management of project lands that are not routinely inundated or periodically inundated, including land-based support facilities for water control, facilities and measures for recreation, general public use, access, and the enhancement of the environment, fish and wildlife, and other authorized purposes may result in direct and indirect effects to historic properties such as damage or destruction from construction, burning, erosion, sedimentation, theft, looting, vandalism, and other factors; and

WHEREAS, the Corps is responsible for complying with the National Historic Preservation Act, as amended (hereinafter, NHPA) (P.L. 89-665, as amended; 16 U.S.C. 470f), including Section 110 that requires federal agencies 1) to establish a program to preserve, protect, identify, evaluate, and nominate historic properties under their jurisdiction or control (including traditional cultural properties (TCPs) and historic properties to which Tribes attach religious and cultural significance) in consultation with others and 2) to give full consideration to the preservation of historic properties not under their jurisdiction or control but affected by federal agency undertakings; and

WHEREAS, the Corps' Main Stem System operations and management actions meet the definition of undertakings for the purposes of Section 106 of the NHPA (16 U.S.C. 470f) (hereinafter Section 106) and, therefore, the Corps is responsible for complying with Section 106 for these actions; and

WHEREAS, in compliance with Section 106, the Corps, Indian Tribes (hereinafter Affected Tribes), Tribal Historic Preservation Officers (hereinafter, THPOs) and State Historic Preservation Officers (hereinafter, SHPOs), the Advisory Council on Historic Preservation (hereinafter, ACHP) and other consulting parties have developed and the Corps will implement this Programmatic Agreement (PA) in accordance with 36 CFR Section 800.14(b) for certain of the Corps' operation and management actions as outlined in this PA; and

WHEREAS, the Corps is required by Section 101(d)(6) of the NHPA to consult with any Indian tribe that attaches religious and cultural significance to historic properties that may be affected by a proposed federal undertaking subject to Section 106; and

WHEREAS, the United States Department of Defense recognizes its trust responsibilities to federally recognized Indian Tribes and has established an American Indian and Native Alaskan Trust policy that directs Department of Defense agencies, including the U.S Army Corps of Engineers, to work with Tribes in a manner that incorporates tribal needs, traditional resources, stewardship practices, and the development of viable working relationships; and

WHEREAS, the ACHP recognizes its trust responsibility to federally recognized Tribes and has described this trust responsibility in its, "ACHP Policy Statement Regarding ACHPs Relationship with Indian Tribes", issued November 17, 2000 and updated on April 4, 2003; and

WHEREAS, the Corps recognizes that sacred and cultural resources, many of which are historic properties, are critically important to the Affected Tribes for the continuity and revitalization of cultural and spiritual life-ways, making avoidance of adverse effects to these resources and the preservation of remaining sacred and cultural places a matter of the highest priority regardless of their eligibility to the National Register of Historic Places; and

WHEREAS, in addition to the NHPA, the Corps is responsible for compliance with other applicable legal authorities outlined in Attachment 1 to this PA that may overlap with or be supportive of the goals and purview of the NHPA and,

WHEREAS, the Corps has provided the opportunity to consult on the development of and to become a signatory to this PA to the ACHP; SHPOs of Montana, North Dakota, South Dakota, and Nebraska; Standing Rock Sioux Tribe and its Tribal Historic Preservation Officer (THPO); Cheyenne River Sioux Tribe and its THPO; Santee Sioux Tribe; Yankton Sioux Tribe; Crow Creek Sioux Tribe; Lower Brule Sioux Indian Tribe; Three Affiliated Tribes; the Assiniboine and Sioux Tribe of Fort Peck; Turtle Mountain Band of the Chippewa Tribe and its THPO; Blackfeet Tribe; Chippewa Cree Tribe; Crow Nation; Flandreau Santee Sioux Tribe; Gros Ventre and Assiniboine Tribe; Northern Arapaho Tribe; Northern Cheyenne Tribe; Oglala Sioux Tribe; Omaha Tribe of Nebraska; Ponca Tribe of Nebraska; Rosebud Sioux Tribe; Sisseton-Wahpeton Sioux Tribe; Spirit Lake Sioux Tribe; Sac and Fox of Missouri in Kansas and Nebraska; South Dakota Department of Game Fish and Parks (SDGFP); Bureau of Indian Affairs (BIA); and the National Trust for Historic Preservation (NTHP) (hereinafter consulting parties).

NOW, THEREFORE, the above parties agree that the Missouri River Main Stem System shall be administered in accordance with the following stipulations to avoid, minimize, or mitigate adverse effects and satisfy the Corps' Section 106 responsibilities for those actions outlined within this PA.

STIPULATIONS

The Corps shall ensure the following measures are implemented:

1. Definitions.
The list of definitions used in this Programmatic Agreement is provided in Attachment 2.

2. 1993 Programmatic Agreement
The Programmatic Agreement for the Missouri River Main Stem System previously executed by the ACHP, Corps and SHPOs from Nebraska, South Dakota, North Dakota and Montana on October 18, 1993 is null and void.

3. Scope of this Programmatic Agreement

A) The geographical scope of this PA, based on the Corps' concept of the Area of Potential Effects, is as follows:

i) federal lands, owned by the Corps, beginning at the headwaters of Fort Peck Lake, approximately 3 miles northwest of the Fred Robinson Bridge, Phillips County, Montana to Gavins Point Dam, Yankton County, South Dakota, including but not limited to Fort Peck Lake and Fort Peck Dam; Lake Sakakawea and Garrison Dam; Lake Oahe and Oahe Dam; Lake Sharpe and Big Bend Dam; Lake Francis Case and Fort Randall Dam; and Lewis and Clark Lake and Gavins Point Dam with project lands and related structures, generally known as the Missouri River Main Stem System; and
ii) areas downstream of and adjacent to the six Main Stem dams (which are affected by the operation of the system) are within the geographical scope of this PA, even though these areas are not under the authority or ownership of the Corps and may not be in federal ownership. It is recognized that the Corps has restrictions on its use of Main Stem operations monies and other authorities on non-Corps lands.

B) The Corps shall comply with Section 106 in accordance with 36 CFR part 800 for the following activities:

i) Projects, activities, policies by or authorized by the state of South Dakota and/or the Corps on so-called Title VI lands, e.g., lands transferred to the SDGFP pursuant to Title VI of the Water Resources Development Act of 1999, as amended (Title VI hereinafter), as the Corps will begin consultation on the development and implementation of a separate PA for these actions in accordance with 36 CFR Section 800.14(b) by December 2004.
ii) Corps lands or exchanges, including those pursuant to Title VI;
iii) Corps regulatory actions pursuant to Section 404 of the Clean Water Act.

4. Relationship to Treaties, Statues, Regulations, Executive Orders, Court Orders, and Other Authorities

A) In general, nothing in this PA diminishes or affects any treaty right of an Indian tribe, any water right of an Indian tribe, or any other right of an Indian Tribe, any external boundary of an Indian reservation of an Indian Tribe; any authority of the States that are a party to this PA; any authority of the Corps or the head of any other federal agency under a law in effect on the date of signing of this PA; any treaty or water right, or any other right of an entity that is not a party to the PA.

B) No provision of this section or of the PA shall limit any right of an Affected Tribe or other consulting party to bring an action against the Corps or any other party once final agency action is complete; shall alter existing law regarding the sovereign immunity of the Tribes, the other consulting parties, or the Corps, or any other entity that is not a part of this PA; or shall be construed to alter existing law regarding the trust duty of the United States or the Corps to the Tribes (either to limit or expand that trust duty).

C) All court orders, including settlement agreements (present and future), shall be implemented and their terms be incorporated into documents and measures or revisions to them called for in this PA. In any case of difference or ambiguity, a court order shall take precedence over the terms of this PA.

5. Programmatic Agreement Coordination.

A) Designated PA Representative(s). Within 60 days of signing this PA, each Affected Tribe and THPO, ACHP, SHPO, and other consulting party shall designate a point of contact for carrying out this PA (hereinafter, PA representative). If more than one person is designated as PA representatives, the party also shall indicate the responsibilities of each such person for carrying out this PA.

B) Government/Personnel Changes. Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties shall provide timely written notification to the Corps and the other parties to this PA of changes in their tribal or agency leadership (tribal Chairman or President; head of agency, etc.), persons holding cultural and historic preservation positions, and PA representatives.

6. Consultation.

All consultation and coordination required under this PA shall be conducted in accordance with the following:

A) General. The Corps shall plan consultations to coordinate with the requirements of all applicable statutes and executive orders. Affected Tribes and THPOs, SHPOs, ACHP and other consulting parties shall be provided the opportunity to participate in the development and implementation of agreements, management plans, and activities developed or required under this PA. The Corps, Affected Tribes and THPOs, SHPOs, and other consulting parties shall facilitate and cooperate in the consultation process toward the mutual goal of information sharing and promotion of respect.

B) Review and Response Requirements. Unless otherwise provided for in this PA, the Corps shall afford the Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties no less than 30 calendar days from receipt of a complete consultation request to respond to a Corps communication required under this PA. A complete consultation request shall include information that the party determines is needed to make an informed decision on the matter. Should any Affected Tribe or THPO, SHPO, or other consulting party not respond within this time limit or other limit specified elsewhere in the PA, the Corps will document in its records when consultation was requested and the non-response. Unless an Affected Tribe or THPO, SHPO, or other consulting party responds in writing that it does not wish to consult at all on the proposed undertaking or matter, the Corps shall assume that the party wishes to continue consulting on subsequent requests related to that initial undertaking or matter. Failure to respond will not be construed as either concurrence or non-concurrence.

C) Pre-Consultation Actions. To promote effective and meaningful consultation, the Corps shall notify the Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties of the need to consult on the various matters called for in this PA as soon as possible and pre-decisionally as follows:

i) provide a notification letter with information about the proposed undertaking or matter to each PA representative, with a copy to the head of the agency or tribal government, as early as possible and prior to making any decisions about the proposed undertaking or matter;
ii) follow-up via telephone with the PA representative after distributing the notification letter to establish a person-to-person contact;
iii) provide further information as the PA representative may need for informed input and judgment;
iv) provide draft agendas, request input from the PA representative, and finalize the agenda based on this input;
v) coordinate consultation for this PA with consultation requirements for other legal bases to the extent possible and inform the PA representative of all pertinent legal bases for consultation.

D) Consultation Guidelines. For meaningful and effective consultation with the Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties, the Corps shall

i) Listen carefully before any decisions are made so as to understand the needs and perspectives of the Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties;
ii) Work as equal partners with the Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties to consider and devise means to identify and preserve cultural resource sites and avoid effects to them, consistent with tribal viewpoints and values. If avoidance is not possible, the Corps shall work with the Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties as equal partners to minimize effects to such sites to the greatest extent possible;
iii) Provide all pertinent documents and other information, consistent with Federal law, to the Affected Tribes and THPOs, SHPOs, ACHP,

and other consulting parties to enable fully informed decisions and meaningful consultation;
iv) Plan consultations jointly with the Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties, including meetings (when and where), conference calls, agendas based on requested input from all involved.
v) Engage in consultation to discuss, dialogue, and make agreements, and do so through face-to-face consultation meetings to the greatest extent possible;
vi) Make and provide written accurate records of all consultations and make copies available to Affected Tribes and THPOs, SHPOs, ACHP and other consulting parties within 30 days of the consultation. Written verbatim records will be made utilizing a court reporter, on a case-by-case basis when requested by a signatory for a face-to-face consultation. When requested by a signatory, verbatim records of telephone conference calls may be made by using a tape recorder, and copies of the tape provided to the requesting signatory. Affected Tribes and THPOs, SHPOs, ACHP and other consulting parties shall have the opportunity to review, offer corrections, and add alternative views to the record;
vii) the federal agencies, affected tribes, THPOs, SHPOs, and other consulting parties shall facilitate and cooperate in the consultation process toward the mutual goal of information sharing, promotion, and respect for the unique relationship of each party and the trust doctrine and trust responsibility of the federal parties.

E) Input from Tribal Elders. An Affected Tribe or THPO, SHPO, or other consulting party may respond to a request by informing the Corps that special efforts should be made to seek input from tribal elders and other persons with traditional and cultural knowledge. If the Corps is so notified or if persons with traditional or cultural knowledge notify the Corps that they wish to be consulted regarding a matter, the Corps shall consult with the Tribe and/or THPO regarding appropriate ways to seek input from such persons, and the Corps shall seek such input. Efforts may include (but need not be limited to) conducting special meetings, scheduling meetings at locations to reduce the need for such persons to travel, ensuring that translation services are available, and adjusting the schedule to accommodate input from such persons.

F) Protocol Agreements. The Corps recognizes that an Affected Tribe, THPO, SHPO, or other consulting party may have particular issues of concern, ways of conducting business, or protocols that should be considered during consultations. When requested by an officially designated representative or PA representative, the Corps and that party shall cooperatively develop a Protocol Agreement (PRAG) to document that agreed-upon protocol. A PRAG shall be supplemental to the general procedure(s) in this PA and not modify the roles of other parties to this PA without their prior written consent.

G) Efficient Consultations. The Corps and the Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties shall work together to develop ways to communicate and transmit information in an effective yet efficient manner. Possible means include (but are not limited to) development of a secure website to which the Affected Tribes and THPOs, SHPOs, ACHP and other consulting

parties have access, electronic transmission of documents, and/or an email broadcast system.

7. Non-National Historic Preservation Act Commitments.

In consultation with the Affected Tribes and THPOs, the Corps agrees to carry out the actions outlined in Attachment 3 of this PA, all of which are beyond the requirements of the NHPA and the authority of the ACHP and are under the authority of the laws and legal requirements cited therein.

8. Undertakings Review Provisions; Tribal or SHPO Non-Signature, Withdrawal, or Termination; and Exempt Undertakings.

A) Undertakings Review. For Corps undertakings that are planned or anticipated (for example, but not limited to, recreational and other development, silt or sediment removal, habitat creation or restoration, etc.), the Corps shall consult on and address effects to historic properties through the Five-Year Plan, CRMPs, and attendant Treatment Plans as outlined in stipulations 6, 8, 9, and 11 and the other provisions of this PA. However, for those planned or anticipated undertakings not addressed through the Five-Year Plan, CRMPs, and Treatment Plans, the Corps shall comply with section 106, NHPA in accordance with 36 CFR part 800, subpart B. For Main Stem System operations and their indirect adverse effects (including, but not limited to, erosion, exposure, susceptibility to looting or vandalism, etc.), the Corps shall consult regarding and address such effects to historic properties through the terms of this PA.

B) Tribal or SHPO Non-Signature, Withdrawal, or Termination. The Corps shall comply with Section 106 in accordance with 36 CFR part 800, subpart B for Corps undertakings that may affect lands, or historic properties, many of which are cultural resources sacred to Tribes, located within the exterior boundaries of an Indian reservation, including Corps lands, if that tribe is not a signatory to this PA or if that tribe has withdrawn from this PA or terminated this PA on its tribal lands (refer to Stipulation 4). Similarly, the Corps shall comply with 36 CFR part 800, subpart B for actions or undertakings within a SHPO's area of jurisdiction, if that SHPO has withdrawn from this PA or terminated this PA within its area of jurisdiction.

C) Exempt Undertakings. The Corps, Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties shall consult to determine if there are certain types of undertakings and actions that should be exempted from review and consultation under this PA because they have little or no potential to affect historic properties. In consulting on this list of exempt undertakings and actions, the Corps shall follow the consultation provisions of stipulation 6 of this PA. The exempt actions and undertakings in such a list shall not go into effect until agreed to, in writing, by the Corps, tribal signatories, SHPOs, and ACHP. The resulting list of exempt undertakings shall be provided to all Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties as an amendment to this PA.

9. Main Stem Reservoir Cultural Resource Management Plans.

A) Status. The Corps has completed the Lewis and Clark Lake, Lake Sharpe and Lake Francis Case Cultural Resources Management Plans (CRMP), and is in the process of completing the Lake Oahe, Fort Peck Lake and Lake Sakakawea CRMPs. The Corps shall ensure that CRMPs for all Main Stem reservoirs are completed by May 2005 and are developed in consultation with the Affected Tribes and THPOs, SHPOs, ACHP and other consulting parties to this PA.

B) Requirements. The CRMPs will partially fulfill the requirements of the NHPA, this PA, and the requirements of Engineer Regulation 1130-2-540. The CRMPs will provide baseline information about cultural resource sites (including historic properties) at each reservoir and a list of actions to address the goals, objective, and program areas set forth in the Five-Year Plan. The CRMPs will utilize the Lake Sharpe CRMP as a template or any revision to that template developed in consultation with the Affected Tribes, THPOs, SHPOs, ACHP, and other consulting parties. Recommended actions (i.e., TCP surveys, archeological surveys, testing and evaluations, etc.) from CRMP shall be completed in accordance with applicable federal laws governing such actions.

C) Review. The Corps and the Affected Tribes and THPOs, SHPOs, ACHP and other consulting parties shall work together to develop and implement a process by which the Affected Tribes and THPOs, SHPOs, ACHP and other consulting parties will be involved in the development and review of draft and final CRMPs and updates to them. Until completion of this process, drafts of the CRMPs and updates of them shall be provided for review and consultation according to the procedures outlined in stipulation 6, except that parties shall have no less then 60 days for review and comment. To facilitate review, the Corps shall provide Affected Tribes and THPOs, SHPOs, ACHP and other consulting parties with related historic property and management information, such as future management actions, needs, and policies; project maps and information showing historic properties, management/use areas, cultural resources survey coverage, leased areas, recreation areas, boundaries of Corps lands, Title VI lands, and so forth. The Corps shall incorporate comments from the Affected Tribes and THPOs, SHPOs, ACHP and other consulting parties in finalizing the draft or final CRMPs. After review and comment by the appropriate Affected Tribes and THPOs, SHPOs, ACHP and other consulting parties, the Corps shall ensure that the CRMPs are finalized and implemented.

D) Revision. The Corps agrees to update the completed CRMPs every two years. The intent is to monitor progress, incorporate new information, correct information, and allow for additional input into the implementation of the cultural resources program at the reservoir for which the CRMP is written. The review process outlined in stipulation 9.C., above will be used for revising CRMPs.

10. Five-Year Cultural Resources Implementation Plan.

The Corps, working cooperatively and in consultation with the Affected Tribes and THPOs, SHPOs, ACHP and other consulting parties, shall develop and carry out a plan that outlines how the Corps will conduct its Main Stem System Cultural Resources Program and its various program components individually called for in this PA for the coming five years (hereinafter, Five-Year Plan) and following five year periods

thereafter. The intent of the Corps is to incorporate the final Five-Year Plan into the Corps' Strategic Plan.

A) The Five-Year Plan shall describe the following:

i) actions to identify Mainstem System cultural resource sites (including historic properties) and evaluate them for the National Register of Historic Places that may be affected by Corps undertakings and operations of the Main Stem System and to comply with Section 110, NHPA. Acreage estimates and locations, prioritization of these locations, and tasks (e.g., oral histories, documentary research, etc.) should be described. (See also stipulation 11);

ii) Corps management and operational actions that may adversely affect historic properties (for example, operations, recreational development, habitat restoration/creation, susceptibility to erosion, looting and vandalism, etc.) and their locations; and

iii) actions to avoid, minimize, or mitigate adverse effects on historic properties, including identification of specific sites and proposed treatment (subject to consultation with Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties). (See also stipulation 11);

iv) actions to address potential effects of Corps operations to historic properties located off Corps lands in compliance with Section 110(a)(2)(c), NHPA, recognizing that the Corps may need to seek alternative funding approaches, special authorizations, appropriations, and/or resolution of property permission issues. (See also stipulation 11);

v) actions to address unexpected discoveries of historic properties or unexpected effects to known historic properties. (See also stipulation 11);

vi) actions for the management, analysis, and sharing of cultural resource data, including development of protocol to protect sensitive information (See also stipulations 10 and 17);

vii) actions to support the cultural resources law enforcement program. (See also stipulation 14);

viii) actions to monitor cultural resources sites, how site-monitoring information will be used for management purposes, and sites selected to be monitored. (See also stipulation 13);

ix) actions to develop and update CRMPs, Five-Year Plans, and Annual Reports. (See also stipulations 9, 10, 22);

x) actions to promote public education and interpretive initiatives and the use of historic properties. (See also stipulation 15); and

xi) other actions and program needs that the Affected Tribes or THPOs, SHPOs, ACHP, or other consulting parties have requested in the Five-Year Plan.

B) Development, Review, and Revision of Five-Year Plan. Within 180 days of the execution of this PA, the Corps shall provide a preliminary draft version of the Five-Year Plan to the Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties. Then, the Corps and these parties shall work together as outlined in stipulation 6 to develop a draft version of the Five-Year Plan for review. The Corps, in consultation with the Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties, shall develop a final Five-Year Plan within 120 days of submission of comments on the draft Five-Year Plan. The Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties shall be given a 60-day review and comment period for each version. The Corps shall incorporate comments received in developing, finalizing, and implementing the Five-Year Plan. Every five years, the Corps shall revise and update the Five-Year Plan using this same development, review, and consultation procedure.

11. Identification of Historic Properties.

A) Identification Activities. The Corps shall identify historic properties (including historic properties to which an Affected Tribe attaches religious and cultural significance, traditional cultural properties (TCPs), and other types of cultural resources), in compliance with Section 110 of the NHPA and the Corps' ER and EP 1130-2-540. Additionally, the Corps shall ensure that historic properties are identified prior to making decisions about undertakings, following the review process outlined in stipulation *8*.A. Identification methods to be used include (but are not limited to) pedestrian surveys and other field investigations; background and documentary research; oral histories; tribal consultation and consultation with tribal elders; and other means. The Corps shall evaluate whether properties are eligible for the National Register of Historic Places using the eligibility criteria and National Park Service guidance (including Bulletin 38), in consultation with the SHPO and/or THPO with jurisdiction and Affected Tribes that may attach religious and cultural significance.

B) Location and Recordation of Sites. The Corps shall locate sites by global positioning system (GPS), complete site visit forms, and add site information to the Corps cultural resources site GIS system. Additionally, the condition and threats to sites will be recorded through the site-monitoring program and added to the GIS system. All site identification and monitoring information shall be included in next update of the applicable CRMP.

C) Sharing of Data. Within 120 days of the execution this PA and regularly thereafter, the Corps shall provide existing and updated cultural resource site information in accepted formats or access to the Corps' cultural resources site GIS system to federal, state, and tribal offices charged with maintaining such information.

D) Traditional Cultural Property (TCP) Surveys. The Corps shall ensure that surveys and related efforts (e.g., oral history, etc.) for TCPs and other historic properties to which Affected Tribes may attach religious and cultural or

other significance are carried out for project areas identified in the CRMPs and Five-Year Plan. The results of the surveys and other efforts shall be documented using National Park Service Bulletin 38, as well as other pertinent tribal and state requirements, with sensitive information protected pursuant to stipulation 17.

12. Measures to Avoid, Minimize, or Mitigate Adverse Effects to Historic Properties.

Prior to carrying out measures to avoid, minimize, or mitigate adverse effects to a historic property as set forth in the Five-Year Plan and CRMPs, the Corps shall provide a draft Treatment Plan to the Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties for review and consultation as outlined in stipulation 6. Alternatively, a draft Treatment Plan may be included in a draft CRMP or draft Five-Year Plan and be reviewed as part of those draft documents. The draft Treatment Plans shall describe the historic property and the adverse effects to it, alternatives measures considered, treatment proposed and why it was chosen, details of how treatment will be implemented, schedule and cost of proposed treatment, and how the treatment meets the pertinent standards and guidelines of the *Secretary of the Interior's Standards and Guidelines for Historic Preservation Projects*, and applicable state and tribal requirements.

13. Site Monitoring Program

A) Site Monitoring. The Corps shall develop and implement a monitoring program to provide continued oversight of historic properties located on federal land managed by the Corps and to collect information on site conditions and effects or threats to them (including but not limited to, erosion, recreational, agricultural and other encroachment, and looting and vandalism). The Corps shall use this information to plan and implement law enforcement and other preventive or corrective management actions.

B) Site Monitoring Plan. The Corps shall develop a Monitoring Plan to describe the conduct of the monitoring program. The Plan shall discuss the types and location of sites to be monitored, field methodology of monitoring and conditions recordation (including forms, data dictionary); data storage, retrieval and analysis; schedule; staffing and qualifications; and other details. The Corps shall produce a preliminary draft and then the Corps, Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties shall work together to develop a draft version of the Monitoring Plan, in accordance with stipulation 6. The Corps, in consultation with the Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties shall develop a final monitoring plan within 180 days of submission of comments on the draft Monitoring Plan. The Corps shall implement the final monitoring plan according to the schedule in the monitoring plan, CRMPs, and in response to recent information about potential threats to sites.

14. Enforcement Program.

A) Enforcement Memorandum of Agreement(s) (MOA(s)).
The Corps, in cooperation with the local, state, tribal and federal law enforcement officials, shall develop an Enforcement MOA(s) that provides for a cultural resources enforcement program to address looting, vandalism, and other

illegal activity involving cultural resource sites, including TCPs, archeological resources, graves, and human remains. Specifically, the Enforcement MOA(s) shall address laws, authorities, potential cross-authorities, delegations and deputization of authorities, fine distribution, field deployment, access, sharing of equipment, public education, information reporting, gathering and exchange, and other issues. The Corps shall provide a draft Enforcement MOA for review to all interested parties, including law enforcement officials and Affected Tribes, THPOs, SHPOs, ACHP, and other consulting parties, within 60 days of the signing of this PA. The Corps shall work with the interested parties to revise the draft Enforcement MOA to address their comments. The Enforcement MOA shall be finalized only after the consultation process has been completed as stated in stipulation 6.

B) Hotline. Within 120 days of the signing of this PA, the Corps shall establish and promote a hotline for reporting of looting, vandalism, and other illegal activities and a specific protocol for documentation, verification, and tracking of information, for the purpose of prosecution of offenders.

C) ARPA Training. Every three years the Corps shall host an ARPA training class for law enforcement, cultural preservation personnel (tribal, state and federal), and others who may be involved in enforcement activities.

15. Cultural Resource Education Program.

A) Educational Program. Engineer Regulation No. 1130-2-540 authorizes the preparation of brochures, slide shows, or other media documentation for public presentation relative to historic preservation activities that may be of particular interest to the Affected Tribes and general public.

i) The Corps shall create educational displays, media shows, interpretive programs, pamphlets, and brochures to enhance public education concerning cultural resources. The parties to this PA will be involved in the development and finalization of these items. The Five-Year Plan and CRMPs will describe how the Corps will carry out this educational and interpretive program.

ii) The Corps, in consultation with the Affected Tribes and THPOs, SHPOs, and as outlined in the CRMPs and Five-Year Plan, will develop an educational program concerning the need to avoid cultural areas and to leave archaeological sites and their material remains undisturbed. The public is generally uninformed about the significance of cultural resources and unaware of the significance of these cultural areas or sites for Affected Tribes whose ancestors lived in these areas and created what are often referred to as archaeological sites.

B) Signage. The public must be made aware that cultural sites are being monitored for unauthorized activities and severe criminal penalties could result from illegal activity of looting, artifact collecting, and vandalism. The Corps, in consultation with Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties, shall develop and place signs at agreed upon points of public access to the Missouri River.

C) Press Release. In consultation with Affected Tribes and THPOs and SHPOs, the Corps shall issue press releases and conduct press conferences bi-annually (Spring and Fall) to remind the public about the penalties associated with looting, artifact collecting, and vandalizing. A list of local, regional, and multi-state media will be developed in consultation with Affected Tribes and THPOs, and SHPOs.

16. Curation of Artifact Collections, Material, Records, and Data.

The Corps shall ensure that artifacts are collected on a minimal basis only in those situations that require the collection to support a requirement of the NHPA.
The Corps shall curate artifact collections, material, records, and data according to 36 CFR Part 79.1-Curation of Federally-owned and Administered Archeological Collections and Corps Engineer Regulation 1130-2-433, except that resources meeting NAGPRA definitions will be handled according to the requirements and procedures in the NAGPRA regulations or other memoranda of agreement entered into between the Corps and tribal governments. The Corps shall curate paleontology resources as addressed in Attachment 3. The Corps will continue to carry out its current practice of reburying artifacts on or near the area where they were found during monitoring or other field actions, and their discovery and subsequent reburial will be reported to the Affected Tribes

17. Protection of Sensitive Information.

A) Legal Background. Section 9 of ARPA provides for information concerning the nature and location of archaeological resources on federal land and Indian land to be protected from disclosure under the Freedom of Information Act (FOIA), unless excepted under ARPA. Section 304, NHPA provides that information about the location, character, or ownership of a historic property shall be withheld from disclosure under FOIA if the Corps, in consultation with the National Park Service, determines that disclosure may 1) cause a significant invasion of privacy; 2) risk harm to the historic resource; or 3) impede the use of a traditional religious site by practitioners. The Corps, to the maximum degree possible, shall respect section 9 of ARPA and section 304 of the NHPA in determining *the* release or disclosure of information under FOIA. For the purposes of protection of sensitive information, the Corps shall consider properties or locations that have not been evaluated for their National Register eligibility, including TCPs and properties of religious and cultural significance, as eligible for the National Register in making this determination.

B) Confidentiality Protocol. The Corps and Affected Tribes, THPOs, SHPOs, ACHP, and other consulting parties recognize the need to treat certain kinds of sensitive or proprietary information with confidentiality, including but not limited to information about the location of places that hold sacred significance for Affected Tribes and THPOs. The Corps and Affected Tribes, THPOs, SHPOs, ACHP, and other consulting parties shall, working in close consultation as outlined in stipulation 6, and assuring compliance with Federal and other applicable law, develop a protocol for the confidentiality of such sensitive information within one-year of signing of this document.

C) Interim Confidentiality Provisions. Until such a protocol is adopted, the Corps and Affected Tribes, THPOs, SHPOs, ACHP, and other consulting parties shall protect information concerning the nature, character, ownership, or location of archaeological resources or historic properties and withhold such information from disclosure to the public as outlined in subsection A) above of this stipulation. Also, the Corps shall ensure that each document that includes information about any historic property, archaeological resource, or unevaluated location shall be accompanied with a prominent notice that the document and information are to be treated for official use only.

18. Corps Main Stem System Operations Decision Documents.

The Corps shall consult with Affected Tribes and THPOs, SHPOs, ACHP, and the other consulting parties on draft Annual Operating Plans and other decision documents to determine whether operational changes are likely to cause changes to the nature, location, or severity of adverse effects to historic properties or to the types of historic properties affected and whether amendments to the Corps' CRMP(s) and Five-Year Plan are warranted in order to better address such effects to historic properties.

19. Tribal Partnerships.

The Corps and the Affected Tribes, THPOs, SHPOs, ACHP shall work together to develop and implement partnerships so that Affected Tribes, THPOs, SHPOs, ACHP are involved in the development and implementation of the Main Stem System cultural resources program and this PA and that promote tribal historic preservation goals. Training, access to cultural resource site information (subject to provisions for protection of such information), historic preservation services, sharing of and/of access to equipment, etc. may be the basis of such partnerships. It is acknowledged that some or all these partnerships may need to be supported by cooperative agreements or other instruments to be negotiated independent of this PA. Additionally, if requested by an Affected Tribe, the Corps shall consult regarding the possibility of tribal access to historic properties that are sacred to the Affected Tribe and THPOs on Corps lands, in fulfillment of Executive Order 13007 and the Corps' EP 1165-2-1, section 3-2. Further, the Corps shall consult with Affected Tribes, THPOs, SHPOs, ACHP regarding the Corps' Tribal Partnership Program established pursuant to Section 203, Water Resources Development Act of 2000.

20. National Historic Preservation Act/Native American Graves Protection and Repatriation Act Overlap.

The Corps shall comply with Sections 106 and Section 101(d)(6) of the NHPA and the Native American Graves Protection and Repatriation Act (NAGPRA) in circumstances in which both authorities apply, such as the discovery of human remains that may be associated with a historic property. In addition to complying with NAGPRA, the Corps shall take steps to identify if human remains and other types of items meeting the definitions outlined in NAGPRA are associated with a property that may meet the National Register criteria and for which Section 106 and Section 101(d)(6) also apply. In such case, the Corps shall comply with the provisions of this PA and 36 CFR part 800, in addition to NAGPRA and any applicable NAGPRA Memoranda of Agreement (see Attachment 3).

21. Performance Standards and Qualifications.

A) Standards. The Corps shall ensure that all work required under this PA is carried out in accordance with the professional standards and guidelines outlined in the *Secretary of the Interior's Standards and Guidelines for Historic Preservation Projects* and applicable state and tribal authorities.

B) Qualifications. The Corps shall ensure that all work conducted pursuant to this PA is carried out by or under the supervision of persons meeting qualifications set forth in the *Secretary of the Interior's Professional Qualifications Standards*, as amended, for the pertinent discipline (see 48 F.R. 44739). The Corps acknowledges that Affected Tribes possess special knowledge and expertise regarding their tribal values, history, and culture, and properties that may possess traditional religious and cultural significance to them.

22. Annual Report.

The Corps shall prepare a report and distribute it to the Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties not less than 60 days prior to the date of the annual review. At a minimum, the report shall discuss the topics outlined in Attachment 4 for the past year and the coming year.

23. Semi-Annual Consultation Meetings and PA Annual Review.

A) Semi-Annual Consultation Meetings. The Corps shall host, at a minimum, semi-annual consultation meetings among the affected Tribes, THPOs, SHPOs, ACHP and other consulting parties to discuss the cultural resource program, Annual report, CRMPs and Action Plan status, activity prioritization, budget planning and other budget matters as necessary, PA implementation and the Corps' Section 106 responsibilities, and other topics of concern to the affected Tribes, THPOs, SHPOs, ACHP, and other consulting parties. The Corps, Affected Tribes, THPOs, SHPOs, ACHP, and other consulting parties together shall set the agenda for each meeting by the Corps distributing a call for agenda items at least 30 days prior to the meeting. It is anticipated that one meeting will be during the month of November and the other meeting will be held during the month of April. In order to address new budget issues, a review and planning for the budgetary process shall have priority at the April meeting. The Corps and these parties working together shall develop a schedule for the involvement of the Affected Tribes, THPOs, SHPOs, ACHP, and other consulting parties in the cultural resources activities for the coming year.

B) PA Annual Review. Annually, the Corps, Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties shall review this PA and progress in carrying out its provisions to determine whether the PA should be amended or terminated. Review of the PA shall occur at one of the semi-annual consultation meetings and be based, in part, on the annual report prepared by the Corps and submitted to parties not less than 60 days prior to the date of the review. Interim review of this PA may occur due to unsatisfactory performance, based on exercise of the dispute resolution clause, by the Corps or signatory party.

24. Funding and Budget Planning.

A) General. The Anti-Deficiency Act, 31 U.S.C. 1341, et seq., applies to this PA and must be followed by the Corps as it accomplishes the tasks that it has agreed to perform in this PA. This means that no action, plan, study, task, or the like shall be construed to require the Corps to obligate or expend funds in excess or in advance of an appropriation authorized by law. In addition, the Federal Acquisition Regulations (FAR) apply to the acquisition of goods and services by the Corps as a result of tasks or actions that must be performed pursuant to this PA.

B) Additional Funding. The Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties are encouraged to look for other potential funding sources to assist in the implementation of this program. Where applicable, they are encouraged to consider participating in the funding of cultural site preservation though the use of Corps cost sharing programs or other authorities. The Corps agrees that its intent is that all appropriated funds designated for carrying out this PA and attachment 3 will be spent for these purposes. Similarly, the Corps agrees that its intent is that the availability of non-Corps funds for cultural resource purposes will not result in a reduction of Corps appropriated funds for those same purposes.

C) Budget Planning. Annually, the Corps shall provide the Affected Tribes and THPOs, SHPOs, ACHP, and other consulting parties with a 60-day period to review and consult on the Corps' draft list of proposed projects for budget consideration to ensure that they are consistent with the Five-Year Plan and CRMPs and other considerations. Signatory parties may elect to enact a prioritization system.

25. Dispute Resolution.

A) Should a dispute or objection arise regarding any aspect of this agreement or an undertaking subject to review under this agreement, the Corps shall consult with the disputing or objecting party as soon as possible to try to resolve the objection. The disputing or objecting party and the Corps are encouraged to pursue alternative dispute resolution processes including traditional tribal approaches and to consult with the other affected Tribes, THPOs, SHPOs, ACHP and consulting parties.

B) If the disputing or objecting party believes that the consultation has failed to resolve the objection or dispute and wishes to pursue the issue, the party shall notify the Corps in writing within 60 days of the initial notification of the dispute. The Corps shall, within 30 days of the receipt of the disputing party notification, submit all relevant documentation pertaining to the dispute or objection with the Corps written proposal for its resolution to the ACHP with a copy to the disputing party.

C) Within 30 calendar days of receipt of such written submittal, the ACHP shall either:

i) Notify the Corps that it shall consider the dispute pertinent to the applicable provisions of 36 CFR 800.7 (b) and respond in accordance with that subsection; or
ii) Provide the Corps with recommendations, which the Corps shall take into account in reaching a final decision; or
iii) Respond to the Corps that it will not consider the dispute or provide recommendations, in which case the Corps may proceed with the proposed resolution.

D) In the case of a ACHP response of (C)(ii) or (C)(iii), the Corps shall provide a decision to the objecting or disputing party that takes into account the ACHP's response

26. Additional Signatories.

The Corps will consult with the parties to this PA pursuant to stipulation 6 regarding parties who wish to be additional signatories. If the Corps approves the request to become an additional signatory, the party must be a state or Federal governmental agency or an affected tribe or THPO, must sign the Additional Signatory Form in Attachment 5 and submit it to the Omaha District, Army Corps of Engineers. In the annual report or sooner, the Corps shall inform the Affected Tribes, THPOs, SHPOs, ACHP and other consulting parties of additional parties who have signed the PA.

27. Amendments.

The Corps, Affected Tribe, THPO, ACHP, SHPO, or other consulting party to this PA may request that the PA be amended whereupon the parties will consult in accordance with stipulation 6 to consider such amendment(s). Any proposed amendment must be provided to the consulting parties as part of the agenda materials prior to the semi-annual meeting and must be discussed at that meeting. To implement an amendment, consensus among the signatories is required. The amendment must be executed by the signatories and in the same manner as this PA.

28. Withdrawal.

A) Any party to this PA may withdraw from the PA after first providing the other parties written notice that explains the reasons for withdrawal and providing them an opportunity to consult regarding amendment of the PA to prevent withdrawal.

B) In the case of withdrawal from this PA by an Affected Tribe with tribal lands (see definition for tribal lands in Attachment 2) within the scope of this PA or affected by the Corps' undertakings, the Corps shall comply with 36 CFR part 800, subpart B, for all undertakings on or affecting lands within the withdrawing tribe's tribal lands, in lieu of this PA. With respect to historic properties outside of the withdrawing tribe's tribal lands to which that tribe attaches religious and cultural significance, the Corps shall consult with the withdrawing tribe pursuant to 36 CFR part 800, subpart B, in lieu of this PA.

C) Withdrawal from this PA by a SHPO shall require the Corps to comply with 36 CFR part 800 with respect to all undertakings on or affecting lands within that SHPO's area of jurisdiction, in lieu of this PA.

29. Termination.

The Corps, Affected Tribe, THPO, ACHP, and SHPO, or other consulting party who believes that the PA should be terminated shall provide written notification with the reasons for termination to the Corps and other consulting parties at least 60 days prior to a semi-annual consultation meeting. The Corps shall provide this notification in the meeting materials provided to the parties. The parties shall consult to consider an amendment to the PA that would prevent termination. Termination of the PA shall be executed by the consensus of the signatories; or by the ACHP individually; or by a signatory SHPO for its area of jurisdiction; or a signatory Affected Tribe or THPO for its tribal lands within the scope of this PA. In such case, the Corps shall comply with 36 CFR part 800, subpart B, for all undertakings on or affecting lands within the terminating SHPO's area of jurisdiction or the terminating tribe's tribal lands. Termination of this PA in part or entirety will require the Corps to comply with 36 CFR part 800, subpart B with respect to each individual undertaking that would be reviewed under this PA.

30. Duration.

Unless this PA is terminated or amended in accordance with this PA, its duration is 40 years from date of the execution of this PA when it will become null and void.

Execution and implementation of this Programmatic Agreement evidences that the Corps has afforded the ACHP a reasonable opportunity to comment on the effects on historic properties related to the Corps undertakings within the scope of this PA.

U.S. Army Corps of Engineers, Omaha District

By _____ Date 13 April 2004
Title Commander, Omaha District

U.S. Army Corps of Engineers, Northwest Division

By _____ Date 13 MAR '04
Title

U.S. Army Corps of Engineers, Headquarters, Washington DC

By _____ Date 4-13-2004
Title

Advisory Council for Historic Preservation

By _____ Date 4-13-2004
Title CHAIRMAN

Nebraska State Historical Society

By _____ Date 4/16/04
State Historic Preservation Officer

South Dakota State Preservation Office

By _____ Date 04-13-2004
State Historic Preservation Officer

Montana State Historic Preservation Office

By _____ Date 5-12-04
State Historic Preservation Officer

North Dakota State Historic Preservation Office

By _____ Date 5-12-04
State Historic Preservation Officer

Cheyenne River Sioux Tribe Historic Preservation Office

By _____ Date 4-13-04
Tribal Historic Preservation Officer

Standing Rock Sioux Tribe Historic Preservation Office

By _____ Date _____
Tribal Historic Preservation Officer

Turtle Mountain Band of Chippewa

By _____ Date 4-18-04
Tribal Historic Preservation Officer

Assiniboine & Sioux Tribes of Fort Peck

By _____ Date 4-13-04
Title

Blackfeet Tribe

By _____ Date ____
Title

Cheyenne River Sioux Tribe

4-13-04

By _____ Date ____
Title

Chippewa Cree Tribe

By _____ Date ____
Title

Crow Nation

By _____ Date ____
Title

Crow Creek Sioux Tribe

By _____ Date 5-3-04
Title

Flandreau Santee Sioux Tribe

By _____ Date 4-21-04
Title

Gros Ventre & Assiniboine Tribes

By _____ Date ____
Title

Lower Brule Sioux Tribe

By _____ Date 4-13-04
Title

National Trust for Historic Preservation

By Barbara Pahl Date 4-13-04
Title Regional Director

Northern Arapaho Tribe

By [signature] Date 5/12/04
Title

Northern Cheyenne Tribe

By [signature] Date 4-13-04
Title

Oglala Sioux Tribe

By _____ Date ____
Title

Omaha Tribe of Nebraska

By [signature] Date 4-13-04
Title Chairman

Ponca Tribe of Nebraska

By [signature] Date 4-6-04
Title Vice Chair

Rosebud Sioux Tribe

By _____ Date ____
Title

Sac and Fox of Missouri in Kansas and Nebraska

By [signature] Date 4-13-04
Title

Santee Sioux Tribe of Nebraska

By [signature] Date 4-13-04
Title

Sisseton-Wahpeton Sioux Tribe

By [signature] Date 4-21-04
Title Chairman

Spirit Lake Sioux Tribe

By____________________ Date____
Title

South Dakota Department of Game, Fish and Parks

By *Douglas Hofer* Date *4/13/04*
Title

Standing Rock Sioux Tribe

By____________________ Date____
Title

Three Affiliated Tribes

By *Austin Gillette - Tsu Daga* Date *4/13/04*
Title *Tribal Council MBR. Ft. Berthold.*

Turtle Mountain Band of Chippewa

By *[signature]* Date *4-18-04*
Title

Winnebago Tribe of Nebraska

By *James E. Snow* Date *5-14-04*
Title

Yankton Sioux Tribe

By____________________ Date____
Title

Bureau of Indian Affairs, Great Plains Region

By_____ Date_____
Title

Eastern Shoshone Tribe

By_____ Date 5/12/04
Title

AUTHORITY AND TRUST RESPONSIBILITY

AUTHORITY

The primary purpose and legal authority for this PA are found in the National Historic Preservation Act (16 U.S.C. §470f et seq) (NHPA), particularly section 106 (16 U.S.C. 470f), section 110 (16 U.S.C. 470h-2), and section 101 (16 U.S.C. 470a) of that Act. Federal agency compliance with NHPA section 106 is governed by regulations issued by the Advisory Council on Historic Preservation, 36 C.F.R. part 800, and this PA has been negotiated pursuant to those regulations. The signatories agree that the Missouri River Main Stem System shall be administered in accordance with the stipulations in this PA to take into account and attempt to mitigate adverse effects to historic properties and satisfy the responsibilities of the Corps pursuant to section 106.

In addition to section 106 and the Advisory Council's regulations, numerous other provisions of the NHPA, some of which are cited in the PA, are applicable to activities of the Corps in fulfilling its commitments under this PA. Additionally, the Corps is responsible for complying with other legal authorities, including federal statutes, regulations, executive orders, and guidance documents, as well as any applicable tribal and state laws. Citations to some of these other sources of law are provided here for reference purposes only. In the final section of this attachment, a discussion of the Federal trust responsibilities to Indian Tribes is provided.

1. Federal Laws

American Indian Religious Freedom Act (AIRFA), Pub. L. No. 95-341 (codified in part at 42 U.S.C. §1996).

Native American Graves Protection and Repatriation Act (NAGPRA), 18 U.S.C. §1170, 25 U.S.C. §3001 – 3013, implemented through regulations codified at 43 C.F.R. part 10.

Archeological Resources Protection Act, 16 U.S.C.470aa – 470mm, implemented through uniform regulations (identical except for numerical designations) codified at 18 C.F.R. part 1312 (Tennessee Valley Authority), 32 C.F.R. part 229 (Defense), 36 C.F.R. part 296 (Agriculture), 43 C.F.R. part 7 (Interior); with respect to Indian lands, see also Interior supplemental regulations, 43 C.F.R. part 7, subpart B, and Bureau of Indian Affairs supplemental regulations, 25 C.F.R. part 262.

National Environmental Policy Act (NEPA), 42 U.S.C. 4321 – 4347, implemented through regulations issued by the Council on Environmental Quality codified at 40 C.F.R. parts 1500 – 1508.

Indian Self-Determination Act, 25 U.S.C. §§450 – 450n, 455 – 458e.

2. Tribal Laws

Applicable Tribal Laws and Permits

3. State Laws

Applicable State Laws and Permits

4. Executive Orders

EO 11593 Protection and Enhancement of the Cultural Environment
EO 12898 Federal Actions to Address Environmental Justice in Minority Populations
And Low-Income Populations
EO 13006 Locating Federal Facilities on Historic Properties
EO 13007 Protection of Indian Sacred Sites
EO 13175 Consultation and Coordination with Indian Tribal Governments
EO 13287 Preserve America

5. Policy

Concerning Distribution of Eagle Feathers for Native American Religious Purposes

Department of Defense, American Indian and Alaska Native Policy, 1998

Northwest Division, US ACE, Native American Desk Guide, September. 30, 2002

Guidance Letter #57, Indian Sovereignty and Government-to-Government Relations with Indian Tribes

Guide on Consultation and Collaboration with Indian Tribal Governments and the Public Participation of Indigenous Groups and Tribal Members in Environmental Decision Making, prepared by the National Environmental Justice Advisory Council, Indigenous Peoples Subcommittee, a Federal Advisory Group of the EPA

6. Federal Guidelines

Relationship Between Executive Order 13007 Regarding Indian Sacred Sites and Section 106. Advisory Council on Historic Preservation Memo, updated April 4, 2003

Secretary of Interior's Standards and Guidelines for Archeology and Historic Preservation Projects.

Guidelines for Evaluating and Documenting Traditional Cultural Properties, National Register Bulletin 38. U.S. Department of Interior, National Park Service, Interagency Resources Division.

How to Evaluate and Nominate Designed Historic Landscapes. National Register Bulletin 18. U.S. Department of Interior, National Park Service, Interagency Resources Division.

7. Department of Defense and/or USACE Regulations and Guidelines

ER 405-1-12 Real Estate Handbook
ER 1105-2-1 Environmental Compliance Program at Corps Projects and Activities

ER 1130-2-433 and Historical Data	Collections Management and Curation of Archeological
ER 1130-2-438 Preservation Program	Project Construction and Operation Historic
ER and EP 1130-2-540	Cultural Resource Management – Project Operations: Environmental Stewardship Operations and Maintenance Guidance and Procedures
EP 1165-2-1	Digest of Water Policies and Authorities, section 3-12 on E.O. 13007

7. Memoranda Of Agreement

Between the Lower Brule Sioux Tribe, Bureau of Indian Affairs Agency; the Crow Creek Sioux Tribe Bureau of Indian Affairs Agency; and the Omaha District, U.S. Army Corps of Engineers concerning enforcement of federal preservation laws at Big Bend Dam, dated 4 June 2003;

Between the Turtle Mountain Band of Chippewa, the Standing Rock Sioux Tribe, the Spirit Lake Sioux Tribe and the Three Affiliated Tribes, concerning treatment and disposition of unmarked burials associated with these Tribes on Omaha District Corps lands, dated 13 December 1993.

9. Cultural Resources Memorandum

November 2002 Message from the Commander, General David Fastabend, Commander of the Northwest Division, in which he discusses Corps responsibilities to Cultural Resources.

10. Trust Responsibility to Indian Tribes

The ACHP recognizes their trust responsibilities to federally recognized Tribes with regard to this PA. The ACHP's trust relationship with Indian Tribes is described in its ACHP Policy Statement Regarding ACHP's Relationship with Indian Tribes, issued November 17, 2000 and updated on April 4, 2003.

** This background information about the federal trust responsibility to Indian Tribes was prepared by tribal attorneys for the educational benefit and convenience of any reader. It was not intended to reflect the views of the U.S. Army, Corps of Engineers and possibly, the consulting parties.*

The Army Corps of Engineers recognizes their trust responsibilities to federally recognized Tribes with regard to this PA.

The trust responsibility is a federal common law and other legal doctrine, the subject of numerous decisions by Federal courts interpreting treaties, statutes, regulation, and executive orders. As described in a 1977 report commission by Congress:

"The purpose of the trust doctrine is and always has been to ensure the survival and welfare of Indian Tribes and people. This includes an obligation to provide for those services required to protect and enhance Indian lands, resources, and self-government, and also includes those economic and social programs which are necessary to raise the

standard of living and social well-being of the Indian people to a level comparable to the non-Indian society."[2]

The Federal trust responsibility to Indian Tribes has its roots in land cessions made by Tribes in treaties, in the promises made by the United States to protect the rights of the Tribes to govern themselves in the lands that they had reserved, and in the practice of the federal government holding legal title to most Indian land, subject to Indian rights of occupancy and beneficial use.[3] In the present day sense, the trust responsibility can be described as "the federal government's duty to protect this separatism [of the Tribes] by protecting tribal lands, resources, and the native way of life."[4] Congress has explicitly acknowledged that "the United States has a trust responsibility to each tribal government that includes the protection of the sovereignty of each tribal government."[5] The trust doctrine includes fiduciary obligations comparable to those of a trustee for the management of trust land and natural resources and funds derived from trust land, including the duty to act "with good faith and utter loyalty to the best interests" of the Indians.[6] The Federal government has been held liable for mismanagement in some cases.[7] The Supreme Court has acknowledged "the undisputed existence of a general trust relationship between the United States and the Indian people,"[8] although for the Federal government to be liable in damages for breach of trust, the Court has held that fiduciary duties must be based on a relevant statute or regulation, or a network of statutes and regulations.

In several lower Federal court decisions, the trust doctrine has been said to extend to Federal agencies other than the agency charged with management of trust land, resources, and funds (i.e., generally the Bureau of Indian Affairs carrying out the authority of the Secretary of the Interior),[9] Regardless of whether the trust doctrine might

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[2] AMERICAN INDIAN POLICY REVIEW COMMISSION, FINAL REPORT, at 130 (1977) (herein "AIPRC Final Report"), *quoted in* STEVEN PEVAR, THE RIGHTS OF INDIANS AND TRIBES at 27 (2d ed., 1992).

[3] *See generally* Mary Christina Wood, *Indian Land and the Promise of Native Sovereignty: The Trust Doctrine Revisited*, 1994 UTAH L. REV. 1471 (1994) [hereinafter "Wood, Trust I"]; Mary Christina Wood, Protecting the Attributes of Native Sovereignty: A New Trust Paradigm for Federal Actions Affecting Tribal Lands and Resources, 1995 UTAH L. REV. 109 (1995) [hereinafter "Wood, Trust II"]. *See also* FELIX S. COHEN, HANDBOOK OF FEDERAL INDIAN LAW 220-28 (1982 ed.).

[4] Wood, Trust I, at 1496.

[5] 25 U.S.C. §3601.

[6] AIPRC Final Report, *supra* note 1, at 128, *quoted in* Pevar, *supra* note 1, at 27.

[7] *E.g*., United States v. Mitchell, 463 U.S. 206 (1983) (liability in money damages for mismanagement of timber resources by the Department of Interior) (often referred to as "Mitchell II" to distinguish this decision from United States v. Mitchell, 445 U.S. 535 (1980) ("Mitchell I"), in which the Federal government was not held liable); See also United States v. White Mountain Apache Tribe, 537 U.S. 465 (2003) (holding that the Court of Federal Claims has jurisdiction over a breach of trust claim arising out of mismanagement of land and buildings held in trust for tribe but occupied by federal government); *contra* United States v. Navajo Nation, 537 U.S. 488 (2003) (holding federal government not liable in damages for alleged breach of trust in leasing of land for mineral extraction).

[8] Mitchell II, 463 U.S. at 225.

[9] *E.g.,* Nance v. Environmental Protection Agency, 645 F.2d 701, 710 (9th Cir. 1981) (EPA held to have a fiduciary duty to consider impacts of Northern Cheyenne Tribe's designation of its reservation as Class I for air quality purposes on Crow Tribe's ability to mine coal on its reservation, and finding duty fulfilled); Pyramid Lake Paiute Tribe of Indians v. U.S. Dep't of the Navy, 898 F.2d 1410, 1420 (9th Cir. 1990) (trust obligation to consider impacts on tribal water rights recognized but held to be satisfied through conservation measures); Morongo Band of Mission Indians v. Federal Aviation Administration, 161 F.3d 569, 573-74 (9th Cir. 1998) (discussing distinction between general and specific trust responsibility and hold that general responsibility "is discharged through the agency's compliance with general regulations and statutes not specifically aimed at protecting Indian tribes"); *contra* (North Slope Borough v. Andrus, 642 F.2d 589, 611 (1980) (a post-*Mitchell I* and pre-*Mitchell II* decision finding no trust

give rise to judicially enforceable claims, the Tribes expect the Corps to act in accordance with the Federal trust responsibility. This includes government-to-government consultation whenever the Corps' "plans or actions affect trust resources, trust assets, or tribal health and safety."[10]

Some Corps actions directly or indirectly affect trust land, and some of the lands managed by the Corps are within reservation boundaries established by treaties where the Tribes and their members continue to have treaty-based rights even though lands have been taken out of trust status. Federal lands managed by the Corps (both within and outside reservation boundaries) include places that hold religious and cultural importance of the Tribes, and some of these places are crucial for the cultural identities of the Tribes and, as such, for the survival of the Tribes as distinct peoples. Some of these places contain the graves of ancestors and funerary objects, in which Federal law recognizes the right of lineal descendants and culturally affiliated Tribes to take custody in the event that they are removed from the Earth. The Tribes expect the Corps to treat these sacred and cultural significant places as subject to the Federal trust responsibility.

This means that they must be engaged in consultation before decisions are made and that the Tribes expect to participate in making decisions and in carrying out decisions. Consultation will be both specific to individual Tribes and with as many comprehensive consultations attended by all affected Tribes, THPOs, SHPOs, ACHP as are necessary with real efforts to reach consensus. Consultations will be conducted in a positive manner, on a government-to-government basis, honoring all treaties and the trust doctrine and other law, which entails a fiduciary and fiscal responsibility of the Corps. Decisions will be made on a government-to-government basis. Finally, the Corps will continue to include, as consulting parties, affected Tribes, THPOs, SHPOs, ACHP in any review or update of the Master Manual.

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responsibility in the absence of specific statutory provisions). *See* Wood, Trust I, *supra* note 2, at 1527-1535, Wood, Trust II at 117-21, *supra* note 2.

[10] The quoted language is from the Department of the Interior's Departmental Manual (DM) and applies to all bureaus and offices within DOI. 516 DM 2.2. While the DM does not apply to the Corps, the Tribes believe that the basic principle does apply to the Corps.

ACRONYMS AND DEFINITIONS

ACRONYMS

ACHP – Advisory Council on Historic Preservation
APE – Area of Potential Effects
ARPA – Archaeological Resources Protection Act
CRMP – Cultural Resources Management Plan
NAGPRA – Native American Graves Protection and Repatriation Act
NHPA- National Historic Preservation Act
SDGFP-South Dakota Department of Game, Fish, and Parks
SHPO – State Historic Preservation Officer
THPO – Tribal Historic Preservation Officer

DEFINITIONS

Adverse Effect – "an effect of an undertaking that may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association." 36 C.F.R. §800.5(a). This section of the ACHP regulations provides additional guidance on how to determine whether an effect is adverse and examples of adverse effects.

Advisory Council on Historic Preservation (ACHP) – an independent agency created by the Title II of the National Historic Preservation Act (NHPA), 16 U.S.C. §§470i through 470v. The ACHP issued regulations, 36 C.F.R. part 800, governing the section 106 review process and oversees the conduct of the Section 106 process (see section 106, 16 U.S.C. §470f, and section 211, 16 U.S.C. §470s.)

Affected Tribe – Any Indian Tribe, as defined in this Attachment, that attaches religious and cultural significance to cultural resources, including historic properties, as provided in the scope of this PA, regardless of the location or nature of the undertaking, or regardless of whether the Tribe has been or will be developing any other agreements. Any Tribe that is included in the signatory portion of this PA, whether or not such tribe has signed this PA, and any other Tribe that becomes an "additional signatory" pursuant to Stipulation 26.

Archaeological Resource – "any material remains of past human life or activities which are of archaeological interest," and that are at least 100 years of age, including graves and human remains if found in an archaeological context, as defined in the Archaeological Resources Protection Act (ARPA), 16 U.S.C. §470bb. The uniform regulations provide extensive elaboration on the definition, including the key phrase "of archaeological interest." 43 C.F.R. §7.3(a); 32 C.F.R. §229.3(a). The phrase "of archaeological interest" is defined in regulations as "capable of providing scientific or humanistic understandings of past human behavior, cultural adaptation, and related topics through the application of scientific or scholarly techniques such as controlled observations, contextual measurement, controlled collection, analysis, interpretation and explanation." The statutory definition explicitly includes graves and human remains, which are also the subject matter of the Native American Graves Protection and Repatriation Act (NAGPRA); funerary objects, sacred objects, and objects of cultural patrimony covered

by NAGPRA may be archaeological resources if at least 100 years of age and found in an archaeological context. An archaeological resource may be a historic property, or located within a historic property, as that term is used in the National Historic Preservation Act (NHPA) and this PA. A site at which archaeological resources are located may also be an Indian sacred site as defined in Executive Order 13007.

Area of Potential Effects – "the geographic area or areas within which an undertaking may directly or indirectly cause alternations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." 36 C.F.R. §800.16(d).

ARPA Permitting Process – permit process for the excavation or removal of archaeological resources from federal public lands and Indian lands, established pursuant to ARPA and conducted pursuant to uniform regulations codified at 43 C.F.R. part 7; 32 C.F.R. part 229. For "Indian lands" see also supplemental regulations issued by Department of Interior 43 C.F.R part 7, subpart B (§§7.31 – 37) and supplemental regulations issued by Bureau of Indian Affairs, 25 C.F.R. part 262.

Consensus – For purposes of this PA, consensus means either that all of the signatories agree or that none of the signatories objects.

Consultation – "the process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the section 106 process. The Secretary's 'Standards and Guidelines for Federal Agency Preservation Programs pursuant to the National Historic Preservation Act' provide further guidance on consultation." 36 C.F.R. §800.16(f). The stipulations in this PA provide detail on how consultation will be conducted for purposes of compliance with this PA. Consultation in other contexts may be conducted somewhat differently than as provided for in this PA, and may be subject to the requirements of other statutes, regulations and other sources of law, including those listed in Attachment 2.

Consulting Parties – with the exception of the Corps, all officials and entities named in the "Signatures" section of this PA whether or not they have signed the PA and all additional signatories pursuant to Stipulation 26. Those consulting parties whom are signatories to this agreement shall be consulted and treated as outlined in this PA. Those consulting parties that have not signed will be consulted following the Secretary's "Standards and Guidelines for Federal Agency Preservation Programs Pursuant to the National Historic Preservation Act" 36 C.F.R. §800.16(f).

Cultural Resource(s) – a general "term of art" without a specific legal definition used to refer to "all elements of the physical and social environment that are thought to have cultural value." Thomas F. King, Places That Count: Traditional Cultural Properties in Cultural Resources Management (Alta Mira Press, 2003), p. 11. For purposes of this PA, cultural resources include historic properties, archaeological resources, sacred sites, religious sites, burial sites, properties of traditional religious and cultural importance, and Native American cultural items (including human remains, associated funerary objects, unassociated funerary objects, sacred objects, and objects of cultural patrimony). A cultural resource site is the location of a cultural resource.

Cultural Resource Management – activities and tasks involved in the stewardship of cultural resources, including to identify, evaluate, maintain, protect, and otherwise treat

cultural resources, and to comply with historic preservation and environmental law (including the NHPA, ARPA, AIRFA, NEPA, EO 13007, EO 13287). These activities and tasks are described in detail in many sources, including federal laws, regulations, and guidance and the "Secretary of the Interior's Standards and Guidelines for Historic Preservation Projects," (48 Fed. Reg. 44716) and the many publications of the National Park Service. U.S. Army Corps Engineering Regulation and Pamphlet 1130-2-540 discuss cultural resources stewardship and cultural resources management.

CRMP – cultural resources management plan. See stipulation 9 of the PA.

Effect – "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register." 36 C.F.R. §800.16(i).

Eligible for Inclusion in the National Register – "includes both properties formally determined to be as such in accordance with regulations of the Secretary of the Interior and all other properties that meet the National Register criteria." 36 C.F.R. §800.16(l)(2). Criteria of eligibility are codified at 36 C.F.R. §60.6. Regulations of the Secretary of the Interior for determinations of eligibility are codified at 36 C.F.R. part 63. Determinations of eligibility may also be made during the section 106 process. 36 C.F.R. §800.4.

Federal Acquisition Regulations – the regulations governing procurement by federal agencies, codified at 48 C.F.R. Part 1.

Federal Lands – In NAGPRA, the term "Federal lands" is defined as any "lands other than tribal lands which are controlled or owned by the United States, including lands selected by but not yet conveyed to Alaska Native corporations and groups organized pursuant to the Alaska Native Claims Settlement Act." 25 U.S.C. §3001(5). The substance of this definition closely corresponds to the definition of the term "public lands" as used in ARPA. "Federal lands" that are within the boundaries of an Indian reservation are also "tribal lands" for purposes of NHPA and NAGPRA. [Note: Individual Indian allotments that are outside the boundaries of an Indian reservation and not otherwise within a "dependent Indian community" are considered "federal lands" for purposes of NAGPRA. 60 Fed. Reg. 62140 (1995).]

Final Agency Action – an agency action that is not subject to review within the agency and, as such, may be subject to judicial review in federal court pursuant to the Administrative Procedure Act. 5 U.S.C. §§551, 701 – 706, or other federal statute.

Historic Property – "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria." 36 C.F.R. §800.16(l)(1), providing elaboration on the statutory definition codified at 16 U.S.C. §470(w)(5). See also definitions of "eligible for inclusion in the National Register" and "National Register Criteria" in this Attachment.

Historic Resource – is a statutory synonym of "historic property." 16 U.S.C. §470w(5).

Impacts - any change to a cultural resource site, including a historic property

Indian Land – as defined in the Archaeological Resources Protection Act (ARPA), "lands of Indian Tribes, or Indian individuals, which are either held in trust by the United States or subject to a restriction on alienation imposed by the United States, except for any subsurface interests in lands not owned or controlled by an Indian tribe or an Indian individual." 16 U.S.C. §470bb(4). This term is not synonymous with "tribal lands" as defined in NHPA and NAGPRA.

Indian Sacred Sites – as used in Executive Order 13007, "any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or an Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion, provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site." Executive Order 13007 (May 24, 1996) (published in notes following 42 U.S.C. §1996). [Note: The definition in EO 13007 is considerably more narrow than the way in which this term is commonly used by Tribes and individual Indians.]

Indian Tribe or Tribe – "an Indian tribe, band, nation, or other organized group or community, including a Native village, Regional corporation or Village Corporation, as those terms are defined in section 3 of the Alaska Native Claims Settlement Act (43 U.S.C. 1602), which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians." 16 U.S.C. §470w(4).

Main Stem – the series of dams and reservoirs along the upper Missouri River. For the purposes of this PA those dams and reservoirs are Gavins Point Dam,/Lewis and Clark Lake, Fort Randall Dam/Lake Francis Case, Big Bend Dam/Lake Sharpe, Oahe Dam/Lake Oahe, Garrison Dam/Lake Sakakawea, and Fort Peck Dam/Fort Peck Lake.

National Register – the National Register of Historic Places maintained by the National Park Service through the authority of the Secretary of the Interior.

National Register Criteria – the criteria of eligibility for the National Register established in regulations issued by the Secretary of the Interior. 36 C.F.R. §60.6.

Project Lands – land owned by the U.S. Army Corps of Engineers, Omaha District that are associated with the dams and reservoirs on the upper Missouri River. For the purposes of this PA those dams and reservoirs are Gavins Point Dam,/Lewis and Clark Lake, Fort Randall Dam/Lake Francis Case, Big Bend Dam/Lake Sharpe, Oahe Dam/Lake Oahe, Garrison Dam/Lake Sakakawea, and Fort Peck Dam/Fort Peck Lake.

Section 106 – section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. §470f, as implemented through regulations issued by the ACHP, 36 C.F.R. part 800.

Shared Stewardship – pre-decisional consultation with Affected Tribes, THPOs, SHPOs, ACHP and other consulting parties, especially with any Affected Tribe concerning an undertaking that may affect any sacred or cultural resources associated with such a tribe. Any Affected Tribe that attaches religious or cultural importance to a historic resource that is the subject of consultation will have an equal role with the Corps in determining the appropriate treatment and management of the resource.

Signatories – all the parties that have signed this PA, including any that may be added as additional signatories pursuant to stipulation 26.

State Historic Preservation Officer (SHPO) – "the official appointed or designated pursuant to section 101(b)(1) of the [NHPA] to administer the State historic preservation program or a representative designated to act for the State historic preservation officer." 36 C.F.R. §800.16(v).

Traditional Cultural Property -- a property that is "eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community." National Park Service, National Register Bulletin 38, Guidelines for Evaluating and Documenting Traditional Cultural Properties (1990), available at www.cr.nps.gov/nr/publications/bulletins/nrb38/htm.

Treatment Plan – Information describing a historic property and how it is proposed to be treated. Rehabilitation, stabilization (including riprapping, revegetation, recontouring of areas surrounding the property, etc.), maintenance, and archaeological excavation are possible treatments.

Tribal Historic Preservation Officer (THPO) – "the tribal official appointed by the tribe's chief governing authority or designated by a tribal ordinance or preservation program who has assumed the responsibilities of the SHPO [State Historic Preservation Officer] for purposes of section 106 compliance in tribal lands in accordance with section 101(d)(2) of the act." 36 C.F.R. §800.16(w). [Note: See section 101(d)(2), National Historic Preservation Act, 16 U.S.C. §470a(d)(2).]

Tribal Lands – as defined in the National Historic Preservation Act, "(A) all lands within the exterior boundaries of any Indian reservation; and (B) all dependent Indian communities. 16 U.S.C. §470w(14). Within the scope of this PA, the NHPA definition is identical to the Native American Graves Protection and Repatriation Act (NAGPRA) definition, 25 U.S.C. §3001(15). [Note: "Tribal lands" for purposes of NHPA and NAGPRA is not synonymous with "Indian lands" for purposes of ARPA. Federal lands, including lands administered by the Corps, as well as lands owned by state and local governments and private persons, within reservation boundaries of Indian Tribes are "tribal lands" for purposes of NHPA and NAGPRA. For the purposes of this PA, the service area of the Santee Sioux Tribe of Nebraska shall be considered "tribal lands".]

Undertaking – "a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out with Federal financial assistance; those requiring a Federal permit, license or approval..." 36 C.F.R. §800.16(y). [Note: The regulatory definition includes one more clause: "and those subject to State or local regulation administered pursuant to a delegation or approval by a Federal agency." This clause was the subject of a federal court decision in 2003, and the ACHP has issued a proposed revision to that clause of the regulatory definition. 68 Fed. Reg. 55354 (Sept. 25, 2003).]

The Corps agrees to complete the following with all Affected Tribes: Memoranda of Agreement among the Omaha District, Army Corps of Engineers and Affected Tribes Regarding NAGPRA, ARPA, Paleontological Resources, and Other Items that are Commitments Outside of the Missouri River Main Stem System Programmatic Agreement utilizing but not limited to the following outline:

Should a disagreement occur between the parties that have entered into these requirements the processes under each of these laws shall be used to resolve those disagreements.

Outline:

1. Native American Graves Protection and Repatriation Act (NAGPRA)

a) Inadvertent discoveries of human remains, artifacts, and funerary objects. The Corps will follow the terms of the Native American Graves Protection and Repatriation Act regulations (NAGPRA), 43 CFR 10 et seq and applicable Memoranda of Agreement (MOA) with Tribes.

b) Memorandum of Agreement, North Dakota Intertribal Reinterment Committee. The Corps will follow the provisions as detailed in the North Dakota Intertribal Reinterment Committee (NDIRC) Memorandum of Agreement. This would apply for all those Tribes that have signed the NDIRC MOA. There is a clause in the NDIRC MOA that allows for other Tribes to join the agreement.

c) Memorandum of Agreement, Non-NDIRC Tribes. The Corps will develop a MOA to implement the provisions of the Native American Graves Protection and Repatriation Act (NAGPRA) with those Tribes that have not signed the NDIRC MOA. A draft NAGPRA MOA shall be developed collaboratively with the affected Tribes, THPOs, SHPOs, ACHP, within 2 years of signing of this programmatic agreement. A final NAGPRA MOA shall be completed within 180 days from receipt of comments on the Draft NAGPRA MOA.

d) The Corps will ensure that resources meeting NAGPRA definitions are handled according to the requirements and procedures listed in the NAGPRA regulations or other memoranda of agreement entered into by the Corps and tribal governments. Continued progress will be made on the repatriation of artifacts under the Corps control and protection and located in a museum or curation facility in which the Corps has an active agreement or contractual obligation.

2. Archeological Resources Protection Act.

a) ARPA Permits. Prior to a decision about issuance of an ARPA permit, the Corps will provide copies of the ARPA permit application to affected Tribes, THPOs, SHPOs, ACHP and other consulting parties for review and comment. The Corps will take these comments into account in making a decision about issuance of the permit.

3. Paleontology Resources

a) The Corps will curate paleontology resources in the same manner as archeological collections. Agreements with curation facilities will be formatted according to the example given in 36 CFR Part 79.1.

4. Federal Undertakings and actions on lands outside the scope of this PA

a) In consultation with the Affected Tribes, the Corps, will review its protocols and procedures regarding Corps actions, past and present, beyond the scope of this PA to ensure tribal consultation consistent with Federal laws, Executive Orders, and other legal authorities.

ANNUAL REPORTS

Annually, the Corps shall prepare a report that includes discussion of the following topics both for the past year and as anticipated or planned for the coming year:

1) List of all undertakings within the project area;
2) Description of all surveys and activities undertaken to identify and evaluate historic properties and results of such efforts;
3) Description of all historic properties affected or potentially affected by Corps undertakings;
4) Description of measures to avoid, minimize, or mitigate effects to historic properties, including Treatment Plans;
5) Status of Five-Year Plan, assessment of progress in meeting its goals, and suggestions for revision;
6) Status of CRMPs and assessment of progress in fulfilling recommendations;
7) Status of the enforcement program and assessment of its effectiveness;
8) Status of site monitoring program and assessment of progress in meeting its goals;
9) Status of public education and interpretive activities;
10) Status of cultural resources program budget, including funding problems;
11) Additional signatories to the PA; notifications to amend, withdraw from, or terminate the PA;
12) General assessment of how well the PA is working; and
13) Any other facts the Corps considers pertinent to evaluation of the activities covered by the PA and any available information that the affected Tribes, THPOs, SHPOs, ACHP and other consulting parties may have requested that the Corps incorporate into the report.

Additional Signatory Form

Missouri River Main Stem System Programmatic Agreement

_____
Tribe/Agency/Entity

By_____Date_____

APPENDIX C

APPENDIX C
PERTINENT DATA

GENERAL

Location of Dam	The dam is located 19 miles southeast of Glasgow, Montana, on the Missouri River approximately 1,771.5 river miles from its mouth (1960 mileage).
Operating and Managing Agency	U.S. Army Corps of Engineers
Purposes	Flood control, irrigation, navigation, hydropower, fish and wildlife, recreation, and municipal and industrial water supply, water quality
Authorization	24 October 1933 by the Public Works Administration
Year Construction Started	1934
Year Dam Placed in Operation	1940
Project Cost	$158,428,000 (as of September 1991)

DAM AND EMBANKMENT

Type of Fill	Hydraulic and rolled earthfill
Fill Quantity	125,628,000 cubic yards
Abutment Formations (under dam and embankment)	Bearpaw Shale and glacial till
Top of Dam Elevation	2,280.5 feet msl
Outlet Works Location	Right bank
Length of Dam at Crest (excluding spillway)	21,026 feet
Number and Size of Conduits	2-24 feet 8 inch diameter (Nos. 3 and 4)
Entrance Invert Elevation	2,095 ft. msl
Present Tailwater Elevation at Discharge	2,032 feet msl at 5,000 cfs 2,036 feet msl at 35,000 cfs

POWER FACILITIES

Average Gross Head Available	194 feet
Number and Size of Conduits	No. 1 – 24 feet 8 inch diameter No. 2 – 22 feet 4 inch diameter
Surge Tanks	PH#1: 3-40 feet diameter PH#2: 2-65 feet diameter
Number, Type, and Speed of Turbines	5 – Francis, PH#1-2-128.5, 1-164 rpm: PH#2-2-128.6 rpm
Discharge Capacity at Rated Head	PH#1 units 1 and 3 170 feet, 2-140 feet 8, 800 cfs, PH#2-2-170 ft., 7,200 cfs
Generator Nameplate Rating of Each Unit	2 – 43,000 kW, 1-18, 250 kW, 2 – 40,000 kW
Plant Capacity	185,250 kW
Dependable Capacity (based on eighth year (1961) of drought drawdown)	181,000 kW
Average Annual Energy Production	1,044 million kWh

SPILLWAY

Location	Right bank, remote
Type, Number and Size of Service Gates	Vertical lift gates, 16, 40 feet x 25 feet
Crest Elevation	2,225 feet msl
Width (including piers)	820 feet

RESERVOIR

Total Drainage Area	57,500 square miles
Length of Reservoir at Maximum Normal Operating Pool	Approximately 134 miles, ending near Zortman, Montana
Shoreline at Elevation 2234 feet msl	1,520 miles
Maximum Width	16 miles
Average Daily Total Inflow	10,200 cfs
Storage Capacity at 2250 feet msl	18,687,731 acre-feet
Maximum Depth	220 feet
Maximum Operating Pool Elevation and Area	2,250 feet msl, 246,000 acres
Maximum Normal Operating Pool Elevation and Area	2,246 feet msl, 240,000 acres
Maximum Operating Pool Elevation and Area	2,160 feet msl, 90,000 acres
Exclusive Flood Control Pool Elevation and Area	2,250 to 2,246 feet msl, 974,000 acre-feet
Estimated Annual Sediment Inflow	17,700 acre-feet

LANDS

Withdrawn Public Domain Land Retained	227,846.19 acres
Fee Acquired Land Retained*	160,412.47 acres
Flowage Easement Land Retained	332.04 acres
Riverbed	20,000.00 acres
Perpetual Easement Gauging Station	.24 acres
Total Project Lands	408,590.94 acres

*Executive Order 12512, Survey Recommendations, 24 July 1989

APPENDIX D

US Army Corps of Engineers
Omaha District

FIXED-WING AIRCRAFT USE PLAN
Fort Peck Lake and Charles M. Russell National Wildlife Refuge

In order to provide for the safe and compatible use of Fixed-Wing Aircraft with other purposes, the Fort Peck Lake Project of the Omaha District Corps of Engineers and the Charles M. Russell National Wildlife Refuge of the U.S. Fish and Wildlife Service, establishes this plan for applying uniform policies and rules on operation of fixed-wing aircraft.

All fixed-wing aircraft operations are subject to the rules, regulations, and restrictions contained in this plan, delineated on the attached maps, and defined in *Engineering Regulation (ER) 1130-2-550, Code of Federal Regulation Title 36, Part 327.4, Aircraft, and 50 CFR, 27.34 Aircraft.*

All rules, regulations, and restrictions contained herein are in addition to the rules, regulations, and prescribed standards of State Aeronautical Agencies, the Federal Aviation Administration, Coast Guard and other appropriate Federal and State.

Fixed- wing aircraft landing, take-offs and taxiing are allowed on the surface of Fort Peck Reservoir in the following landing area as described in the Charles M. Russell National Wildlife Refuge Guide Map and Information (August 2004):

That portion of Fort Peck Reservoir :
East of Bone Trial (107° 15' 20")
North of Rock Creek (47° 42' 26")
East of Duck Creek Bay (106° 34' 03")
West of Bear Creek Bay (106° 22' 20")

In addition, there are one mile diameter landing zones established near five recreation cites on the Fort Peck Reservoir where landing, take-off and taxiing are allowed. The following coordinates identify the center of the five zones:

Crooked Creek (47° 26' 07" / 107° 55' 13")
Devils Creek (47° 37' 34" / 107° 39' 28")
Fourchette Bay (47° 39' 53" / 107° 39' 41")
McGuire Creek (47° 38' 02" / 106° 14' 20")
Nelson Creek (47° 34' 23" / 106° 13' 47")

Aircraft operations are allowed only between sunrise and sunset. Taxiing on the water shall be operated in accordance with marine rules-of-the-road for powerboats or vessels. Aircraft shall not be left unattended on the reservoir unless securely moored or tied down at locations and facilities as permitted in the COE Lake Shore Management Plan.

Commercial aircraft operations require authorization from the Project Manager (COE) and Refuge Manager (FWS).

Harassing wildlife is strictly prohibited and FAA recommends that aircraft operations be conducted at or above 2,000' AGL over National Wildlife Refuges. Areas within 500 feet of shore are restricted to taxiing only. Aircraft operations are not allowed within 1500 feet of Fort Peck Dam, spillway and the intake structures.

10/13/04

Corp of Engineers
Project Manager

Date

10/13/04

U.S. Fish and Wildlife Refuge
Refuge Manager

Date

APPENDIX E

FORT PECK LAKE CULTURAL RESOURCES MANAGEMENT PLAN, MONTANA

Main Text and Appendices

2004

U.S. ARMY CORPS OF ENGINEERS,
OMAHA DISTRICT, NEBRASKA

[*The descriptive site information has been deleted as archeological site locations are restricted from public dissemination. Therefore, page numbering have been deleted and will not match, the table of contents.*]

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I. EXECUTIVE SUMMARY

In accordance with federal legislation, and as stated in U.S. Army Corps of Engineers, Omaha District, Nebraska (Corps) Regulation 1130-2-438(6a), it is the policy of the Chief of Engineers to "identify, evaluate, protect, preserve, and manage historic properties located on Civil Works Water Resource project lands." Section 110 of the National Historic Preservation Act (NHPA) of 1966, as amended, directs federal agencies to establish a historic preservation program for properties under their jurisdiction, and requires federal agencies to integrate historic preservation concerns into agency plans and programs. Specifically, it calls for federal agencies to inventory lands under their protection for historic properties (hereinafter, cultural resources), to evaluate these resources for local, state, or national historical significance, and to nominate significant cultural resources to the National Register of Historic Places (NRHP). Section 110 further stipulates that steps be taken to protect significant cultural resources from destruction as a result of agency activities.

The cultural resources management plan (CRMP) for the Fort Peck Lake project area was developed by the Corps and federally recognized Indian tribes in response to a federal mandate requiring a historic preservation program for Corps Civil Works projects. The Assiniboine and Sioux Tribes of Fort Peck, the Blackfeet Tribe, the Chippewa-Cree of Rocky Boys Reservation, the Crow Tribe, and the Gros Ventre and Assiniboine Tribes of Fort Belknap (in alphabetical order) maintain a vested interest in the cultural resources of Fort Peck Lake. All of these federally recognized Indian tribes are referred to, henceforth, as the Tribes.

This CRMP is for the entire Fort Peck Lake project area, which lies within the Charles M. Russell National Wildlife Refuge. The refuge contains approximately 1,100,000 acres, including the 245,000-acre Fort Peck Reservoir. The lake itself is 134 miles long, has 1,520 miles of shoreline, and has a maximum depth of 220 feet. The project contains eighteen recreation areas.

A. SUMMARY OF COMPLIANCE WORK

Two large-scale and two moderate-scale cultural resource surveys have been conducted in the Fort Peck Lake project area (Carmichael 1978; Davy, et.al. 1992; GCM Services 1997; and Wolfram and Brumley 2000). The project undertaken by Carmichael (1978) inventoried three areas in four corridors, comprising approximately 80 acres. The project by Davy, et.al (1992) encompassed 4,000 acres in five tracts of 800 acres each along the shore of Fort Peck. The 1997 survey by GCM Services covered 3,817 acres in seventeen parcels, primarily in recreation areas. And finally, the project undertaken by Wolfram and Brumley (2000) for the Fort Peck Rural Water System included 128.5 acres of Corps lands. These surveys are listed and briefly described in Table A, Volume II, and more fully discussed in Section III C, Volume I.

In addition to the above cultural resource surveys there are another twelve small inventory projects and published material applicable to the cultural resources on Corps lands along Fort Peck Lake (see Table A, Volume II). All project lands have not been surveyed for cultural resources.

A total of 82 sites are known to exist in the project area. Two are listed on the NRHP**,** three are considered eligible for the NRHP, 56 are unevaluated against NRHP criteria**,** 21 have been determined not eligible, and one site is reportedly destroyed. Out of these sites, 27 are in recreation areas, and 55 are within the wildlife reserve. Data recovery and mitigation of portions of the NRHP listed sites has been undertaken. There is currently one National Register District located in the project area.

B. ACTION PLAN

Several tasks needed to better manage cultural resources at Fort Peck Lake have been identified as follows:

1. Task 1– Archeological Survey and Identification of TCPs at Fort Peck Lake

Surveys have only been completed for approximately 8,000 acres of Fort Peck Lake project lands. Recreation areas are a priority for this task. In addition, sites in the database for Fort Peck Lake are of unconfirmed ownership status, as land ownership boundaries have not been precisely defined and the majority of the lands are managed as wildlife areas by the Charles M. Russell Wildlife Refuge. As these boundaries are established, systematic surveys for cultural resources may proceed.

Consultation with tribal elders and spiritual leaders will assist in identifying TCPs within the Fort Peck Lake project area. These designated tribal representatives or consultants will require Corps funding to complete an extensive Fort Peck Lake TCP survey. More than one tribe may wish to undertake and complete their own TCP survey to record their unique cultural and historical places.

TCPs are resources that cannot be identified without tribal consultation, input, and knowledge. In most instances, elderly tribal members, including spiritual people, are called upon to assist in identifying traditional cultural properties. In addition, a thorough review of the available tribal, historical, ethnographic, and anthropological literature may also identify potential TCPs or information supporting already identified TCPs.

2. Task 2 – Evaluation of Cultural Resources

NRHP evaluation of cultural resources identified in earlier studies as potentially eligible or unevaluated needs to be completed. In coordination with the Tribes, the evaluation may include oral history, pedestrian survey, and limited testing to better understand the horizontal and vertical dimensions of the site. These investigations will be conducted by qualified archaeologists, with the assistance of the Tribes and SHPO.

Guidelines and qualification requirements for conducting cultural resource investigations are found in the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (*Federal Register* Vol. 48, No. 190, September 29, 1983).

Fifty-six recorded archaeological sites within the project area have not been evaluated against the NRHP criteria of significance, and therefore have an unknown NRHP status. These sites will need evaluation to manage them adequately.

3. Task 3 - Nominate Sites for Listing on the NRHP

All cultural resources in the Fort Peck Lake project area meeting NHPA criteria for eligibility and contributing to the understanding of prehistory, tribal histories, or Euro-American history should be nominated to the NRHP. Three sites, 24PH2974, 24PH2976, and 24VL89, are considered eligible and should be nominated. More sites may be added to this list from the list for Task 3 after those sites have been evaluated.

4. Task 4 - Site Monitoring

All native cultural resources in the Fort Peck Lake project area are considered important to the Tribes. Therefore, monitoring for construction activities, recreation, erosion, vandalism, artifact collecting, and agricultural encroachment is preferred. Corps personnel and contractors, with the assistance of tribal members, will monitor various threats to the integrity of cultural resources on a regular basis. Those sites on the NRHP are first priority, sites eligible for the NRHP are second priority, sites with an unknown NRHP status are third priority, and any sites reportedly destroyed will be confirmed as such. For an example of an archaeological site monitoring form, see Appendix D, Volume II.

5. Task 5 – Mitigation Measures for NRHP Cultural Resources

The mitigation of eligible cultural resources at Fort Peck Lake, as federally mandated, requires the coordinated efforts of the Omaha District archaeological staff, Fort Peck Project Area Office personnel, the Tribes, and interested parties. Greater stewardship and more effective management of cultural resources may be achieved through the implementation of, and consistent adherence to, the objectives outlined in this Action Plan.

The renovation, destruction, removal, or continued deterioration of standing structures or foundations greater than fifty years of age must be coordinated with the Omaha District archaeological staff. If a structure is determined to be a significant local, tribal, state, or national resource, the renovation should be coordinated through the Omaha District archaeological staff, SHPO, Tribes, and ACHP. In addition, follow the Secretary of Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (Revised 1983). The area surrounding the structures and features must also be considered, as it may contain archaeological deposits relative to the historical significance of the property.

Mitigation measures will be developed for those sites identified in the previous steps as listed on, or eligible for, the NRHP (see Table V-4). A detailed examination of eligible sites will be made to accurately determine and document their current condition. Field measurements and plans of the sites will be undertaken to assist preliminary engineering studies that will define feasible alternatives for site preservation. This information will be used to develop a priority list for site protection measures such as bank stabilization, increased presence by monitors to discourage and prevent looting and vandalism, fencing, and data collection.

Those sites of unknown NRHP status need to be tested. If determined eligible, they will be included on the mitigation measures list.

6. Task 6 - Conduct Staff Training and Implement CRM Procedures

Corps personnel and tribal monitors should attend training sessions regarding historic preservation laws, Section 106 training, and other historic preservation related activities. Adherence to the Action Plan can only be accomplished with the informed assistance of Corps and tribal cultural resource personnel. Trainings should include the following:

- Cultural awareness;
- Tribal overviews of the regional prehistory and history;
- A non-Indian overview of the regional prehistory and history;
- A discussion and summary description of the types of Euro-American and Native cultural resources in the Fort Peck Lake project area including other tribally significant places such as ceremonial sites, burials, and cemeteries.
- An explanation of the criteria for determining site significance;
- Impacts to cultural resources from current land use practices in the Fort Peck Lake project area (e.g., reservoir, recreation, and cultivation);
- Alternative treatments for mitigating impacts;
- ARPA training and certification; and
- The cultural resource management procedures outlined in this CRMP.

7. Task 7 - CRMP Integration with Corps Planning

The cultural resource management objectives contained in this CRMP should be incorporated into the Corps *Master Plan* and *Operation Management Plan* processes as soon as feasible. The five-year plan for the routine operation and management of Fort Peck Lake should be modified to include staff training, site monitoring, inventory, evaluation, site mitigation, and the enhancement of interpretive programs. This will enable the earliest possible consideration of cultural resources in the planning stage of proposed actions and better ensure they are not inadvertently destroyed as a result of routine Corps operations and maintenance activities.

8. Task 8 - Enhance Public Education

Engineer Pamphlet No. 1130-2-540 authorizes the preparation of brochures, slide shows, or other media documentation for public presentation relative to historic preservation activities that may be of particular interest to the Tribes and general public. According to Engineer

Pamphlet No. 1130-2-540, District Commanders should encourage the use of cultural resources under their jurisdiction through such means as restoration and public use of historic buildings and properties, including archaeological sites. This can be accomplished through educational displays, media shows, interpretive programs and brochures, or similar means. As the cultural resources in the Fort Peck Lake project area are managed in consultation with the Tribes, they must be partners in any public education programs or projects that discuss cultural resources.

The public is generally uninformed about the significance of cultural resources, archaeological sites, and the non-tangible types of data that can provide valuable information to archaeologists. More importantly, they are unaware of the significance some of these cultural areas or sites have for the tribes whose ancestors lived in these areas and created the sites. An educational program is encouraged concerning the need for leaving traditional cultural properties, archaeological sites, and other material remains undisturbed.

While the removal of artifacts from archaeological sites, or vandalism of sites on federally owned or managed properties, is prohibited by various laws and regulations (see Section II: Volume I), many people remain unaware of these laws and the penalties they carry. For this reason, the emplacement of signs (Nickens 1993) and the preparation and dissemination of pamphlets, brochures, and public service announcements should be undertaken. Furthermore, the public should be made aware that cultural sites are monitored for unauthorized activities and severe criminal penalties could result from such illegal activity. An interpretative plan is needed that could guide production of interactive programs in addition to upgrading and adding new hands-on and outreach programs.

9. Task 9 – Bi-Annual Update, Review, and Coordination Meeting

A bi-annual meeting for Corps and tribal representatives who have participated in the crafting of the Fort Peck Lake CRMP will be held at the Fort Peck Project Area Office. The meetings will focus on keeping the CRMP current, reviewing its effectiveness, and to coordinate any events, training, policy changes, procedure changes, or updates associated with the cultural resources of Fort Peck Lake. The Omaha District, or their designated representatives, will be responsible for arranging these bi-annual meetings. Notification to Corps and tribal representatives who are affected by the Fort Peck Lake CRMP should be made at least 30 days in advance. Each meeting is anticipated to require at least two days of effort.

II. FOREWORD

The Corps Historic Preservation Program for construction, operations, and maintenance activities at Civil Works projects was established in 1987. In conjunction with other engineer regulations, the program is intended to unify historic preservation activities by the consistent and uniform application of policy administered for public benefit. The development of a cultural resources management plan (CRMP) is a critical element of the Historic Preservation Program. This CRMP will be appended to the *Master Plan* and the *Operation Management Plan* for the Fort Peck Lake project area.

A. PURPOSE AND OBJECTIVES

The purpose of the Fort Peck Lake CRMP is to provide a comprehensive historic preservation program to achieve the federally mandated objective of protection of cultural resources on lands under the jurisdiction of the Corps. To meet this objective, the CRMP enables the Corps and the Tribes to integrate historic preservation activities and project construction, operation, and maintenance activities by providing the following elements:

- A list of identified cultural resources in either descriptive or tabular form, including data pertinent to the purposes of the CRMP (see Section III, Part F; Section IV, Part C; Tables B, C, and D). Detailed supporting documentation need not be included in the CRMP, but may be appended as necessary;

- Maps showing site locations as well as surveyed and unsurveyed portions of the project land. Maps will be kept separate or prepared as an overlay but will not be released to the public (see Volume III);

- A description of major field investigations conducted and methods used to identify and evaluate cultural resources;

- A discussion of existing and potential impacts on identified cultural resources and unsurveyed portions of project land. This will include a description of past, present, and future land use, recognizing resource management capabilities and limitations;

- The National Register of Historic Places (NRHP) status of all identified cultural resources;

- Identification of tribally significant properties, ceremonial sites, burials, cemeteries, sacred sites, and TCPs;

- Identification of site ownership (fee or easement property) and site management (Corps managed, leased, or outgrant property);

- A ranking and scheduling of historic preservation priorities and activities for identified resources. Management decisions may require absolute exclusion of any activity on the site and specialized types of preservation techniques to prevent, reduce, or otherwise

mitigate impacts due to natural or project-related impacts. In circumstances where investigations result in data which may be of particular interest to the Tribes and/or the public, historic preservation activities should include the preparation, by Corps staff and the Tribes, of brief, but informative brochures, slide shows, or other media documentation for public presentation and education;

- A preliminary cost estimate necessary to accomplish remaining activities;
- The views of the Tribes, SHPO, and Interested Parties (see Appendices);
- The relationship between the CRMP and the Montana SHPO's *Working Together: The Montana Historic Preservation Plan* (1997);
- The relationship of the Fort Peck Lake project area to the *Master Plan* and *Operation Management Plan*;
- A discussion and prioritization of investigations yet to be completed, including evaluation of archaeological sites and other cultural properties for the NRHP;
- How meaningful consultation with the Tribes was undertaken and achieved (see Appendices);
- An on-going discussion through the Tribes regarding the importance of oral documentation, tribal perspectives, and the significance of cultural resources from a tribal viewpoint; and
- A list of culturally appropriate approaches to sites and places sacred, significant, and sensitive to the Tribes.

B. AUTHORIZATION

The Fort Peck Lake CRMP was developed in accordance with Engineer Regulation No. 1130-2-540 (7)(b), November 15, 1996, which provides guidance for the consideration of historic preservation in Civil Works planning studies, and Engineering Pamphlet No. 1130-2-540, section 6-8(f). Section 110 (a)(2) of NHPA of 1966, as amended (1992), mandates that federal agencies develop a historic preservation plan which includes the identification, evaluation, nomination to the NRHP, and protection of cultural resources under their jurisdiction (16 U.S.C. 470, Section 110 (a)(2)). These resources are to be managed and maintained in a way that considers their cultural, sacred, historic, archaeological, and architectural values. Section 110 (d) calls for federal agencies to implement this mandate through the integration of historic preservation concerns into agency plans and programs in accordance with NHPA.
National Register Bulletin 38, Executive Order No. 13007 on Sacred Sites, Executive Order No. 13175 on Government-to-Government Relationships, and the Native American Graves Protection and Repatriation Act (NAGPRA) (1990) with its implementing regulation 43

C.F.R. 10, provide additional federal mandates for the limited protection and preservation of cultural and sacred properties and the inclusion of Indian tribes in that process.

Management of the cultural resources at Fort Peck Lake involves many complex issues and the Corps looks to many sources for authorization and guidance. Requirements necessary to the historic preservation management of Fort Peck Lake include:

- Historic preservation is an equal and integral part of resource management at operating Civil Works Projects and is due equal consideration along with other resource objectives [Engineer Regulation No. 1130-2-540 (Nov. 15, 1996)].

- The Corps manages cultural resources under its jurisdiction in a spirit of stewardship for the benefit of the Tribes and the public, present and future.

- The Omaha District Commander shall, by congressional mandate, inventory and evaluate cultural resources on lands in his jurisdiction in order to reduce land use conflicts and ensure protection of those resources, significant and sacred to tribal and non-tribal peoples.

- Whenever archaeological or historic studies are being planned on sites or land associated with the Tribes, those tribes will be consulted at the initial or scoping level of any proposed projects in the Fort Peck Lake project area.

- Engineer Regulation No. 1130-2-540 states that, "Cultural items, as defined by NAGPRA (Native American Graves Protection and Repatriation Act), may be repatriated or provided for reinterment to recognized Indian tribes or Native Hawaiian Organizations. Prior to repatriation, commanders must meet the procedural requirements established by NAGPRA and repatriation claims must satisfy the conditions of authenticity established by the Act. At the request of a recognized Indian tribe or Native Hawaiian Organizations, the Corps may assist in the reinterment of NAGPRA cultural items."

- Information related to the location or character of cultural resources on project fee or easement lands shall <u>not</u> be revealed to the public if it will create a risk of harm, theft, or destruction of the property.

- Information related to the location or character of sacred or traditional cultural properties associated with Native American historical or contemporary occupation, shall be revealed to the public only with the express written permission of the Tribes.

- Information contained in the Fort Peck Lake CRMP will be incorporated in the *Master Plan* and the *Operation Management Plan*.

1. Federal Laws, Code of Federal Regulations, Executive Orders, Corps Consultation Guidelines, and *National Register Bulletins*

A number of federal laws, regulations, and Executive Orders establish federal policy and outline federal involvement in regards to historic preservation activities. A series of *Engineer Regulations* provide guidance for the implementation of these laws within the Corps. Consultation guidelines and 42 *National Register Bulletins* also provide guidance to the Corps in meeting their historic preservation responsibilities. The more salient of these are briefly discussed below.

a. Federal Laws:

1906 –Antiquities Act (P.L. 59-209; 16 U.S.C. 431 et seq.; 34 Stat. 225.)
The President was authorized to designate as National Monuments those areas of the public domain containing "historic landmarks, historic and prehistoric structures and objects of historic or scientific interest." The act also authorized an archaeological permitting system and penalties for site vandalism on federal lands. There are no compliance requirements under this act for the Corps. The permit required under the Archaeological Resources Protection Act (ARPA) of 1979 replaced the 1906 Antiquities Act permitting system.

1935 - Historic Sites Act (P.L. 74-292; 16 U.S.C. § 461 et seq.)
This act defines the first national policy to preserve for public use historic sites, buildings, and objects of national significance. It extends concerns beyond federally owned cultural resources. It also authorized the Interior Department to survey and record historic and archaeological sites, operate and manage cultural resources, enter into cooperative agreements with individuals and other political entities to protect and preserve historic resources, and provide technical and education services in preservation. There are no compliance requirements under this act for the Corps.

1944 – Flood Control Act of 1944 (P.L. 534, 78th Congress, 2nd Session)
Section 4 of the Flood Control Act states in part:

> The Chief of Engineers, under the supervision of the Secretary of War, is authorized to construct, maintain, and operate public park and recreational facilities in reservoir areas under the control of the War Department, and to permit the construction, maintenance, and operation of such facilities. The Secretary of War is authorized to grant leases of lands, including structure or facilities thereon, in reservoir areas for such periods and upon such terms as he may deem reasonable.

1949 - Federal Property and Administrative Services Act of 1949 (P.L. 105-27)
This act provides for the transfer of excess property among federal agencies and other organizations and the transfer of real property located on Indian reservations to the Secretary of the Interior.

1960 - Reservoir Salvage Act of 1960 (P.L. 93-291; 16 U.S.C. § 469)

This act furthers the policy of the Historic Sites Act of 1935 by specifically providing for the preservation of historic and archeological data that would otherwise be lost as a result of federal construction or other federally licensed or aided activities. It requires all federal, federally assisted, or federally licensed construction projects to include a survey for cultural resources and undertake the salvage of archaeological resources. It allows the project agency to either undertake the necessary survey and preservation work itself, or the transfer funds to the Interior Department to do so. It authorizes as much as one percent of project appropriations to be spent on historic and archeological data recovery for projects over $50,000.

1966 - Freedom of Information Act (5 U.S.C. § 552)
The Freedom of Information Act creates procedures, whereby, any member of the public may obtain the records of the agencies of the federal government. Among other limitations, archival records and cultural resource location data are exempted from release (16 U.S.C. 4702-3).

1966 - National Historic Preservation Act, as amended (P.L. 89-665; 16 U.S.C. § 470)
The National Historic Preservation Act (NHPA) established federal policy for protecting cultural resources in coordination with state and local governments. It authorizes the Secretary of the Interior to expand, maintain, and determine the criteria of eligibility for a NRHP. The NHPA also established the SHPO, which directs statewide historic preservation programs. The ACHP was also established by this act as an independent agency that advises the President, Congress, and federal agencies on historic preservation issues.

- **Section 106** of the NHPA requires federal agencies to consider the effects of agency undertakings on properties included on or eligible to the NRHP prior to approval of the undertaking. It also stipulates that the ACHP be allowed to review and comment on proposed undertakings and their potential effects on cultural resources prior to approval of the undertaking. The Section 106 review process was not defined in the NHPA, but outlined by the ACHP in a later regulation, 36 C.F.R. 800: Protection of Historic Properties. The review process is designed to integrate preservation concerns with the needs of federal undertakings.

- **Section 110** of the NHPA details the cultural resource management responsibilities of federal agencies. Of particular relevance here, Section 110 (a)(2) was amended in 1992 to require federal agencies to establish a historic preservation program for properties under their jurisdiction. Furthermore, Section 110 (d) requires federal agencies to integrate historic preservation concerns into their plans and programs.

- **36 C.F.R. 60: National Register of Historic Places**
  These regulations provide the authorization, expansion, and utilization of the NRHP.

- **36 C.F.R. 61: Procedures for State, Tribal, and Local Government Historic Preservation Programs**
  This regulation provides the process for approving Historic Preservation Programs, certification of Certified Local Governments (CLG), and allocation by states of a share of the CLG grant monies.

- **36 C.F.R. 65: National Historic Landmarks Program**
  This regulation sets forth the criteria in designating a landmark under the National Historic Landmarks Program.

- **36 C.F.R. 78: Waiver of Federal Agency Responsibilities**
  36 C.F.R. 78 provides the requirements under which Section 110 of the NHPA may be waived in the event of a natural disaster.

- **36 C.F.R. 800: Protection of Historic Properties**
  This regulation, amended in 2001, implements Section 106 of the NHPA. It prescribes the process for identification, evaluation, and assessment of the effects to cultural resources as a result of federal undertakings.

In the 1980 amendments (P.L. 96-515) Congress added Indian tribes to the list of entities included in the federally proclaimed partnership for carrying out the program (16 U.S.C. 470-71). The 1980 amendments also authorized the Secretary of the Interior to make grants to tribes from the Historic Preservation Fund for the "preservation of their cultural heritage" (16 U.S.C. 470a(d)(3)(B)).

The 1992 amendments (H.R. 429; P.L. 102-575) signed by the President, October 30, 1992, (the Fowler, a.k.a., the Bennett-Fowler Bill, P.L. 102-575) substantially improved the position of tribes under the NHPA. Each tribe now has the option of assuming "all or any part of the functions of a State Historic Preservation [SHPO] Officer...with respect to tribal lands." The ACHP now has statutory authority to enter an agreement with a tribe to carry out the Section 106 process under tribal regulations (16 U.S.C. 101(d), as amended by P.L. 102-575). Under the 1992 amendments a tribe is not required to obtain SHPO consent, but a tribe must have a program approved by the Secretary of the Interior for a Tribal Historic Preservation Office (THPO). The 1992 amendments add an important new notice and consultation requirement that can be used to provide some protection for tribal sacred places. Specifically, these changes include the following:

- Native Americans are explicitly included in the consultation process along with federal, state, and local agencies and may develop tribal preservation programs with the same rights and responsibilities as state historic preservation offices.

- The Secretary of Interior will review threats to eligible and listed NRHP properties at least every four years, broadening this type of review beyond National Landmarks.

- Agency-THPO consultations are authorized from both directions. That is, the THPO is now explicitly responsible for consulting on federal undertakings and plans to protect, manage, or mitigate harm to cultural resources.

- The Secretary of Interior will establish a program and regulations to assist Indian tribes in historic preservation, and may take into account and waive requirements to conform to the tribal cultural setting.

- The ACHP may enter into agreements with Indian tribes to replace Section 106 regulations with tribal regulations if the latter afford cultural resources consideration equivalent to ACHP regulations.

- The Secretary of Interior will develop a comprehensive preservation education and training program, including, professional standards, training opportunities, financial assistance to black and tribal colleges, and a Preservation Technology and Training Board to supervise the National Center for Preservation Technology and Training.

- Section 110, which concerns federal agency historic preservation programs, is expanded and clarified and now contains a penalty clause for applicants who fail to comply with Section 106, or engage in anticipatory demolition.

- Each federal agency will implement professional standards for employees and contractors and ensure permanent preservation and availability of records and data.

- The Secretary of Interior will educate and encourage private owners to preserve sites and artifacts, undertake excavations in ways compatible with professional standards, and donate, loan, or allow access to their collections for research purposes.

1969 - National Environmental Policy Act (P.L. 91-190, 42 U.S.C. §4321-4347)
The National Environmental Policy Act (NEPA) establishes national policy regarding the environment and requires that federal agencies prepare a detailed statement of the environmental impacts of any major federal action significantly affecting the quality of the human environment. NEPA does not define cultural resources or historic properties as a specific theme of consideration. Instead, the law requires that agencies consider the effects of their actions on all aspects of the human environment.

1974 - Archaeological and Historic Preservation Act (P.L. 86-523; 16 U.S.C. § 469-469c)
This act provides for the preservation of historical and archaeological data impacted as the result of dams and other federal or federally licensed construction projects. Either the federal agency or the Secretary of Interior, if requested, may undertake survey, recovery, or protection of data. It permits the use of up to one percent of a

project's costs for purposes of the act and allocates additional funds. Except in emergencies such as natural disasters, projects may be halted until consultation with federally recognized Indian tribes is undertaken and survey, recovery, and/or protection is completed. Compensation for delays of this nature is provided for by the act.

1978 - The American Indian Religious Freedom Act (P.L. 95-341; 42 U.S.C. § 1996, et seq.)

The American Indian Religious Freedom Act (AIRFA) calls for the U.S. government to respect and protect the rights of Indian tribes to the free exercise of their traditional religions. The courts have interpreted this act as requiring agencies to consider the effects of their actions on traditional religious practices. Federal agencies must make reasonable efforts to ensure religious rights are accommodated. AIRFA does not protect Native American religions beyond the guarantees of the First Amendment. There is no affirmative relief provision under the act. It merely provides that any subsequent federal laws enacted take into consideration religious practices of Native Americans. All federal land managers must consult Native American religious leaders in their management plans. AIRFA states in part:

> On and after August 11, 1978, it shall be the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonies and traditional rites.

1979 - Archaeological Resources Protection Act (P.L. 96-95; 16 U.S.C. §470aa-11)

The goal of the Archaeological Resources Protection Act (ARPA) is to protect archeological resources on public and Indian lands by establishing criminal and civil penalties for unlawful excavation, removal, or destruction of such resources. It authorizes the major federal land managing agencies to establish permit systems for parties excavating or removing archaeological resources. If an ARPA permit may cause harm to a tribal cultural or religious site, the federal land manager must notify any tribe that may have an interest in that site before the permit may be issued. The act also supplements and replaces the basic authorities of the 1906 Antiquities Act.

- **43 C.F.R. 7: Protection of Archeological Resources**
  This regulation implements provisions of ARPA. It also establishes procedures to be followed by all federal land managers for protecting cultural resources on public and Indian lands.

- **Archaeological Resources Protection Act Permits**
  Agencies or individuals requesting permission to conduct historic or archaeological investigations on Corps lands must obtain a permit under ARPA (See EC 405-1-71). ARPA permits are not required by Corps personnel acting in

an official capacity or by Corps contractors pursuant to contract requirements. State and other agencies that plan to conduct archaeological investigations on Corps owned lands including those that are leased or permitted require ARPA permits. Permits are granted only to qualified individuals or institutions (see Qualification Requirements below).

An application form must accompany permit requests, and a written proposal that provides the documentation specified in 32 C.F.R. Parts 229.6 and 229.8. ARPA permits are obtained through the Omaha District Real Estate Division in coordination with other Omaha District elements in order to determine the availability of the land to be permitted (see Appendix A, Volume II). It is also incumbent on the Real Estate Division to identify and consult with any Native American tribes.

a) **Stipulations**
Under the provisions of ARPA, Sec. 4 (b), [adapted or modified] ARPA permits may be issued to an applicant if it is determined that:

- the applicant is qualified to carry out the permitted activity;
- the activity is undertaken for the purpose of furthering archaeological knowledge in the tribal and public interest;
- the archaeological resources excavated or removed from public lands remain the property of the United States. Such resources and copies of associated archaeological records and data will be preserved by the Tribes, university, museum, or other scientific institution agreed upon by the Tribes compliant with 36 C.F.R. 79 (Curation of Federally-Owned and Administered Archeological Collections) within the state of discovery; and
- the activity pursuant to such permit is not inconsistent with any management plan applicable to the public lands concerned.

b) **Qualification Requirements**
The qualification requirements for an individual or institutional ARPA permit are found in the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (*Federal Register* Vol., 48, No, 190, Thursday, September 29, 1983). The criteria used by the National Park Service are in 36 C.F.R. Part 61.

The minimum requirements for a principal investigator include a graduate degree in archaeology, anthropology, or a closely related field and at least one-year of full time professional experience or equivalent specialized training in archaeological research, administration, or management. In addition, a qualified individual must have at least four months of supervised

field and analytic experience in general North American archaeology and a demonstrated ability to carry research to completion. Furthermore, a professional in prehistoric archaeology must have at least one year of full time professional experience at a supervisory level in the study of the archaeological resources of the prehistoric period. A professional in historic archaeology must exhibit at least one year of full time professional experience in the study of the archaeological resources of the historic period.

c) **Field Work and Report Preparation**
Standards and specifications for fieldwork methodologies and report preparation are found in the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (*Federal Register* Vol., 48, No. 190, Thursday, September 29, 1983).

- **Penalty Provisions under ARPA**
The value of cultural resources and associated costs resulting from unauthorized activities usually exceeds $500.00. However, as stated in Engineer Regulation No. 1130-2-540, Chapter VI, others outside the Corps may more appropriately handle the enforcement actions necessary to investigate, prepare cases, and apprehend violators under the provisions of ARPA. This act provides for criminal penalties up to $100,000.00 and/or five years imprisonment, and allows for forfeiture to the federal government of equipment and vehicles used in unauthorized activities. Civil penalties may also be assessed to recover all federal costs involved in the repair or restoration of cultural resources, along with the necessary associated research and report preparation.

1990 - Native American Graves Protection and Repatriation Act (P.L. 101-601; 25 U.S.C § 3001-13; 104 Stat. 3042)
The Native American Graves Protection and Repatriation Act (NAGPRA) provides for the protection of Native American and Native Hawaiian cultural items. It establishes a process for the authorized removal of human remains, funerary, sacred, and other objects of cultural patrimony from sites located on land owned or controlled by the federal government. NAGPRA requires federal agencies and federally assisted museums to return specified Native American cultural items to the federally recognized Indian tribes or Native Hawaiian groups to which they are associated.

The emphasis of the act is on consultation with Native American tribes and Native Hawaiian organizations to ensure that these entities play a major role in the treatment of specific cultural objects. Standing is bestowed on any individual Native American, tribe, or Native Hawaiian organization to assert their property rights in items by bringing a claim for repatriation. Federal agencies and federally funded museums must compile summaries and inventories of their collections and make these available to tribes. The summaries must be mailed to Indian tribes or Native Hawaiian groups who could be associated with the cultural items in the repository. NAGPRA does not require that all possible tribes or groups be contacted but that those groups may

reasonably access the information. The intent of sending the summary is to initiate a dialogue with the tribal group.

- **43 CFR 10: Human Remains, Funerary Objects and Items of Cultural Patrimony**
  This final rule establishes definitions and procedures for lineal descendants, Indian tribes, Native Hawaiian organizations, museums, and Federal agencies to carry out the Native American Graves Protection and Repatriation Act of 1990. These regulations develop a systematic process for determining the rights of lineal descendants, Indian tribes, and Native Hawaiian organizations to certain Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony with which they are affiliated.

1994 Property damaged in committing offense (18 U.S.C. § 1160 (1994); P.L. 107-200)
This is a basic property law that protects heritage resources within Indian Country. It provides that a non-Indian who injures, takes, or destroys heritage resources in Indian Country belonging to an Indian person shall pay an amount twice the fair value of the lost item. If the non-Indian cannot pay, the victim may be compensated out of the U.S. Treasury. This statute may be used along with ARPA and NAGPRA violations in Indian Country to double the restitution recovered.

Congress first used the term "Indian Country" in 1790 to describe the territory controlled by Indians. In broad terms, Indian Country is all the land under supervision of the U.S. government that has been set aside primarily for the use of Indians (Pevar 1992:16).

2000 - The Abandoned Shipwrecks Act (P.L. 100-298 (43 U.S.C. § 2101 et. seq.)
This act asserts U.S. title to abandoned shipwrecks within the lands controlled by a State and transfers title to the states. The tribe owns abandoned shipwrecks in or on tribal land.

b. Code of Federal Regulations (C.F.R.):

36 C.F.R. 3: Enforcement Authority
Title 36 C.F.R., Chapter III, Part 327, provides the only authority available to Corps personnel for the protection of historic properties. Violations against this regulation are misdemeanors punishable by a six-month imprisonment and a fine up to $5,000.00. After a 40-hour course on the Visitor Assistance Program, the authority to enforce these regulations is given to each Corps ranger. The enforcement procedures available to the Corps rangers include written warnings, citations with a collateral forfeiture amount, and referral to the U.S. Magistrate.

c. Executive Orders:

Executive Order No. 11593 - Protection and Enhancement of the Cultural Environment
Directs federal agencies to take a leadership role in the preservation, restoration, and maintenance of the historic and cultural environment of the nation.

Executive Order No. 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
Requires that agencies try to avoid disproportionate and adverse environmental impacts on low income and minority populations (e.g., Indian Reservations). Impacts may include important cultural, religious, subsistence, or social practices.

Executive Order No. 13175 - Consultation and Coordination with Indian Tribal Governments
Outlines policy and criteria establishing regular and meaningful consultation and collaboration with tribal officials in the development of federal policies having tribal implications. It also strengthens the United States government-to-government relationships with Indian tribes, and reduces the imposition of unfunded mandates upon Indian tribes.

Executive Order No. 13006 - Locating Federal Facilities on Historic Properties
Requires federal agencies give priority to using historic buildings found in historic districts of central business areas to meet their mission requirements.

Executive Order No. 13007 - Indian Sacred Sites
Requires that agencies try not to damage Indian sacred sites on federal land, and avoid blocking access to such sites for traditional religious practitioners. The definition of a sacred site is:

> Any specific, discrete, narrowly delineated location on federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion: provided that the tribe or appropriately authoritative representative of an Indian religious has informed the agency of the existence of such a site.

This executive order calls for all federal agencies to create implementing regulations within one year to identify the process for Indian tribes to provide notice to the government of sacred sites to be protected. In turn, the government gives tribes notice when an impact to a sacred site occurs.

d. Corps Consultation Guidelines:
The reader is referred to U.S. Army, Corps of Engineers, St. Louis District, Missouri, Contract Number DACW43-95-D-0512, *Development of U.S. Army Consultation*

Guidelines for Army and Native American, Native Alaskan, and Native Hawaiian Consultation (December 19, 1995).

e. National Register Bulletins:

There are 42 National Register Bulletins *available to assist the Corps in complying with their section 106 and 110 requirements. Only 20 are listed below:*

- *No. 12: Definition of National Register Boundaries for Archaeological Properties;*
- No. 14: Guidelines for Counting Contributing and Noncontributing Resources for National Register Documentation;
- No. 15: How to Apply the National Register Criteria for Evaluation;
- No. 16: Guidelines for Completing National Register of Historic Places Forms;
- *No. 18: How to Evaluate and Nominate Designed Historic Landscapes;*
- No. 19: Policies and Procedures for Processing National Register Nominations;
- No. 20: Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places;
- No. 21: How to Establish Boundaries for National Register Properties;
- No. 22: Guidelines for Evaluating and Nominating Properties That Have Achieved Significance Within the Last Fifty Years;
- No. 29: Guidelines for Restricting Information About Historic and Prehistoric Resources;
- No. 30: Guidelines for Evaluating and Documenting Rural Historic Landscapes;
- No. 32: Guidelines for Evaluating and Documenting Properties Associated with Significant Persons;
- No. 34: Guidelines for Evaluating and Nominating Historic Aids to Navigation;
- No. 35: National Register Casebook: Examples of Documentation;
- No. 36: Historical Archeological Sites: Guidelines for Evaluation;
- No. 38: Guidelines for Evaluating and Documenting Traditional Cultural Properties;
- No. 39: Researching a Historic Property;
- No. 40: Guidelines for Identifying, Evaluating, and Registering America's Historic Battlefields;
- No. 41: Guidelines for Identifying, Evaluating, and Registering Cemeteries and Burial Places; and
- No. 42: Guidelines for Identifying, Evaluating, and Registering Historic Mining Properties.

2. Guidelines for Inadvertent Discoveries, Contract Clause for Inadvertently Discovered Funerary Human Remains, Funerary Objects, Sacred Objects, or Objects of Cultural Patrimony, and Reinterment Protocol

a. Guidelines for Inadvertent Discoveries

The Corps recognizes the substantial impact that the inadvertent unearthing of ancestral remains, funerary objects, sacred objects, and items of cultural patrimony can have on the individuals, families, and communities of the Tribes. In an attempt to ensure proper handling of these inadvertent discoveries, the Corps has adopted the following procedures to be abided by all participants, contractors, employees, and other involved parties when an inadvertent discovery is made in the Fort Peck Lake project area.

The procedures outlined herein are in accordance with NAGPRA (P.L. 101-601), as well as other cultural resources protection law and guidelines. If any human remains are found in the project area, which may be demonstrably related to any of the federally recognized tribal entities, NAGPRA will be implemented. The North Dakota Intertribal Reinterment Committee Memorandum of Agreement (MOA) is an example of one mechanism that may be used to assist tribes in dealing with inadvertent discoveries (see Appendices).

These NAGPRA procedures have been adopted for Fort Peck Lake and are not intended to conflict with other Corps policies or procedures. They have been established to facilitate the culturally appropriate handling and disposition of (1) human remains, (2) funerary objects, (3) sacred objects, and (4) objects of cultural patrimony. These items are defined in the implementing regulations of NAGPRA, 43 C.F.R. part 10.2(d), as follows:

- Human remains refer to the physical remains of a body of a person of Native American ancestry [43 C.F.R. Part 10.2(d)(1)]. The term does not include remains or portions of remains freely given or naturally shed by the individual from whose body they were obtained, such as shed teeth or hair made into ropes or nets.

- Funerary objects refers to items that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed intentionally with or near individual human remains at the time of death or later [43 C.F.R. part 10.2(d)(2)].

- Sacred objects are specific ceremonial objects needed by traditional Native American religious leaders for the practice of traditional Native American religions [43 C.F.R. Part 10.2(d)(3)].

- Objects of cultural patrimony are items that have ongoing historical, traditional, or cultural importance central to a tribe rather than items owned by an individual tribal member [43 C.F.R. Part 10.2(d)(4)].

b. Contract Clause for Inadvertently Discovered Human Remains, Funerary Objects, Sacred Objects, or Objects of Cultural Patrimony

The Corps shall provide their contractors and subcontractors, in writing, systematic procedures to address inadvertent discoveries on Corps lands. Every construction contract for the Fort Peck Lake project area shall include the following clause:

> If, during the course of construction the contractor, or any subcontractor, encounters previously unidentified human remains, funerary objects, sacred objects, or objects of cultural patrimony, the contractor, or subcontractor, shall:
>
> - Cease all activities within the vicinity of said items;
>
> - Secure the area from further disturbance, including the illegal collection of human remains and cultural materials; and
>
> - Immediately notify the Fort Peck Project Area Office, who in turn will contact the Omaha District Emergency Operations Center at (402) 221-4148. The Emergency Operations Center will make every reasonable effort to immediately contact the Tribes, via telephone, fax, or e-mail.

Upon completing these procedures, the contractor or subcontractor can relocate to a different part of the project area, if available. This clause authorizes the contracting officer to order delays or changes in work if such items are discovered. Should the contractor or subcontractor fail to report a discovery, the Corps contracting officer retains the right to adjust the contract price to reflect any delays, changes in work order, or additional costs the Corps may incur due to failure of the contractor or subcontractor to report said discovery [43 C.F.R. part 10.4 (g)].

All discoveries that involve human remains must be treated as a crime scene until determined otherwise by the appropriate personnel (criminal investigator or other qualified professional). Once the inadvertent discovery is no longer considered a possible crime scene, the Corps and the Tribes will assume responsibility for the site and carry out of the procedures discussed above. The Corps is responsible for securing the site from further ground disturbance, vandalism, collecting, or other such harmful activities.

It is the goal of the Corps and Tribes to minimize potential impacts the Fort Peck Lake project may have on cultural sites. If disturbance has occurred when a site is encountered and re-interment is required, the goal is to re-inter any disturbed remains or funerary objects in their original location and re-route the undertaking or action. If this is not possible, the items will be removed to a tribally designated re-interment site for appropriate disposition.

3. U.S. Army Corps of Engineers' Regulations and Policies

Cultural resources are considered in other various Corps regulations and policy directives. Below are the most relevant to the Fort Peck Lake CRMP.

a. Engineer Regulations:

Engineer Regulation No. 405-1-12 - Real Estate Handbook
The Real Estate Handbook provides procedures for issuing archeological permits on Corps lands.

Engineer Regulation No. 1105-2-100 - Civil Works Planning Studies
Provides guidance for the consideration of historic preservation issues in civil works planning studies.

Engineer Regulation No. 1130-2-1 - Environmental Compliance Program at Corps Projects and Activities
Provides guidance to Corps commanders to achieve and maintain full compliance with all applicable environmental laws and regulatory requirements.

Engineer Regulation No. 1130-2-433 - Collections Management and Curation of Archeological and Historical Data
Establishes general regulatory policy, procedures, and standards for the curation and management of archeological and historical artifact collections.

Engineer Regulation No. 1130-2-438 - Project Construction and Operation of the Historic Preservation Program
Establishes the Historic Preservation Program for construction, operations, and maintenance activities in civil works projects.

Engineer Regulation No. 1130-2-540 (Nov. 15, 1996) – Cultural Resource Management - Project Operations: Environmental Stewardship Operations and Maintenance Guidance and Procedures
Among other things, this regulation details the policy for the management and protection of cultural resources at operating civil works projects. The regulation states that these properties are to be given "just and equal" consideration, along with other resources, in the preparation of Master Plans and Operation Management Plans. It also mandates the development of a CRMP for each operational Corps project as appropriate.

Appendix "C": Procedures for the Protection of Historic Properties
Counterpart Corps regulatory program regulations intended to substitute ACHP regulations 36 C.F.R. 800.

b. Policy:

Federal Indian Policy:

The United States Indian Policy was first stated in a formal manner in the Northwest Ordinance, a document ratified by the Continental Congress on July 13, 1787, which stated in part:

> The utmost good faith shall always be observed toward the Indians; their lands and property will never be taken from them without their consent; and in their property, rights and liberty, they never shall be invaded or disturbed, unless in just and lawful wars authorized by Congress; but laws founded in justice and humanity shall from time to time be made for preventing wrongs being done to them, and for preserving peace and friendship with them… (Article the Third, Northwest Ordinance, 1 Stat. 51).

The Reagan-Bush Administration issued a Federal Indian Policy on January 24, 1983, recognizing and reaffirming a government-to-government relationship between Indian tribes and the federal government. President George Bush reaffirmed this policy in September 1989, and on June 14, 1991, he issued an American Indian policy statement reaffirming the government-to-government relationship between Indian tribes and the federal government. The President's policy builds upon the policy of self-determination first announced in 1970 and reaffirmed and expanded upon by the Reagan-Bush Administration in 1983; and again, by President William J. Clinton, April 29, 1994.

Guidance Letter No. 57: Indian Sovereignty and Government-to-Government Relations with Indian Tribes
Provides the principals for conducting government-to-government relations with federally recognized Indian tribes.

4. Other Guidance

a. Leases and Permits

Leases and permits are considered Corps undertakings. It is the responsibility of the Omaha District Engineer to ensure that no significant historic or cultural properties on leased or permitted lands are adversely impacted by agency undertakings (e.g., cultivation, mowing, controlled burning, and recreation) without completion of the Section 106 process. On lands leased from the Corps by the state of Montana, the state is directed to comply with historic preservation legislation and regulations in coordination with the Omaha District (Engineer Regulation No. 405-1-12) prior to any proposed undertakings.

b. Real Estate

Real estate grants, removal of land from federal control, and land acquisition are considered Corps undertakings, and effects on cultural resources must be considered prior to the action.

1) Grants

If a real estate grant is proposed for lands that have not been surveyed for cultural resources, it is the responsibility of the Corps to implement compliance with Engineer Regulation No. 405-1-12 (*Real Estate Handbook*). The grantee may be allowed to conduct the required surveys at their own convenience and expense, provided the plan of action and choice of investigator are approved by the Omaha District Commander in consultation with the Tribes (Engineer Regulation No. 1130-2-540).

2) Removal of Land from Federal Control

It is Corps policy that lands containing significant historic or cultural properties shall not be removed from federal control (Engineer Regulation No. 1130-2-400f Change 2, November 15, 1985). Whenever lands identified for excess have not been surveyed for cultural resources, or if known resources have not been evaluated for significance, studies must be undertaken in order to determine if they will be adversely affected by declaring lands excess. According to Engineer Regulation No. 1130-2-540, these studies authorized by the NHPA will use operations and maintenance funds. If the lands to be removed from federal control will come under the jurisdiction of another federal agency, there will be no effect upon the cultural resources since the new federal agency will also be bound by NHPA.

3) Land Acquisition

If lands are to be acquired for project purposes they should be examined prior to acquisition in order to determine the presence of significant cultural resources since their presence could impede the development of a proposed project. If these cultural resource studies are not undertaken prior to acquisition, they must be conducted prior to any undertaking. Cultural resources present on newly acquired lands should be treated according to federal historic preservation laws, engineer regulations, and guidelines.

5. Penalty Provisions Under Title 36, Part 327.23, Violation of Rules and Regulations

This regulation states:

> "Any person who violates the provisions of the regulations in this part, other than for failure to pay authorized recreation use fees as separately provided for in Sec. 327.23, may be punished by a fine of not more than $5,000, or imprisonment for not more than six months, or both, and may be tried and sentenced in accordance with the provisions of section 3401 of Title 18, United States Code. Persons designated by the Omaha District Commander shall have the authority to issue a citation for violation of the regulations in this part, requiring any person charged with the violation to appear before the United States Magistrate within whose jurisdiction the water resources development project is located" (16 U.S.C. 460d).

Title 36, Regulations for Parks, Forests, and Public Property, Chapter III-U.S. Army Corps of Engineers, Part 327.14, Public Property, (as modified) states:

(a) Destruction, injury, defacement, removal, or any alteration of public property, including, but not limited to, developed facilities, natural formations, mineral deposits, historical and archaeological features, paleontological resources, boundary monumentation or markers, and vegetative growth, is prohibited except when in accordance with written permission of the Omaha District Commander.

(b) For the protection of Native American sites, archaeological, historical, or paleontological resources, metal detectors are not permitted on Fort Peck Lake Corps lands.

C. REQUIRED COORDINATION WITH TRIBES, STATE AND FEDERAL AGENCIES, AND INTERESTED PARTIES

In accordance with Engineer Pamphlet No. 1130-2-540, the Fort Peck Lake CRMP must incorporate the views of the Tribes, SHPO, ACHP, and non-tribal interested parties to achieve a more integrated approach to historic preservation activities.

1. Federally Recognized Indian Tribes

Six federally recognized Indian tribes reside in the state of Montana. They are:

- The Northern Cheyenne Tribe of Montana
- The Assiniboine and Sioux Tribes of Fort Peck
- The Gros Ventre and Assiniboine Tribes of Fort Belknap
- The Blackfeet Tribe
- The Crow Tribe
- The Chippewa-Cree of Rocky Boys Reservation

2. The State Historic Preservation Office

This CRMP was prepared in conjunction with information provided in *Working Together: The Montana Historic Preservation Plan* (1997). This document provides background material including the regional culture history and previous research. In addition, insights are offered regarding perceived deficiencies or gaps in the current database and suggest possible directions for future research.

3. Advisory Council on Historic Preservation (ACHP)

This CRMP was developed in accordance with the draft document *Council Guidance: Historic Resource Management Plans* (1998) and *Guidelines for the Development of Historic Properties Management Plans For FERC Hydroelectric Projects* (n.d.). In compliance with the recommendations contained within these documents, a copy of the Fort Peck Lake CRMP will be forwarded to the ACHP for its review and comment.

4. Interested Parties

The MT SHPO was solicited for suggestions regarding other non-tribal interested parties needing to be contacted as consulting parties for contributions to the Fort Peck Lake CRMP:

- The Blaine County Museum, Chinook, MT;
- The Garfield County Museum, Jordan, MT;
- The McCone County Museum, Circle, MT;
- The Phillips County Historical Society, Malta, MT;
- The Valley County Historical Society, Glasgow, MT

No responses have been received

III. OVERVIEW

This section presents an overview of the Fort Peck Lake project area including management responsibilities. A brief summation of the regional environment and non-Indian cultural history is provided. The remainder of the section relates to the specific cultural resources in the Fort Peck Lake project area, the previous archaeological and historical investigations that have taken place within the project area, and the cultural resources identified as a result of these investigations.

A. PROJECT DESCRIPTION

Fort Peck Lake was designed, built, and is operated by the Corps and is regulated by the Missouri River Region Reservoir Control Center in Omaha, Nebraska.

1. Fort Peck Lake

Named for an old trading post of the 1860's, Fort Peck Dam is one of six multipurpose main stem projects that operate as part of a system on the upper Missouri River. Construction of Fort Peck Dam near Glasgow, Montana, began in 1933 and was completed in 1940. Fort Peck Dam is the largest hydraulically filled dam in the United States. The dam measures 21,026 feet in length with a maximum height of 250.5 feet. The total combined capacity of the five turbines generates 185,250 kilowatts of power. The entire Fort Peck project lies within the Charles M. Russell National Wildlife Refuge.

Extending 125 airline miles up the Missouri River from Fort Peck Dam in north-central Montana, the Charles M. Russell National Wildlife Refuge contains approximately 1,100,000 acres, including the 245,000-acre Fort Peck Reservoir. The Refuge includes native prairies, forested coulees, river bottoms, and badlands so often portrayed in the paintings of Charlie Russell, the colorful western artist for whom the refuge is named. The project area does not contain any agricultural land subject to flooding.

Fort Peck Lake is the 5th-largest man-made reservoir in the United States. The lake is 134 miles long, has 1520 miles of shoreline, and has a maximum depth of 220 feet. Water is stored at Fort Peck Lake for the production of hydroelectric power. In addition, the water is managed for flood damage reduction, downstream navigation, fish and wildlife, recreation, irrigation, public water supply, and improved water quality. The total storage capacity of the reservoir is approximately 18.7 million acre-feet. The lake drains an area of approximately 10,200 square miles.

The total acreage of Corps project lands on Fort Peck Lake, including fee title and leased lands, easements and withdrawn public lands retained, is approximately 337,968 acres. There are 18 recreational facilities totaling 6,637 acres, ranging from full-service development to primitive lake access. These are the only lands subject to development.

2. Physiography and Climate

The Fort Peck Reservoir is located on the Missouri River drainage in the Great Plains physiographic province. The regional topography was in place by the end of the last glaciation (Alden, 1932). Alden (1932) describes the area as follows:

> 'The northern Great Plains rise gradually westward from about 2,000 feet above sea level on the Coteau du Missouri in North Dakota to 5,000 or 6,000 feet at the Rocky Mountain front. Though largely smooth, the plains are considerably dissected, having a relief of 500 to 1,500 feet. There are also several outlying mountain groups whose crests range in altitude from 6,300 to 9,000 feet.'

The uplands beyond the Missouri River consist largely of undulating (or rolling) surfaces cut by intermittent streams. The region is drained through coulees consisting of low-relief creek and river bottoms, floodplains, and old stream deposits. Slopes between the rolling uplands and lowland drainways are often steep and sometimes form "breaks" in the land consisting of poorly vegetated arroyos, gullies, coulees, and bluffs. The character of the breaks varies from rough terrain to complete badlands (USFWS, 1985; Fox, 1981). Seasonal ponds and lakes, which gradually disappear by the end of summer, are common on the poorly drained glacial plains.

The Missouri River and its major tributaries have cut relatively young (Holocene) trenches through this plain with deeper coulees and a more picturesque zone of badlands and breaks than those of the smaller streams of the uplands. The Missouri River thus has a relatively narrow floodplain that lies 500 to 1,000 feet below the surrounding upland prairie. The upland elevations around the rivers vary between 2,300 feet a.m.s.l. near the Fort Peck Dam to over 3,200 feet at the Seven Blackfoot Area in Garfield County (USFWS, 1985). This "Missouri Breaks" zone continues west toward the Rocky Mountains.

Immediately north and east of Fort Peck Dam, however, the Missouri enters a much less rugged topographic zone as it flows through its broad and mature pre-glacial channel (elsewhere occupied by the Milk River).

Warm summers and very cold winters characterize the project area. The average midsummer high is 83°F, while the overall average temperature in summer is 69°F (USDA-SCS, 1984a). Some parts of Fort Peck experience up to 25 days of temperatures at 90°F or higher (USDA-SCS, 1984b). The average winter temperature is 17°F, while the average mid-winter low is 0°F (USDASCS, 1984b), with occasional extreme lows of -20°F (USFWS, 1985). The area averages approximately 120 frost-free days (USFWS, 1985).

3. Flora and Fauna

The dominant vegetation and wildlife habitat of the Great Plains is shortgrass prairie. There is considerable diversity of habitats within the study area because of the presence of the river drainages, most notably the Missouri and Musselshell rivers. These support a

diverse ecology, including the shortgrass prairie, but grade into rich riparian habitats, as well. The study area also contains diverse aquatic habitats.

The study area lies within the northwestern section of the Great Plains. The major vegetative cover types identified by the USFWS include juniper woodland, ponderosa pine juniper woodland, sage grasslands, greasewood-grasslands, deciduous shrub-grasslands and river bottoms (USFWS, 1985).

The three grassland zones share certain characteristics, mainly in the grass species represented. These include blue grama (*Buteloua gracilis*), needle and thread (*Stipa comata*), green needlegrass (*S. viridula*), western wheatgrass (*Agropyron smithii*), bluebunch wheatgrass (*A. spicatum*), and sandberg bluegrass (*Poa secunda*). They are distinguished by the predominance of one type of shrub or another (Ross and Hunter, 1976; USFWS, 1985).

Big sagebrush (*Artemisia tridentata*) and silver sage (*A. cana*) characterize the sage-grasslands zone. These grasslands support several additional species, including fringed sagewort (*A. frigida*), prickly pear (*Opuntia polycantha*), Indian turnip (*Psoralea esculenta*), Hood phlox (*Phlox hoodit*), wild buckwheat (*Eriogonum fasciculatum*), and scarlet globemallow (*Sphaeralcea coccinea*) (Ross and Hunter, 1976).

Greasewood-grassland shares several species in common with the sage-dominated prairie, but greasewood (*Sarcobatus vemiculatus*) and Nuttall saltbush (*Atriplex nuttallit*) dominate the zone because the soils are more alkaline. Additionally, it supports Indian Rice grass (*Oryzopsis nymenoides*), biscuitroot (*Lomatium cous* or *L. leptocarpum*), wild onion (*Allium sp*.), Indian turnip, wild buckwheat, and prickly pear (Ross and Hunter, 1976).

The deciduous shrub-grassland supports several important shrubs and forbs that were important to prehistoric people. The shrubs include Arkansas rose, common snowberry (*Symphoricarpos albus*), chokecherry, western serviceberry (*Amelanchier alnifolia*), and silver buffaloberry (*Shepherdia argentea*). The forbs are fringed sagewort, sunflower (*Helianthus sagittata* and *H. maximiliani*), wild licorice (*Glycyrihiza lepidota*), vetch (*Vicia cracca*), Hood's phlox, prairie thermopsis (*Thermopsis rhombifolia*), and Indian turnip (Ross and Hunter, 1976; USFWS, 1985).

Rocky Mountain juniper (*Juniperus scopulorum*) is the dominant species in the juniper woodlands. It shares its range with bearberry (*Arcotostaphylos uva-ursi*), rose hips or Arkansas rose (*Rosa arkansana*), chokecherry (*Prunus virginiana*), skunkbrush (*Rhus triliobata*), and rubber rabbitbrush (*Chrysothamnus nauseosus*) (Ross and Hunter, 1976; USBLM, 1978). Sage and grasses form the understory.

The ponderosa pine juniper woodland type is distinct from the juniper in that ponderosa pine (*Pinus ponderosa*), limber pine (*P. jlexilis*), and Douglas fir (*Pseududotsuga menziesh*) are added to juniper and its understory (Ross and Hunter, 1976).

The river bottoms have distinct vegetation because of the riverine environment in which they occur. Cottonwoods (*Populus trichocarpa, P. deltoides, P. sargentit*) are the dominant species, with box elder (*Acer negundo*). Green ash (*Fraxinus pennsylvania*), Quaking aspen (*P. tremuloides*) and Rocky Mountain juniper also occur. The smaller vegetation consists of silver buffaloberry, common snowberry, chokecherry, Arkansas rose, lambsquarters (*Chenopodium album*), and sunflower (Ross and Hunter, 1976).

Each of the above vegetation types occupies some portion of the study area along the banks of the river and shoreline of the reservoir. Along the river course, above the lake and west of UL Bend Wilderness Area, there are concentrations of both ponderosa pine juniper woodlands and greasewood grasslands, with a small section of river bottom vegetation. Greasewood grasslands and a small amount of sage grasslands concentrate east of UL Bend. Around the reservoir are several vegetation communities. To the north stand juniper woodlands interspersed with sage grasslands. To the east, above the Big Dry Arm of the lake, grows most of the deciduous shrub grassland in the refuge. Sage grasslands occupy all the area south of the lake and around the Big Dry Arm (USFWS, 1985).

Fort Peck's six vegetation zones contain four major wildlife zones, as well as one other zone in which some terrestrial wildlife can be found. An examination of every species that occasionally uses each zone is beyond the scope of this overview. Instead, this is a general overview of the main wildlife species that occur in the study area that were of economic importance to prehistoric people.

Both sagebrush and greasewood grasslands support similar groups of important species. These include pronghorn antelope *(Antilocarpa americana)* and mule deer *(Odocoileus hemionus*) representing the larger mammals, and the black-tailed prairie dog (*Cynomys ludovicianus*), whitetail jackrabbit (*Lepus townsendt*), Richardson groundsquirrel (*Citellus richardsoni*), and badger (*Taxidea taxus*) representing the smaller mammals (Table 2-3). Swift fox (*Vulpes velox*) are rare but present here, and the extremely rare black-footed ferret (*Mustela nigripes*) is also rumored to be present. The bison once roamed these grasslands. Sage grouse (*Centrocercus urophasianus*), upland sandpipers (*Bartramia longicauda*), mountain plovers (*Charadrius montanus*), long-billed curlews (*Numenius americanus*), ring-necked pheasants (*Phasianus colchias*), and burrowing owls (*Athene cunicularia*) represent the bird life here. Golden eagles (*Aquila chrysactos*) and prairie falcons (*Falco mexicanus*) subsist in the area and can be found in rougher cliff areas bordering these vegetation zones.

Deciduous shrub grasslands support a slightly different set of species, though mule deer are also found ranging in these environs. Avian inhabitants include sharp-tailed grouse, gray partridge (*Perdix perdix*) (a European introduction [Ransom, 1981]), Merriam's turkey (*Meleagris gallopavo*), and mourning dove (*Zenaidura macroura*).
The ponderosa pine and juniper woodlands support a suite of wildlife, including elk (wapiti) and mule deer among the ungulates. The bobcat (*Lynx rufus*) is the main carnivore. Mountain cottontail (*Sylvilagus nuttalli*), yellow-bellied marmot (*Marmota jlaviventris*), and red fox (*Vulpes vulpes*) represent the smaller mammals. Bighorn sheep

(*Ovis canadensis*) formerly inhabited this range and have been reintroduced, and wolf (*Canis lupus*) and mountain lion (*Fells concolor*) may hunt this range even today. Red-tailed hawk (*Buteo jamaicensis*), sharp-tailed grouse, and mountain bluebird (*Sialia currucoides*) are the main bird life.

The riparian river bottom zones along both the Missouri and other minor waterways support such animal life as raccoon (*Procyon lotor*), porcupine (*Erethizon dorsatum*), long-tailed weasel (*Mustela frenata*), white-tailed deer (*Odocoileus virginianus*), and woodchuck (*Marmota monax*). There is substantial bird life as well, such as the eastern kingbird (*Tyrannus verticalis*), white pelican (*Pelecanus erythrorhynchos*), osprey (*Pandion haliaetus*), double-crested cormorant (*Phalacruccrax auritus*), and great blue heron (*Ardea herodias*).

Ponds represent a wildlife zone with a unique fauna, but are not classified as a type by the distribution of vegetation. Species included in this zone are muskrat (*Ondatra zibethica*), mink (*Mustela vison*), beaver (*Castor canadensis*), and river otter (*Lutra canadensis*). Migratory waterfowl such as Canada geese (*Branta canadensis*), Sandhill cranes (*Grus canadensis*), whistling swans (*Olor columbianus*), and ducks also use this zone.

There are also several species in the area that may be found in any of the above habitats. The main representatives are coyote (*Canis latrans*) and skunk (*Mephitis mephitis*).

In the Missouri River and Fort Peck Lake there are a number of wild species of fish that include coho salmon (*Onoearhynchus kisutch*), kanee (*O. nerka*), cutthroat trout (*Salmo clarkii*), golden shiner (*Notemigonus crysoleucas*), northern redbelly dace (*Phoxinus eos*), finescale dace (*P. negaeus*), brook stickleback (*Culaea inconstans*), bluegill (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), black crappie (*Pomoxis nigromaculatus*), garfish (*Lepisosteus osseus*), sauger (*Stizostedion canadense*), yellow perch (*Perca jlavescens*), shovelnose sturgeon (*Scaphirhynchus platorynchus*), pallid sturgeon (*S. albus*), lake trout (*Salvelinus namaycush*), white sucker (*Catostomus commersoni*), burbot (*Lota Iota*), paddlefish (*Polyodon spathula*), northern pike (*Esox lucius*), and channel catfish (*Ictalurus punctatus*) (Berg, 1981; USFWS, 1985).

Additionally, there are several fish raised at local hatcheries: goldeye (*Hioson alosoides*), bigmouth buffalo (*Ictrobus cyprinellus*), smallmouth buffalo (*I. bubalus*), carp (*Cyprinus carpio*) (non-native [Ransom, 1981)), river carpsucker (*Carpoides carpio*), and freshwater drum (*Aplodinotus gruniens*). Several species of wild freshwater mussels also occur in the riverine and lake area (USFWS, 1985).

The area also supports several species of reptiles and amphibians. These include the tiger salamander (*Ambystoma tigrinum*), bullfrog (*Rana catesbeiana*), northern leopard frog (R. pipiens), woodhouse toad (Bufo woodhousei), Great Plains toad (*B. cognatus*), and plains spadefoot (*Scaphiopus bombifrons*) (Ransom 1981). There are three species of turtles in the riparian habitats including snapping turtle (*Chelydra serpentina*), painted turtle (*Chrysemys picta*), and slider (*Pseudemys scripta*) (Ransom, 1981). The short-horned lizard (*Phrynosuma douglassi*), the bullsnake (*Pituophis melanoleucus*), eastern

racer (*Coluber constrictor*), western hog-nosed snake (*Heteroden nasicus*), and the smooth green snake (*Opheodrys vernalis*) represent the nonpoisonous terrestrial reptile species. One poisonous snake, the prairie rattlesnake (*Crotalus viridis*), inhabits the area.

Though bison are no longer present in natural herds, their seasonality and range had a tremendous effect on the lives of the prehistoric and historic inhabitants of the study area. Despite certain limitations, modern studies such as those by Soper (1941) and McHugh (1958) provide valuable descriptions of bison behavior. The bison followed a flexible seasonal round on the Great Plains, during which time the herd size and distribution over the landscape varied. Great herds congregated at a habitual lowland sedentary winter range. As spring arrived, the herd splintered into smaller, mobile groups that migrated to nearby summer upland range. Calves were usually born while the female was alone or in a small, exclusively female group. The animals arrived at their summer range with newborn calves and divided into small herds or family groups. These groups wandered between waterholes, pastures, salt licks, resting spots, and wallows. During the autumn rutting season, the animals moved slowly back to the winter range. The groups then congregated to form the large sedentary winter herds.

The elk, or wapiti, were another food resource for the inhabitants of the study area, and they too followed a seasonal round. In winter, the elk congregate in large mixed herds in a limited winter range, usually in woodlands along the river (USFWS, 1985). By spring, the herd fragments into smaller groups, which trek to the summer range in the sagewood grasslands on the plains (USFWS, 1985). Near the beginning of summer, the females drop their calves in seclusion, while small bachelor herds forage widely. By summer, females and calves have formed nursery herds, occasionally mingling with the bachelor herds, temporarily forming large summer herds that divide according to resource abundance. During the autumn rut, non-mating bachelor herds and harems with dominant males form and move toward the winter range. The modern elk in the study area continue to range freely across the wildlife refuge boundary to follow their seasonal round (USFWS, 1985).

Most of the large ungulates on the Great Plains follow a seasonal round, defined by the resource availability at a circumscribed winter range and a wide and open summer range. Deer are no exception to this trend. Nelson and Mech (1981) have examined deer herd behavior, especially in relation to predation, and Hirth (1977) has specifically examined the social behavior of the white-tailed deer. From their studies, we see that the two species of deer present at Fort Peck, the mule and white-tailed deer, normally exist in large sedentary groups during the winter, and break up into small groups in the spring to migrate to the summer range. White-tailed behavior is distinct in that the female usually travels with fawn only, moving between resource areas in the summer range with no group association. Males, on the other hand, continue to travel in mobile social groups, as they do not have to care for young. Mule deer form nursery herds, grouping many females and their offspring together, which occasionally mingle with bachelor groups. Autumn is the mating season, and coincides with the migration toward the winter range. Deer, exposed on the plains, will form large herds for collective defense. The modern

deer populations at the reservoir do not migrate, though they do differentiate their use of distinct ranges within the wildlife refuge, governed by the seasons.

Bighorn sheep are less migratory than the other ungulates, though they also move with the seasons. Wildlife biologists have cited their movements as more of a drift than a true migration (Capp 1968). During most of the year, bighorn remain separated into two social groups: that of the adult males; and that of the ewes, lambs and young rams. The animals forage on bunchgrasses and sages throughout the year. In their winter grassland range, they stick to the above-mentioned social groupings. Ewes often lamb while still in the winter range, before drifting toward the summer fields. Ram groups lead the movement toward the summer foraging areas. Herd composition for males can vary from 1 to 15, and for the female dominated groups from 1 to 20 during late winter, spring and summer. Individual groups of females are largest at midsummer, and male bands reach similarly large groups in the late summer, up to 46 individuals according to field observations (Capp 1968). The drift is not over a long distance, though the summer and winter ranges do not overlap. During the fall drift and the arrival at the winter range, the ram and ewe groups mingle and form temporary large herds. These routinely reach 40 or more members and can reach as many as a 100 members. After the mating period, the groups break down and are separate for the rest of the year (Capp 1968). Bighorn sheep dwell in several protected ranges in the Charles M. Russell Wildlife Refuge (USFWS 1985).

The pronghorn antelope was also an available food resource to Native American populations in the area. Antelope followed the seasonal pattern of the other game animals, changing herd composition with the turning of the year (Buechner, 1950). Pronghorn are somewhat more flexible than their larger cousins in their winter herd composition, forming groups that range from 16 to 106 individuals. They practice a more flexible social organization, dependant on resource availability. With the arrival of spring, which is the fawning season, the does scatter to have their fawns and then recongregate, forming small herds of 6 to 20 individuals. Kitchen (1974) notes that mid-spring is the time when bucks set up territories that they defend, allowing does to range freely while excluding the bachelors. Summer is highly variable, with mixed herds often occurring, led by one, and sometimes more, bucks, and containing 1 to 8 does with their fawns. Bachelor groups also range freely and herds of 15 or more are not infrequent. During the autumn rut, harems of females are monopolized by the dominant bucks in their ranges, relegating bachelors to the peripheries and leaving solitary does to care for congregations of fawns. Typical behavior for all of these groups is to disperse during the day and regroup at night. After the rutting season, large groups begin to form again for the onslaught of winter. Modern pronghorn herds use the study area only occasionally. They often only visit during harsh winters because winter forage is available in certain areas of the reservoir zone even during extremely inclement winter weather (USFWS, 1985).

B. SUMMARY OF CULTURAL HISTORY (ARCHAEOLOGICAL PERSPECTIVE) IN THE FORT PECK LAKE PROJECT AREA

The following is a cultural history compiled from an archaeological perspective (exerpted and adapted from Davy, et. al. 1992). Native peoples of this area, some of whom have participated in the composition of this CRMP, have their own creation stories and histories.

In the Northwestern Plains, the basic chronological sequence applied by most scholars was originally devised by William Mulloy (1958), and is based on the nonradiocarbon dated stratigraphic relationships of the Pictograph Cave site near Billings, Montana. Additional data with radiocarbon control has since expanded and modified Mulloy's three basic time divisions, and some workers have preferred to utilize different terms for the major time periods (Wormington and Forbis, 1965), delineate specific phases within the sequence (Reeves, 1970), or use a combination of terms (Frison, 1978) (Figure 4-1). In this report, Mulloy's original divisions are used to generally characterize the cultural sequence and to discuss known cultural resources. They are, however, modified and expanded within each time division in light of new data.

1. The Early Prehistoric Period

As Mulloy (1958) defined it, this cultural period includes the time from at least 9,000 to
5,500 B.C., and generally corresponds with Antevs' (1955) Anathermal climatic period, during which the climate was more moist than today. Some also refers to this prehistoric time period as the Paleoindian period. Firm archaeological data for this period varies from region to region within the Northwestern Plains, partly as a reflection of either research intensity or the appearance of sites. In many instances, the surfaces used during this period in the Northwestern Plains are covere0.1d with thick deposits, are beneath the present water table, or have eroded away.

The earliest reliable evidence of a well-developed cultural system in the region comes from mammoth kill sites associated with Clovis fluted projectile points that date about 9,500 B.C., which is slightly earlier than the beginning of Mulloy's original estimate for the beginning of the Early Prehistoric period. Clovis occupations in the Northwestern Plains are indicated by numerous surface finds by the Anzick site near Wilsall, Montana, which is a Clovis complex burial site (Lahren and Bonnichsen, 1974). Association of fluted projectile points that are typologically not "classic" Clovis have recently been found in association with mammoth remains at the Colby site, in the Bighorn Basin area of Wyoming which date 11,200 years ago (Frison 1978).

The Folsom cultural complex follows the Clovis complex and consistently dates about 8,500 B.C. Although the Folsom complex has a rather similar spatial distribution to Clovis, it is normally associated with now-extinct bison, and represents some stone tool technology differences, particularly the fluting of projectile points. In the Northwestern Plains, the Folsom complex is represented

from surface finds, undated burial deposits at the MacHaffie Site near Helena, Montana (Forbis and Sperry, 1952), and at the Hansen site on the eastern flank of the Bighorn Mountains near Shell, Wyoming, which dates to 8,700 B.C. (Frison, 1978).

The Agate Basin-Hell Gap cultural complex is technologically different and follows the Folsom complex in time. This cultural system has been associated with now extinct bison forms at various Wyoming locations such as the Agate Basin site (Wormington, 1957), the Hell Gap site, and the Casper site (Frison, 1978) and dates about 10,000 years ago.

The Alberta culture complex follows the Agate Basin-Hell Gap systems. The Alberta Culture dates about 9,000 years ago. It is known from surface finds (Wormington and Forbis, 1965); the undated Fletcher bison kill (Forbis, 1968) in Alberta, Canada, and the Hell Gap site in Wyoming. The Cody complex consists of such time diagnostic tools as Scottsbluff-Eden projectile points, which have been found on the surface at the Homer site in Wyoming (Jepson, 1952), possibly the bottom level in Pictograph Cave (Mulloy 1958), the MacHaffie site near Helena, Montana (Forbis and Sperry, 1952), and the Finley site in Wyoming.

2. The Middle Prehistoric Period

The Middle period begins with the onset of the warmer and drier Altithermal climatic episode (ca. 5,000 B.C.), the period following the Anathermal, according to the Antevs (1955) Paleoclimatic Model. Much of the archaeological research on the Middle Period in the Northwest Plains has focused on the effects of the Altithermal.

To the east of the Northern Rockies, in the Northwestern and Northern Plains areas, a number of archaeologically recognized environmental and cultural effects of the Altithermal have been presented. Mulloy (1958) has suggested that an actual cultural hiatus took place during the Altithermal on the Northern Plains, but cautioned that this conclusion may be a reflection of sampling error. In rejecting the cultural hiatus possibility, Jennings (1957) has concluded that the artifactual similarities which occurred during this time period between the McKean site in northeastern Wyoming (Mulloy, 1958), and Danger Cave in the Great Basin indicated that an entirely different system known as the Desert Culture diffused into and occupied the Plains during the Altithermal period.

A more severe hypothesis was suggested by Wedel (1961), who postulated that a desert environment existed during the Altithermal and, as a result, the Plains were totally abandoned by all large game populations; humans as a consequence, became "foragers." In a similar, but less drastic vein, Hurt (1966) envisioned a reduction in both human and big game populations with a concomitant change in subsistence patterns.

Husted (1991) states that the Plains were completely abandoned during the Altithermal period. In fact, the Mummy Cave site, a stratified rockshelter on the eastern edge of the Northern Rockies in northwestern Wyoming, which yielded evidence of 39 occupation levels (with radiocarbon dates from 7280 B.C through A.D. 1580) was interpreted as being occupied during the Altithermal period (5000 to 2500 B.C.) "when the Plains and Great Basin may have been largely abandoned by man" (Wedel, Husted, and Moss, 1968). The crux of the argument concerning the Altithermal period is that the mountains became a refuge for populations that were displaced from the Great Basin and Plains by a severely deteriorating (dry) climatic condition.

Relevant, though sometimes conflicting, data exist. On one hand is the Rigler Bluffs site (24PA401), which yielded a series of radiocarbon dates clustering about 3000 B.C. from a hearth associated with a piece of Pacific yew (*Taxes brevifolia*), suggesting that the climate was moister than at the present day (Haines, 1966). Conversely, Baker's (1970) 46 pollen samples from sagebrush steppe, lodgepole pine forest, spruce-fir whitebark pine forest, and alpine tundra vegetational associations in Yellowstone Park and the Beartooth Plateau tentatively suggest that, for the Yellowstone Plateau, the climate from about 11,500 years ago to 10,000 ago (9500 B.C. to 8000 B.C.) was slightly cooler and drier than at present. An upward shift of spruce, fir, and whitebark pine from 10,000 to 5,000 years ago is interpreted as representing a warmer, dry climatic period. Finally, Waddington and Wright's (1970) pollen sequence from the Cub Creek area on the Yellowstone Plateau indicates a major environmental change to warmer conditions about 11,500 years ago and a minor change to slightly cooler conditions about 5,000 years ago.

In light of recent evidence from the Northwestern Plains, Mulloy's "hiatus" idea has been modified considerably (Reeves, 1973). Such sites as Mummy Cave (Wedel, Husted, and Moss, 1968), Hawken (Frison, Wilson, and Wilson, 1976), the Medicine Lodge Creek site (Frison, 1976), and the Myers-Hindman site (Lahren, 1976) have demonstrated the existence of cultural systems during the proposed "hiatus" period. This evidence indicates that at least some of the western mountainous portions of the Northwestern Plains were occupied during the Altithermal period by cultural systems that used a distinctive type of side-notched projectile point that is sometimes called "Altithermal Side-Notched" or "Bitterroot" point (Swanson, 1961; Lahren, 1976).

After reviewing various Altithermal interpretations in the literature, it becomes apparent that in a number of cases researchers have applied Antevs' Neothermal model (1955) in a one-to-one cultural and environmental relationship for the hypothesized period. This has resulted in over-generalizing the data and creating area-wide conclusions about past climatic conditions and cultural behavior. The resulting problem is that all consequences have been ascribed to one cause, namely, a hot, dry climate that led to environmental deterioration and subsequent cultural demise or abandonment. However, the relationship of climate and human

adaptation in such wide and diverse areas as the Northern Plains is more complex than some researchers have assumed, and therefore, requires more, well-controlled interdisciplinary data derived from numerous types of representative and radiometrically controlled sites of various functions within individual subregions of the Northwestern Plains.

In addition to the postulated environmental changes, some of the major differences between the Early Prehistoric Period and the subsequent Middle Prehistoric Period are: (1) the shift from the hunting of now-extinct fauna to surviving modern forms; (2) the more apparent use of vegetal materials as evidenced by an increase in grinding stones and platforms; and (3) possibly an increase in the postulation and a "settling in" effect of the hunting-gathering populations to specific regions and resources. This era is also referred to as the "Archaic" period; however, it is sometimes characterized in terms so general that it is essentially meaningless for detailed comparative and contrastive purposes.

The commonly identified projectile point types which are sometimes considered representative of specific "traditions" or "phases" during Middle Prehistoric Period include:
Bitterroot or Altithermal Side-Notched, Oxbow, McKean, Duncan, Hanna, Pelican Lake.
Reeves (1970) theorizes that the McKean, Hanna, and Pelican Lake traditions of the Middle Prehistoric Period developed into the Late Prehistoric Period subphases of Avonlea, Keyhole, and Patten Lake:

> “The subphases of the Pelican Lake Phase may be conceptualized as representing a series of regionally adapted societies who participated to a greater or lesser extent in an overall unifying cultural tradition.”

The Pelican Lake and Avonlea Phases are part of the Tunaxa cultural tradition, which Reeves defined according to traits based on projectile points, lithic technologies, pottery, hearths, and burial patterns.

3. The Late Prehistoric Period

This cultural division of Mulloy's sequence covers the period from 1800-200 B.P. (A.D. 200 to about A.D. 1725) in the Northwestern Plains, and was characterized by numerous innovations and changes in cultural behavior and population dynamics. Communal bison killing, which had roots in the Early Prehistoric Period, became a major cultural and subsistence activity even though a variety of plants and animals were increasingly utilized. There was diffusion of traits from and a high degree of cultural interaction with contiguous culture areas, represented in the form of ceramics, projectile point types, and extensive trading of preferred stone materials. Based on projectile point size, the bow and arrow appears a dominant characteristic in the cultural assemblages. Presently known diagnostic projectile point types for this period include: Pelican Lake (A.D. 200-500), Avonlea (A.D. 1-800), Besant (A.D. 1-800), Old Women's Phase, Late Plains Side-notched and Triangular (A.D. 700-1750). The Late Prehistoric Period

contains two cultural traditions: the Tunaxa (Pelican Lake to Avonlea) and what is termed the intrusive Napikwan (Besant to Old Women's).

The Besant Phase appeared on the Middle Missouri in the first century A.D. and moved into the Upper Missouri and Saskatchewan Basins by about A.D. 200. The Avonlea and Besant Phases coexisted in the area for over 500 years (A.D. 200-800). Besant then became the dominant cultural pattern in the Saskatchewan Basin and developed into the Old Women's Phase, either through displacement or assimilation of the Avonlea Phase (Reeves, 1970).

Byrne's data also agrees with the idea that the Avonlea Phase developed locally from the Pelican Lake Phase of the Tunaxa Tradition (Byrne, 1973). However, Byme states that pottery does not occur consistently with Besant occupations, and further argues that evidence from the Morkin Site indicates that the Old Women's Phase developed out of the Avonlea Phase rather than the Besant Phase (1973). He hypothesized that either the Avonlea/Tunaxa tradition replaced the Besant/Napikwan tradition, or more likely the two assimilated into the Old Women's Phase after 1150 B.P. and 500 years of coexistence (1973). Both Byrne and Reeves recognize the latter possibility. Whatever the case, further field work, with good time control, in the Northwestern Plains will be required to develop these positions.

4. The Protohistoric Period

The time span from A.D. 1720 to 1800 is generally referred to as the Protohistoric period. The diffusion acquisition of the horse, gun, metal weapons, and tools, as well as the increasing pressure of the expanding white and aboriginal population from all directions, brought about major changes in the composition of Northwestern Plains culture. For thousands of years, the hunter and gatherer populations were pedestrian societies, with dogs being the only domesticated animal. Hunting patterns and travel were systematically scheduled, but were limited by human endurance and technological abilities. In contrast, the use of horses increased mobility and flexibility, increased trading ranges, and added a variety of economic traits to the cultural matrix. The northern Montana/Saskatchewan Basin area received the horse by 1750 through trade from the west or south, and the gun by 1790 or before through trade to the north and east (Secoy 1992). The communal pedestrian bison hunt was no longer a modal behavior pattern. Introduction of metal cooking pots soon resulted in the cessation of pottery manufacture (Ewers, 1945). Greater loads of goods could be transported including surplus and luxury items. War and raiding parties could venture great distances without having detrimental group survival effects. Tribal societies became the dominant social group over large areas that were defined and held by military power.

In general, all of the major cultural groups known to the Northwestern Plains are differentially represented in a variety of locales in northeastern Montana. The pattern appears to represent a small population during the Early Prehistoric

Period, which expanded and developed into well-adapted communal bison hunting cultures by about 500 B.C., and ultimately transformed through diffusion.

C. HISTORIC OVERVIEW OF THE FORT PECK LAKE AREA

The Missouri River basin is of great cultural importance to both Native Americans and European Americans. It is rich with history, yet remains a vast wilderness, much as it was in Lewis and Clark's time. The Missouri River was the avenue of the first recorded exploration of the Montana Territory, and the main travel route for several decades that followed; yet it has been avoided by subsequent travelers and remains comparatively empty today, with few roads or river crossings. The region was the site of many forts and settlements, but today long stretches of it are devoid of settlement. Perhaps the vagaries of the Missouri River are best described in a comment by George Fitch: "There is only one river ... that goes traveling sidewise, that interferes in politics, rearranges geography, and dabbles in real estate; a river that plays hide and seek with you today and tomorrow follows you around like a pet dog with a dynamite cracker tied to his tail. That river is the Missouri" (Athearn, 1967). Even the Missouri's name is a source of confusion. It's variously accredited to an Indian word meaning "Muddy Waters," the Gros Ventres name for "The River That Scolds All Others," or a name given to a Sioux tribe called "Dwellers on the Big Muddy" (Cheney, 1983).

The historic period covered here begins around the time of the Lewis and Clark Expedition, in the summer of 1805, and culminates with the completion of the Fort Peck Dam in 1939. During these 134 years, diverse groups of people passed through the area. The Upper Missouri was a setting for dramas played out by several tribes of American Indians, early American explorers, fur trappers, missionaries, buffalo hunters, steamboat travelers, woodhawks, miners, ranchers, wolfers, cowboys, sheepmen, farmers, and construction workers. This region was the last stand of Native American buffalo and wolf on the Northern Plains. Because of its remoteness and rugged topography, it was also a regional base for rustlers and outlaws.

1. Native Americans During the Early Historic Period

At the time of the Lewis and Clark Expedition in the summer of 1805, the region of the Upper Missouri was being used by several Indian tribes, including the Mandans, Minnetaries, Assiniboines, Gros Ventres, Crow, and the Blackfoot Nation, which was comprised of the Piegan, Blood, and Blackfoot. The importance of the Missouri River to these Indians cannot be overstated. It was a source of water, firewood, hunting grounds, and groves for shelter (Chittenden, 1962). As these were semi-nomadic people who followed herds of game animals and moved with the seasons, tribal territories often overlapped, creating conflicts.

The Piegan branch of the Blackfoot-affiliated tribe dominated the northwestern portion of the study area. In 1805, Lewis and Clark found them in control of all of north-central Montana. The other two Blackfoot bands (Bloods and Blackfoot) lived primarily in Canada. The Blackfoot occupied a large territory. They were a large nation before the decimation caused by European-American disease. At the

time of his visit at Fort McKenzie, Maximilian estimated their population at between 18,000 and 20,000 (Maximilian, 1982). He also witnessed a battle just outside the stockade of Fort McKenzie between the Blackfoot and Assiniboines and Crees (Maximilian, 1982).

The Crows occupied the area south of the Blackfoot; the Mountain Crows were mostly south of the Yellowstone River, and the River Crows were in the Musselshell and Judith basins south of the Missouri.

The Gros Ventres, or Atsinas roamed the area to the east of the Blackfoot. By the 1850s they were frequent traders at Fort Benton and dominated the Milk River basin. Both they and their close allies, the Piegans, were unfriendly to European Americans. Their presence in the vicinity of the "Stone Walls" was noted by Prince Maximilian (Maximilian, 1982).

Though the Sioux, or Dakota Nation, were not true residents of the Upper Missouri area, they made frequent incursions into the territories of the Gros Ventres, Blackfoot, and Crows.

The Mandans and Minnetaries were based in present-day North Dakota, with territory spreading into Eastern Montana. The history of Fort Union, at the confluence of the Yellowstone and Missouri rivers, heavily involves these tribes.

The Red River people of French and Native American descent known as the Bois Brules, or Metis, were also present in the area. This French patois-speaking group ventured down the Missouri to trade with the Sioux and to hunt buffalo (Vestal, 1945). They traveled with two-wheeled Red River oxcarts and bullboats.

One of the major European-American impacts on the Native Americans came from the fur trappers. The fur trade companies, both British and American, used Native Americans to aid in trade, exchanging commodities with them for furs. The competition created for merchandise led to escalating conflict among the tribes. Major contact with European Americans came with the steamboat, which began to ply the Upper Missouri for the transport of furs. Both friend and foe to the Indian, the steamboat brought deadly imports of alcohol, gunpowder, and disease, along with the merchandise (Chittenden, 1962; Maximilian, 1982).

A deadly smallpox epidemic swept up the Missouri in 1837, carried by the steamboat, St. Peters, on the American Fur Company's annual trip (DeVoto, 1947). The upriver Indians had little or no resistance to European American illnesses, and the introduction of smallpox was devastating. The epidemic, which arrived in July of 1837, affected nearly every tribe from the Platte to the Rockies. The disease struck the Minnetaries and Mandan. Of the Mandan tribe, only 30 of 1,700 survived. At Fort Union, the disease reached the Assiniboine and then spread to the Arikaras, Sioux, and Crows. The St. Peters traveled upriver to the Judith River and to Fort McKenzie, spreading the disease to the Blackfoot. It is

estimated that 6,000 Blackfoot, or about two-thirds of the entire tribal population died (DeVoto, 1947). In one year, the disease killed at least 15,000 to 17,000 Northern Plains Indians, or one-fourth of the tribal populations (Maximilian, 1982).

The beginning of the end of the nomadic Plains Indians life began with the Fort Laramie Treaty of 1851, which included all of the tribes of the Upper Missouri except the northernmost groups. This treaty defined territorial areas among the tribes and gave the U.S. Government the right to establish roads and military posts. The Assiniboines were assigned the territory enclosed by the Missouri on the north, the Yellowstone on the south, and a line drawn from the mouth of the Powder River to the mouth of the Musselshell River. The Blackfoot were expected to remain north and west of this area and the Crow to stay south and east of it.

In 1853, Governor Isaac Stevens of Washington Territory conducted a survey expedition seeking a possible route for a northern transcontinental railroad, and it became imperative to begin negotiations with the northern tribes. On October 17, 1855, the Stevens Blackfoot, or Lame Bull Treaty Council, was held at a site located near what is now Judith Landing. The negotiations involved the U.S. Government and the Blackfoot, Piegans, Bloods, Nez Peace, and Flatheads (Partoll, 1962). The treaty set forth a common hunting ground that began at the Hell Gate Pass in the Rockies, east to the Musselshell, ran south to the mouth of the Shields River and up the Yellowstone to the Continental Divide. The Blackfoot were assigned all territory north of the Musselshell to Canada. As compensation for the cession of the common hunting ground, the Blackfoot were to receive an reservation and annuities (Hamilton, 1957).

A new treaty was attempted in 1865 to obtain the cession of all Blackfoot lands south of the Missouri and Teton Rivers. This treaty was met with resistance and was followed by hostilities between the Piegan band of Blackfoot, the Gros Ventres, and the Crows, as well as between the Indians and European Americans. In response to appeals from Montana, Camp Cooke was established as a military fort 120 miles below Fort Benton. In 1867, the military post of Fort Shaw was established on the Sun River (Hamilton, 1957). The Blackfoot resistance finally came to an end following a massacre perpetrated by Major Eugene M. Baker and his troops upon an unsuspecting Blackfoot village on January 23, 1870. Baker and his unit fired without warning into the lodges of Heavy Runner's camp, slaughtering 173 Indians, including 50 women and children, and wounding 20 (Howard, 1968; Lang and Myers, 1979).

Another treaty with the Blackfoot followed in 1873, which meant the cession of a large region of land between the Musselshell and Missouri rivers. In 1874, a new treaty was established which allowed for the cession of an area between the Marias River and Birch Creek and the Sun River. By this time, the Indians had lost all their hunting grounds south of the Missouri and the Marias, without

consent or opportunity to protest (Hamilton, 1957). The Blackfoot agency, which had originally been established in Fort Benton, was moved to the upper Teton River, near Choteau, in 1867. Additional agencies had been established at Fort Belknap in 1870 and Fort Peck in 1873 (Hamilton, 1957).

In 1868 the Crows were confined to a reservation between the Yellowstone River and the Wyoming state line east to the 107th meridian, with an agency at Mission Creek. In 1880, they ceded the western part of their reservation in return for annuities (Hamilton, 1957).

The last major Indian battle on the Upper Missouri occurred at Cow Island, where Chief Joseph and his band of Nez Perce attempted to cross the Missouri from south to north in 1877. They encountered U.S. Army forces at Camp Illges and there was a brief skirmish. Chief Joseph eventually surrendered after the Battle of the Bear Paw Mountains.

In 1886 a council with the Sioux took place at the Fort Peck Agency. A government commission negotiated with 150 members of the tribe to buy part of their land. The negotiations provided for a reservation for the Sioux and Assiniboines in the area of the council site, a reservation the Indians at Belknap could select, and a reservation the Blackfoot Indians could also select (Council With the Sioux Indians, 1988). Finally, in 1888, a contract was negotiated with the northern tribes to sell the United States 17,500,000 acres, with the remaining 6,000,000 to be divided into three reservations (Hamilton, 1957). The Blackfoot were settled on the upper Marias, the Gros Ventres and Upper Assiniboines at Fort Belknap, and the Sioux and Lower Assiniboines at Fort Peck (Malone and Roeder, 1976). By that time, the buffalo had been nearly exterminated and other game animals had already disappeared, leaving the populations to face starvation and survive on government subsidies (Hamilton, 1957).

2. Early Exploration

For decades prior to the Lewis and Clark Expedition, French, Spanish, and British traders probably had traveled into the area of the Upper Missouri from Canada (Mattes, 1960). Although these early "mountain men," or trappers, traders, and hunters, worked and traveled the vast area west of the Missouri River in search of furs, they left no written record of their explorations. Therefore, a description of the early exploration period must rely on the writings of Lewis and Clark, Prince Maximilian, Karl Bodmer, and two early missionaries.

The Lewis and Clark Expedition of 1805 was organized to explore the Missouri River. This expedition was also organized to gain scientific knowledge of the geography, climate, biology, and people of the Louisiana Territory, and to prepare for future fur trading trips (Malone and Roeder, 1976). The main expedition group of 32 set out from their winter camp with the Mandans (in what is now North Dakota) in April, 1805. By mid-June, they arrived at the Great Falls of the Missouri, and by mid-November they reached the Pacific. The entire trip and

return took 2 years, 4 months and a few days (Abbott, 1959). Upon their return, they were greatly enthused about the game and fur on the Upper Missouri, which influenced the subsequent fur trade there (Hamilton, 1957).

Lewis and Clark described in considerable detail the geology, vegetation, and wildlife of the Upper Missouri. They described the area around Big Dry Creek, the lower reaches of which are now under the Fort Peck Reservoir, as land of "rich black earth" with the Missouri keeping its width "...nearly as wide as near its mouth, (with) great numbers of sand bars" (Lewis and Clark, 1987). In the area of what is now the Pines Recreation Area, on the edge of Fort Peck Lake, Clark noted sandstone formations of "...poor sterile sandy soil, the base usually a yellow or white clay" (Lewis and Clark, 1987). The explorers described most of the portion of the journey from this point to the mouth of the Musselshell as "...the Countrey verry rugged and hills high" (Lewis and Clark, 1987). At that point, the river became "...croked, rapid and containing more sawyers than we have seen in the same space since we left the entrance of the river Platte" (Lewis and Clark 1987:167). Between the Musselshell River and Cow Island, approximately 60 miles upstream, the Lewis and Clark journals record passing through the Missouri Breaks. Lewis described the rough country as "...high broken and rockey" with narrow river bottoms and scarce timber (Lewis and Clark, 1987).

Many of the natural features of the Upper Missouri were named by Lewis and Clark, who frequently gave descriptive names to the physical features of the. land as they mapped it. The Milk River was named after their observation of the whiteness of the water. Big Dry Creek describes the condition of that waterway as they encountered it (Lewis and Clark, 1987). The Musselshell was named for the quantities of mussel shells found along the banks, (in his journal Lewis gives the Native Americans credit) (Cheney, 1983). The Slaughter River was named for the recent wreckage of a buffalo jump site (Vestal, 1945). Some features were named for friends or associates, such as the Marias River, Judith River, and Smith River. Finally, other features received their names for dates and events, such as Fourth of July Creek, Bull Creek and Blowing Fly Creek (Cheney 1983:294).

At the time of the Lewis and Clark Expedition, the Upper Missouri was rich in wildlife; their journals are filled with mention of the many species. The members of the expedition saw and usually killed bear almost daily, and were especially excited about their encounters with the grizzly bear, unknown, at that time to naturalists (Hamilton, 1957). Their journals also mention deer, elk, buffalo, antelope, beaver, wolves, bighorn sheep, geese, ducks,, eagles, mountain lions, prairie dogs, and fox (Lewis and Clark, 1987).

Another important early expedition to the Upper Missouri was that of Prince Maximilian zu Wied, a German explorer and naturalist, who was accompanied by Karl Bodmer, his Swiss-born artist companion. These two set out in 1833 with D.D. Mitchell, the factor of Fort McKenzie. They traveled by keelboat from Fort Union, wrote extensive notes and prepared many illustrations during their 34-day

excursion up the Missouri to Fort McKenzie, located a few miles downstream from where Fort Benton is today (DeVoto, 1947). During the trip, Bodmer not only sketched many landforms, but also painted numerous portraits of Native Americans. Maximilian's and Bodmer's legacies are extremely important today because Maximilian was the best-trained scientific observer to explore the west in the early period, and Bodmer was the most accomplished artist ever to paint the Plains Tribes (Maximilian, 1982). Maximilian's records are a critical source of information concerning European American and Native American occupation and use of the area.

Prince Maximilian was greatly impressed by the stretch of the Missouri that is now inundated by the Fort Peck Reservoir. He wrote that the sandstone formations that were located between the mouths of the Milk and Musselshell rivers known as the White Castles "...so perfectly resembled buildings raised by art, that we were deceived by them, till we were assured of our error" (Maximilian, 1982). Maximilian described the badlands section upstream of the Musselshell, known as the Mauvaises Terres, as "...a rude wilderness, looking in part like a picture of destruction; large blocks of sandstone lay scattered about ... But the naked, rude character of the Mauvaises Terres seems to be unique in its kind, and this impression is strengthened when you look up and down the river" (Maximilian, 1982).
Of the wildlife, Maximilian specifically noted the numerous sightings of grizzly bears about the Milk River, and large numbers of bighorn sheep in the area known as. the Mauvaises Terres. He also made note of the abundance of beaver in the area, recording 27 beaver dens from McKenzie to Fort Union.

3. Missionary Exploration

Two missionaries of importance during the early exploration were Fathers DeSmet and Point. Father Pierre Jean DeSmet stayed with the Gros Ventres and the Blackfoot tribes for 6 weeks in 1846 (Malone and Roeder, 1976). Father Nicholas Point visited the Blackfoot in 1845 and wrote an illustrated journal of his return trip down the Missouri from the fort of the Blackfoot, a few miles upstream from the mouth of the Teton River, to the fort of the Assiniboines, just above Fort Union. He recorded that within a few miles upstream of it to the mouth of the Musselshell there were 24 points, or places where the bank advanced out into the river (Point, 1988).

4. The Fur Trade

The short era of the fur trade provided the first significant European American penetration into Montana, though it brought no permanent settlement (Lang and Myers, 1979). Although Lewis and Clark's enthusiasm for the abundance of fur on the Upper Missouri and its tributaries certainly accelerated the fur trade in that area, trappers were already moving into the region before the completion of their trip. On their return to St. Louis, they encountered eleven parties of fur trappers on their way up the Missouri (Toole, 1959). One of Lewis and Clark's party, John Colter, left the expedition in 1806 to join trappers on the Yellowstone.

In the early days of the fur trade, there was intense competition between American trappers from the east and British trappers from the west. The British-owned North West Company and the Hudson Bay Company from Canada monopolized the fur trade with the Blackfoot and Gros Ventres. By 1822, the Piegan tribe, trading with these companies, had worked the streams dry above present-day Three Forks, at the headwaters of the Missouri (Hamilton, 1957). In 1809, the Missouri Fur Company was formed by Americans, Manuel Lisa, William Clark, Pierre Choteau, Sr., and Andrew Henry. They ascended the Missouri to Three Forks and built a post there in 1810 (Malone and Roeder, 1976). Aided by free trappers, the Missouri Fur Company and the Rocky Mountain Fur Company pioneered the fur trading business for Americans in Montana (Abbott, 1959). Eventually, the Missouri Fur Company built eleven posts in Montana (Toole, 1959).

In 1822, John Jacob Astor organized the American Fur Company (Malone and Roeder, 1969). This was the largest American-based outfit and was based at Astoria, Oregon (Lang and Myers, 1979). He eventually absorbed the Columbia Fur Company, a British company, and reorganized it as the Upper Missouri Outfit (UMO) (Athearn, 1967a; Malone and Roeder, 1976). Led by Pierre Choteau, Jr., this company sent Kenneth McKenzie and James Kipp to build Fort Union as operational headquarters for the UMO. This post, just below the mouth of the Yellowstone, was originally named Fort Floyd and later renamed Fort Union. It would dominate and control the fur trade throughout the fur trade era.

Because of his skill and importance in the fur trade, Kenneth McKenzie became known as the "King of the Missouri." Unfortunately, though, he ignored the Act of Congress of 1834, which banned the use of liquor in trade, and built a still at Fort Union, trading alcohol to the Native Americans. McKenzie was replaced by Alexander Culbertson (Lang and Myers, 1979).

After Jacob Berger began the Blackfoot trade for the American Fur Company in 1830, his firm became dominant in the area and pushed up-river to build two important forts along the Upper Missouri. Fort Piegan was built at the mouth of the Marias River in 1831, and was the first trading post in Blackfoot Country. When it was opened by James Kipp, the company threw a three-day party with free whiskey for the Blackfoot, and offered much higher fur prices than the British traders of Hudson's Bay Company (Kipp, 1990). It did record-breaking business with the Piegans, amassing 2,000 beaver in 10 days (Hamilton, 1957, Malone and Roeder, 1976). The fort was abandoned in 1832 and later burned by the Assiniboines.

In 1832, Alexander Culbertson was sent to the same area, where he built a stronger fort named Fort McKenzie, 6 miles down from Fort Benton, above the mouth of the Marias. Prince Maximilian visited this fort on his expedition. Fort McKenzie was very profitable, carrying on trade that reached west to the country of the Flatheads, Nez Piece, Pend d'Oreille and Kutenai; and south to the Utes,

Snakes, Crows, and Blackfoot (DeVoto, 1947). For 10 years, this was one of the most important posts on the Missouri, and in a region of temporary structures, is cited as a rare example of longevity (Hamilton, 1957). Because of mismanagement by Culbertson's replacement, Francis A. Chardon, the post was abandoned in 1843. Chardon then build a stockade, Fort F.A. Chardon, opposite the mouth of the Judith River. Later, Culbertson built Fort Lewis, about 5 miles above Fort Benton. In 1846, he rebuilt Fort Lewis at the present site of Fort Benton and renamed it Fort Benton in honor of a Missouri senator who had served the fur company politically.

An important event in the fur trade was the arrival of the steamboat, which greatly facilitated the transport of furs. Pierre Choteau, Jr., partly because of his triumphant voyage to Fort Union on the first steamboat in 1832, became one of the most powerful figures in the Upper Missouri fur business (Lang and Myers, 1979).

With the fur trade, posts, houses, and forts were built on rivers and, when the region was trapped out, the posts were moved. Some posts were abandoned because of conflict between the Indian tribes, or between Euroamerican trappers and Indians. Musselshell City, built in 1868 at the mouth of the Musselshell, was abandoned after 2 years of continuous fighting with the Sioux.

Fort Peck was established in 1866. The steamer Tacony was on its way up the river to Fort Benton when it was grounded on a sandbar a few miles above the Milk River. The traders simply abandoned the boat, put up log buildings, and began trade with the Indians on the spot. During the winter, they packed ice and in the summer offered ice water to the Indians, thereby drawing a brisk trade (Hanson, 1946). In 1867, the firm of Durfee and Peck, which had contracts to carry government freight to military posts and Indian agencies, took over the post. They monopolized trade with the Assiniboine and Sioux and in 1873 became the agency headquarters for those tribes. In 1877, the fort was flooded and damaged, so the post was relocated to the present site of the Fort Peck Agency on the Poplar River, 60 miles to the east (Saindon and Sullivan, 1977).

After the beaver were nearly exterminated from the Upper Missouri and market demands changed, the fur traders focused on buffalo. The abundance of buffalo in the region was noted by Lewis and Clark and remarked upon several times by Prince Maximilian, who recorded seeing thousands of buffalo in the area of the Mauvaises Terres and the bleached bones of buffalo and elk... "as far as the eye could see" (Maximilian, 1982).

The European American buffalo-hunting era is one of the most shameful in the annals of the Upper Missouri. Hunters slaughtered buffalo for the hides, leaving the rest to rot on the prairie. Hide hunters killed 6 to 80 in one stand and took only the hide, tongue, and tenderloin steaks (Howard, 1968). Records show that the buffalo trade was already proceeding as early as 1841, when 2,200 hide packs

were sent from Fort McKenzie. In 1847, 20,000 hides were shipped out of Fort Benton for St. Louis (Hamilton, 1957).Most disgusting is the account of Sir George Gore, a wealthy English hunter and trader, who, in 1854, killed 2,000 buffalo for sport in Crow territory and left them (Hamilton, 1957). Even so, Hiram D. Upham reported in a letter in 1865, that he saw 50,000 buffalo in 2 weeks (Phillips, 1962).

Between the years 1870 and 1883, when hides were selling for $3 or $4 each, millions of buffalo that roamed the Upper Missouri were annihilated. During 1881 to 1882, one steamboat shipper moved a quarter million hides from Montana to Bismarck, North Dakota. Hundreds of thousands were also being transported overland in freight wagons (Howard, 1968). During the 1870s until the extermination of the herds in 1882, many of the fur posts were maintained mostly for trade with the Indians and buffalo hunters. These posts included Fort Kipp, Fort Galpin, Fort Poplar, Fort Musselshell, Fort Benton, and Fort Peck (Abbott, 1959).

In the early 1880s, the last remaining buffalo herds were located at the junction of the Missouri and Musselshell rivers near Fort Carroll which was built in 1874 by Colonel Broadwater and Matt Carroll. These two freighters, in response to a dry year when boats could not reach Fort Benton, attempted to organize a short freight line from this point on the Missouri to Helena (Lang and Myers, 1979). The trail was short-lived. In 1880, Schultz and others built a trading post to trade for buffalo robes with the Blackfoot at Carroll, a few miles above the mouth of the Musselshell. In one year, they traded for 4,000 robes, which brought other traders to the area to build posts, including Rocky Point, at the upstream end of Fort Peck Reservoir. Another commodity was 1,000 smoked buffalo tongues, shipped from Carroll and sold to I.G. Baker and Company for 40 cents a piece. By 1881, all of the remaining buffalo herds were within 150 miles of Carroll. That year, only 2,130 robes were traded at $7.35 each and the buffalo trade came to an end (Schultz, 1962).

Finally, as the buffalo herds dwindled, the bone-pickers worked over the old bison ranges for horns at twenty cents a pound or bones at $5 a ton. In 1895, 45,000 pounds of bones were shipped from Glasgow via railroad to Minneapolis, Minnesota (Howard, 1968).

Thirty-one trade-related posts were established on and near the Upper Missouri region from the North Dakota boundary to present-day Fort Benton between 1828 and 1885.

5. Military

The military presence on the Upper Missouri spanned from 1825 to 1887. The military mission in this region was three-fold: to maintain peace between the tribes, to maintain peace between the European Americans and Native Americans, and to police and capture European Americans who were trading guns and

whiskey illegally to the Native Americans (Lang and Myers, 1979). The American military presence began in 1825 with the Atkinson Expedition, which transported troops 120 miles above the Yellowstone to the Milk River to attempt a treaty with the Assiniboine. The expedition used keelboats with wheels that the soldiers turned by hand (Chittenden, 1962).

In 1866, there were many conflicts between Native Americans and European Americans along the Missouri. In response to Montana residents appealing for protection from raiding Blackfoot, a battalion of the Thirteenth Infantry was formed and a temporary post, Camp Cooke, was established at the mouth of the Judith River (Lang and Myers, 1979). In 1867, the U.S. Army established the Military District of Montana (Lang and Myers, 1979), and in 1869, the force from Camp Cooke was moved to Fort Benton to police whiskey peddlers and guard government supplies.

Fort Shaw, a major post between Fort Benton and Helena, was supplied with essentials by boat on the way to Fort Benton. All military forts in this region were dependent for support on the Missouri riverboats (Chittenden, 1962). In 1868, a company of troops commanded by Captain Nugent of the Thirteenth Infantry established Camp Reeve, a temporary post at the mouth of the Musselshell just below Kerchival City. Its purpose was to protect trading posts along the Musselshell (Hanson, 1946, Miller and Cohen, 1978). In 1877, a Sioux band led by Sitting Bull escaped the pursuit of Col. Nelson A. Miles and crossed the Missouri River near Fort Peck to seek sanctuary in Canada (Malone and Roeder, 1969). Another important site on the Missouri is located at Cow Island Landing where, during the Nez Perce War of 1877, Chief Joseph and his band crossed the Missouri in their attempted flight to Canada.

6. River Travel

The Missouri River was, in essence, a 2,500-mile-long highway and a powerful influence in the settlement of Montana. Early travelers and explorers took the route of least effort, and the Missouri River provided that route. A congressional act adopted as early as June 4, 1812 providing for the government of the Missouri Territory, stated that the Missouri River was to remain a common thoroughfare for all time (Howard, 1968).

The first boats to use this region of the Missouri were built by Native Americans, followed by early fur trappers. Fur trapping boats used to transport furs and merchandise ranged from hide-covered bull boats and logs dug out for canoes, to mackinaws, rafts, and keelboats (Lang and Myers, 1979). Steamboat travel on the portion of the Upper Missouri treated in this report began in 1853, when the El Paso journeyed as far upstream as the Milk River. In 1855, John Mullan completed his survey for a wagon road through the mountains from Fort Benton to Fort Walla Walla, and it was believed that the best transportation to the Northern Pacific region would be steamboat navigation on the Missouri and Columbia rivers connected by Mullan's Road. In 1859, the paddlewheeler

Chippewa, owned by the American Fur Company, arrived at Fort McKenzie, near the mouth of the Marias. The following year, the Chippewa and the Key West docked at Fort Benton. Until 1887, when the Great Northern Railroad reached Fort Benton, steamboats reigned (Hamilton, 1957, Lang and Myers, 1979).

In 1861, the Chippewa met with disaster on its third trip up the :Missouri. It held food and trade items for the government's annual payment to the Blackfoot, as well as 25 kegs of sun powder and kegs of whiskey (illegally being used in Indian trade). Near Foil Benton, a deck hand accidentally set the whiskey on fire, which quickly reached the gunpowder. After the passengers had escaped, the powder blew and debris was later found as far as 3 miles from the scene (Boller, 1972, Lang and Myers, 1979).

After the Chippewa, increasing numbers of "mountain boats "with shallow drafts, arrived. These needed only 18 inches of water to float when empty and 4 to 5 feet when loaded. They were capable of carrying over 400 tons of cargo. Upon arriving at Fort Benton at the beginning of the season, some boats spent the summer moving freight between Fort Benton and Cow Island or Fort Union before heading back downriver to St. Louis (Lang and Myers, 1979).

The Upper Missouri was a perilous route, with snags and rocks along the entire channel. Other hazards to boats included burst boilers, ice, and fire. During the heyday of riverboat travel, 250 shipwrecks occurred on the Missouri (Lang and Myers, 1979). Cow Island, located approximately 55 miles upstream from the mouth of the Musselshell, marked the point where Missouri River conditions changed dramatically. From St. Louis it was known as the "Sandy River." Though fairly smooth, it had numerous sandbars, which constantly shifted and changed form. The part now inundated by the Fort Peck Reservoir was one of the most difficult of this stretch, with deep canyons and badlands along the banks (Thomas and Ronnefeldt, 1982; Howard, 1968). In the approximately 100-mile stretch from Cow Island to Fort Benton, known as the "Rocky River," the elevation increased two feet per mile. There were snags, rapids, loose boulders and reefs, with particularly hazardous rapids at Cow Island (Lang and Myers, 1979).

The steamboats began to arrive at Fort Benton in mid-May, and continued until July or August. In dry years, they were restricted to a shorter season and often could not reach Fort Benton. The 2,000-mile trip from St. Louis to Fort Benton took at least a month, and sometimes two. Even with these restrictions, a tremendous amount of freight was carried on the river. The Dakotah holds the Missouri River record for the most freight: 900 hogs, 5,200 railroad ties, and 450 tons of cargo (Lang and Myers, 1979). Passage cost $300 per trip for a cabin, and $75 for a deck ticket. Freight was shipped at ten or 15 cents per pound. A boat could earn $40,000 in a single trip (Vestal, 1945).

The fur trade was the principal business on the Upper Missouri' before the discovery of gold. During the 1860s, the fur trade was replaced by gold rush-related business, and steamboat landings, woodyards, and small communities on the river appeared to fulfill the transportation needs of the gold fields of western Montana (Mattes, 1960). The Missouri River was the main avenue of ingress from the east to the mining regions, and large numbers of miners and settlers used this route. About 85 percent of the Montana mining supplies were brought in by the river route (Atheam, 1967b). In 1865, freight amounted to 1,000 passengers, 6,000 tons of merchandise, and 20 quartz mills. In 1867, 12,000 tons of freight were carried down the river (Abbott, 1959). Not only was the Missouri a major travel route to Helena, Virginia City, and other Montana mining camps, it was also a point of arrival and departure for travelers bound for Idaho and other points west (Abbott, 1959).

Fort Benton became a major rendezvous and outfitting point for the whole mining region (Hanson, 1946). Built by the American Fur Company in 1850 and named for Missouri's Senator Thomas Hart Benton, this post became a thriving center of commerce. It boasted about a half a mile of riverbank with boats tied up during the spring and early summer (Lang and Myers, 1979).

Notable transportation entrepreneurs on the Upper Missouri included T.C. Power of the Benton Transportation Company, Sanford Coulson, the Montana and Idaho Transportation Line, I.G. Baker and Company, and Captain John Mullan, who built a wagon road connecting Fort Benton to Walla Walla, Washington. Mullan published a "Miner's and Traveler's Guide" in 1865, giving advice on how to make the trip from St. Louis to Walla Walla (Lang and Myers, 1979, Mullan, 1988).
Steamboat pilots became legends in Montana. Among the most noteworthy were Joseph LaBarge and Grant Marsh. In 1866, Marsh took the richest single load ever to leave Montana in the Luella, which carried a cargo of gold dust estimated at $1,250,000 (Lang and Myers,1979).

During the 1870s and early 1880s, the Missouri River supply line was significant to the development of Alberta, Canada. Landings at Cow Island, Coal Banks, and Fort Benton served as trailheads north to Forts McLeod, Whoop-Up, and other locations (Malone and Roeder, 1976). Cow Island was also the site where supplies for the Royal Mounted Police of Canada were stored until they were hauled by bull train to Canada (Vestal, 1945).
In addition to the financiers and river pilots, the steamboat traffic subculture included a group known as woodhawks. The steamboats required prodigious amounts of wood fuel and had to stop every other day to replenish the wood supply (the coal found along the Missouri would not work). The boats burned 25 cords of hardwood or 30 cords of cottonwood in 24 hours of steaming (Hanson, 1946). Companies paid European American or, in some cases, Native American "woodhawks" to cut wood and stack it by the shore. These woodyards were frequently only 20 miles apart along the river (Jordan, 1984). If there were no

woodhawks in the vicinity, the boat stopped and the crew and passengers got out and cut wood (Lang and Myers, 1979).

The woodhawks had a tough, perilous existence, since they were frequent targets of hostile tribes, particularly the Sioux. In the summer of 1868 alone, seven woodhawks were killed by Indians between Fort Benton and Bismarck, North Dakota. In the later years of steamboat travel, the Indians, by then reduced to agency life, cut wood for the boats (Hanson, 1946). A famous name in Montana history appears in the woodhawk era. John "Liver-Eating" Johnson traveled up the Missouri in 1843 and, in 1846, started a woodyard above the Musselshell. He and his partner, X. Beidler, set up a row of stakes on both sides of the riverbank holding the skulls of defeated Native Americans as a deterrent to further harassment.

River traffic declined when the railroads arrived. In 1887, 21 boats docked at Fort Benton. The railroad reached Fort Benton late in 1887 and in 1888 only three boats docked there (Lang and Myers, 1979). According to Chittenden, the last through trip on the river took place in 1885 (Chittenden, 1962). Howard places the last freight to arrive by boat at Fort Benton in 1888 (Howard, 1968). In 1879, political efforts were made to keep the river traffic alive when the Missouri River Commission was formed to improve and maintain traffic on the river. It was a short-lived effort, however, and in 1902 Congress passed an act abolishing the Commission and virtually abandoning the Missouri as a commercial highway (Chittenden, 1962).

Though the riverboats were outmoded after the advent of the railroad, river transportation continued in modified forms well into the 1900s. Paddlewheelers served as grain carriers and ferries. The U.S. Army Corps of Engineers snag boats worked the river into the 1940s. One of these, the Mandan, docked at Fort Benton on June 20, 1921, was the last steamboat to reach that point. Construction of the Fort Peck Dam in the 1930s sealed traffic off from the Upper Missouri (Lang and Myers, 1979).

7. The Railroads

Although the railroad through Montana did not become a reality until 1887, plans were being laid for a railroad route as early as 1853. Many believed that a railroad route between St. Paul and Puget Sound would develop trade with China, Japan, and the Pacific Islands, and make the United States a world power (Hamilton, 1957).

In 1853, Congress appropriated funds to explore and survey a railroad route between the Mississippi River and the Pacific Ocean. The northernmost of the exploring expeditions was headed by Isaac I. Stevens, who surveyed a route from the headwaters of the Mississippi River and across the Montana wilderness. Even though the Missouri :River was, at the time, the primary travel route across the state, its course was not practical as an overland route because of the roughness of

its narrow gorge. The Stevens Expedition left the Missouri at the mouth of the Milk River and followed that watercourse across northern Montana (Hamilton 1957:101). All of the railroads built across the state, a total of fifteen branch lines, avoided the Missouri River Valley. They followed the Yellowstone and the Milk River, and a route halfway between them (Lang and Myers 1979:130). A map of the region depicting settlements founded as a result of railroads shows 18 communities on the Missouri below the Milk River and then only three within a comparable distance upstream (Cheney 1983:299). Railroads promoted the cattle and sheep industries of the area by providing transportation to points east, and they accelerated agriculture with a huge advertising campaign that brought in waves of homesteaders to the region.

8. Ranching

The Upper Missouri region of Montana was the scene of a great ranching industry, which flourished briefly, was party to immense exploitation and violence, and left behind a colorful and romantic legacy. The ranching business remains an important industry, but on an entirely different scale and mode of operation than during the days of the "open range."

a. Cattle Ranching

The 1850s witnessed the beginning of a new invasion into the Upper Missouri region. The plateau between the Missouri Valley and Yellowstone Valley had been, for centuries, a rich grazing land for millions of buffalo that roamed the area, and was, consequently, a favorite hunting ground for the Montana Indian tribes. In the late 1850s and 1860s, cattle were beginning to be brought into western Montana to supply the meat market for mining towns and military posts. By the late 1860s, the cattle industry was moving east into the central valleys and plains, spreading further and further as the Indian lands shrank (Lang and Myers, 1979). In 1866, Nelson Story drove in 600 head of longhorns from Texas (Howard, 1968). By the early 1880s, cattle were pouring into the area in massive numbers. The lands north of the Missouri and south of the Yellowstone were Indian reservations at that time. In between was the vast expanse of rich pasture, which became the home of cattle being trailed from the overstocked ranges of Texas. In 1885 alone, 100,000 head joined the thousands already there (Howard, 1968).

One of the first entrepreneurs of the beef business in the Montana Territory was Granville Stuart. In 1880, Stuart established the DHS ranch in the Judith Basin with several partners, and drove the first herd into central Montana. At that time, the range was free. A stockman simply had to insert a notice in the nearest weekly paper listing his brand and establishing the extent of his range, using creeks, buttes, or coulees as borders (Howard, 1968). Within a few years, Stuart was running 15,000 to 16,000 cattle scattered over 75,000 square miles.

Stuart was soon joined by many other ranchers, speculators, and absentee owners who flooded the range with cattle. General James S. Brisbin published promotional literature published in 1881 describing how to get rich with cattle on the plains (Howard, 1968). Texas companies as well as Scottish, English, and French-owned were created (Lang and Myers, 1979). Companies were based on Wall Street and in Florida (Toole, 1959).

By 1885, the range was heavily overstocked. There were 700,000 cattle on the Montana plains and the grasslands were being overgrazed. To combat further influx, the resident ranchers illegally enclosed the range with barbed wire.

The winter of 1886 to 1887 combined extreme cold, deep snow, and frequent storms. The cattle could not drift with the storms to reach range free of snow. They were stopped by fences and starved or froze. Losses ranged from 50 to 99 percent. There was a 60 percent loss for the state, or 362,000 head, representing a financial loss of $20,000,000. Of 220 operations, 120 survived bankruptcy. Speculators from the East and Europe deserted the business and it was the end of the range cattleman (Howard, 1968, Lang and Myers, 1979).

Surviving ranchers became more conservationist. They restocked with smaller herds, grew hay, and diversified (Lang and Myers, 1979). By 1905, the small rancher had taken over from the range cattleman (Malone and Roeder, 1969). In 1872, according to the first Montana Territory brand book, there were 245 brands. In later years, 70,000 brands were recorded (Howard, 1968).

b. Wolfers

The wolfers were considered "...perhaps the toughest lot of men the west has ever known -tougher, even, than the buffalo hunter" (Howard, 1968). They were hired by ranch owners to destroy wolves, which were a serious problem for cattlemen. For example, one outfit reported losing 700 calves to wolves in one winter (Howard, 1968). The wolves were called buffalo wolves and were formidable animals. They were 35 to 40 inches high at the shoulders, weighed 125 to 150 pounds, and had highly developed shoulder, neck, and jaw muscles. The wolves ran in packs as large as 35 animals (Jordan, 1984).

The wolfers were frequently headquartered along the banks of the Missouri and worked in the summer as woodhawks. In the winter, they worked independently on a bounty basis, rather than as ranch employees. They received $3 a head, and in 6 months of 1895 killed 3,000 wolves and 12,000 coyotes. In 1899, the bounty was raised to $5, and the wolfers killed 6,000 wolves and 22,000 coyotes. In 1905, the bounty doubled, and in 1911 it rose to $15. A good season netted a wolfer $,2000 to $3,000 (Howard, 1968). The Plains Indians particularly hated the wolfers because their poisoned bait and traps often killed Indian dogs, ponies, and the Indians themselves. Because of the Indian threat, the wolfers traveled in pairs for safety (Howard, 1968). Wolfers often worked as trappers and grubbers. Grubbers roamed the range in

the winter and early spring to strip hides from dead stock for $5 to $6 a hide (Howard, 1968).

Rocky Point, a post located near Carroll on the Missouri just upstream from the mouth of the Musselshell with population of 75 was a wolfer town. It was a rough hangout for wolfers, trappers, cattle rustlers, and horse thieves (Howard, 1968).

c. Outlaws

The Missouri "Badlands," including the Fort Peck Reservoir reach, remains an inaccessible and inhospitable wilderness with thousands of acres uninhabited. Also known as the Missouri "Breaks," they became a convenient headquarters in the 1880s for a "...band of renegades, ex-buffalo hunters, ex-wolfers, fugitive Southern bushwhackers, murderers, and a handful of ne'er-do-wells" (Howard, 1968). These cattle and horse thieves were organized and efficient and their working range extended over portions of three territories - Montana, Wyoming, and Dakota, and into Southern Canada (Howard, 1968). They chose the Missouri Breaks as a stronghold because of the roughness of the terrain and its remoteness. Ranchers and even the military avoided the area. The rustlers' headquarters were strongly fortified with fortress-like cabins, modern weapons, and desperate and ruthless men (Stuart, 1988). Their method was to stage sudden night raids on isolated headquarters and steal horses and cattle.

The impact of the rustlers became intolerable to area ranchers. Granville Stuart reported a three percent loss from rustling at the close of the fall roundup in 1883 (Stuart, 1988). Other sources estimated a cattle loss of five percent annually (Howard, 1968).

Losses to rustlers was a major topic at the second annual meeting of the Montana Stockgrower's Association at Miles City on April 20, 1884. Several of the members with cattle holdings in Dakota, including Theodore Roosevelt, were reported to have strongly supported an all-out "rustler's war" (Stuart, 1988). Other well-known individuals present at that meeting included Russell B. Harrison (the son of a U.S. President-to-be), and the Marquis de Mores, a French nobleman with a ranch and packing plant in western North Dakota (Howard, 1968).

Since the proposed war on rustlers did not materialize and there was no organized law enforcement in the territory, the ranchers finally took it upon themselves to form a retaliatory group. In 1884, at a meeting on Granville Stuart's ranch, 14 ranchers, formed a "vigilance committee" (Howard, 1968, Lang and Myers, 1979). The committee's motives and methods are not entirely clear, and some claimed that these cattle kings hired gunmen to raid the country and drive off smaller ranchers and sheepmen, and that, in fact, some of their victims were not dishonest men. These hired gunmen were

purported to have included some doubtful characters, such as William Cantrell, or "Flopping Bill," a notorious horse thief who was selected to be executioner. Other named hired guns included Henry Thompson and Ed Star, alias Tom Dunn (Jordan, 1984; Stuart, 1988).

The Vigilantes, known as "Stuart's Stranglers," began hunting down and lynching, shooting, or driving suspected rustlers from the territory. The estimated number of their killings range from 19 to 75 persons (Howard, 1968).

The area at the mouth of the Musselshell River, situated in the middle of 150 miles of badlands, harbored at least four known rustler hangouts, and became the scene of violence between the rustlers and vigilantes. On July 3, 1884, Sam McKenzie, whose headquarters were around old Fort Hawley 15 miles above the mouth of the Musselshell, was accused of dealing stolen horses back and forth across the Canadian border. He was caught and hanged 2 miles below Fort Maginnis. On July 4, Billy Downs, who was located at one of the wood yards at the mouth of the Musselshell, was hanged at his place. On the same date, a contingent of vigilantes apprehended two horse thieves, Red Mike and Brocky Gallagher, at Rocky Point. The committee struck again on July 8, at Bates Point, 15 miles below the mouth of the Musselshell at the mouth of Fourchette Creek. A major gun battle followed between the vigilantes and Jack Stringer and his five men, Paddy Rose, Swift Bill, Dixie Burr, Orvil Edwards, and Silas Nickerson. Eventually, the vigilantes hanged four of the outlaws (Howard, 1968; Jordan, 1984; Stuart, 1988).

Other named victims of the vigilance movement included Sam LaFevor, Charley Gibbs, Frank Belwaux, and California Ed. Further south, on the Sweetwater and Powder Rivers, hanging victims included Frank Buchanan, Gene Crowder, Tom Wagoner, Orley Jones, J.A. Tisdale, James Averill, and Cattle Kate (Howard, 1968; Jordan, 1984).

Other notable outlaws in the Upper Missouri area included Kid Curry, who held up the Great Northern Train near Malta and got away with $80,000. In 1901, he murdered Pike Landusky, for whom the mining camp in the Little Rockies was named (Howard, 1968). The most famous outlaw incident involved two characters named "Rattlesnake Jake" Fallon and "Long-Haired" Owens, both of whom died in a spectacular gun battle on the main street of Lewistown in 1884 (Howard, 1968; Stuart, 1988).

d. Sheep Ranching

Although far less western mythology is associated with the sheep industry in Montana than with the cattle industry, it has been an equally important phenomenon. At one time, Montana raised more sheep and produced more wool than any other state in the country (Toole, 1959).

Sheep first entered the territory in the 1860s, with the first sizable flock arriving in 1865 for the Virginia City meat markets. Then, in 1867, the Jesuit fathers at St. Peter's Mission brought in 300 sheep for commercial purposes. The increasing numbers first entered central Montana in 1872 (Lang and Myers, 1979). From that time, the sheep industry grew rapidly. By 1880, sheep in Montana had increased to 185,000, and almost a million pounds of wool were marketed. Nearly one half of all the sheep were in the Smith and Musselshell Valleys in Meagher County. Deer Lodge, Lewis and Clark, and Beaverhead Counties had the other half (Hamilton, 1957). By 1886, there were nearly 1,000,000 head of sheep in Montana. By 1900, they numbered more than 3,500,000 (Howard, 1968).

One important consequence of the growing sheep industry in Montana was the expansion of cattle ranges. Because of the tremendous influx of sheep, the stockmen in central Montana moved thousands of head of cattle across the Missouri, north onto the Fork Peck Indian reservation, and clamored for legal access. With the opening of the reservation in 1888, a quarter million head crossed the Missouri.

9. Agriculture

The first farming along the Upper Missouri occurred in small subsistence plots around the cabins and trading posts of the early missionaries and fur trappers. The military posts and Indian agencies also augmented their diets with vegetables and even poultry and grain crops. This small-scale subsistence farming changed with the gold strikes of 1863 to 1864, which created a market for agricultural crops. Farms began flourishing first in the western Montana river valleys (Lang and Myers, 1979). In 1865, a reaper and threshing machine traveled up the Missouri by boat to the Gallatin Valley (Hamilton, 1957).

Following the provisions of the 1862 Homestead Act, which allowed farmers to secure 160 acres for little or no cost, farming expanded. The first homestead entry in Montana was filed on August 1, 1868, on quarter section north of Helena. Homesteading expanded gradually. In 1875, only 54 final entries were made in the state (Vichorek, 1987). By 1883, with the railroad providing greater access to crop markets in the eastern cities, agriculture began to expand. European American homesteaders began to settle in the Missouri Breaks soon after and to develop ferry crossings over the river. The Judith Landing community, boasting several businesses, dates back to the 1880s and is one of the earliest river towns. This site, along with Camp Cooke, Fort Chardon, Flort Clagett, the Steven's 1855 Treaty Site, the Flathead-Blackfoot 1846 Negotiation Site, and the Clagett Post Office and Store, is within the Judith Landing National Historic District (Montana Fish and Game Commission, 1975).

What eventually led to the homestead boom was promotion by the railroads in the early 1900s. The Milwaukee Railroad drew settlers to the Musselshell Valley and Judith Basin and soon the Northern Pacific and Great Northern joined the

Milwaukee in a major promotional campaign. About that time, dryland farming was being touted, an idea that was picked up by the railroad and heavily promoted. In 1909, Congress passed the Enlarged Homestead Act, followed by the Three Year Homestead Act of 1912 and the Stockraising Homestead Law of 1916. Homesteaders poured in by the thousands from the East, Midwest, and Europe (Lang and Myers, 1979). By 1917, the population of the state had grown to 600,000. In the project area, much of the uplands away from the Missouri River were never homesteaded because of its remoteness and lack of water. Log cabin homesteads sprouted up in the Missouri and Musselshell bottoms, however.

A major drought began in 1917 and created the farm depression of the 1920s. One out of every two Montana farmers lost their place between 1921 and 1925. In a 10-year time period, there were 30,000 foreclosures in the state. Eleven thousand farms, one-fifth of the Montana total, disappeared. Sixty thousand people left the state (Howard, 1968). In Phillips County, all but 8 of the 50 post offices established during the homesteading era were discontinued (Cheney, 1983). In Garfield County, where the Northern Pacific Railroad was a large landowner that advertised heavily for homesteaders in the area, there were 30 settlements with post offices in 1919, by 1968, there were 5.

Interestingly, much of this disaster could have been avoided had Congress listened to John Wesley Powell, the director of the U.S. Geological Survey of 1878. He reported that most of the western Great Plains could never be adapted to intensive crop cultivation because of inadequate annual precipitation and recurring drought. It was his contention that 2,560 acres would be the best standard land unit per family, and warned against the attempt to apply the Homestead Act to Montana (Howard, 1968).

It is also interesting to note that homesteading continued as late as 1961, when the final 36 homestead entries were made in the state (Vichorek,1987).

In 1918, strip farming had been introduced for the raising of wheat. That method, along with mechanized operations, brought Montana farms into larger operating units. Another consequence of the increasing use of machinery was that horses could no longer be sold and many of them were simply tamed loose on the range. During roundups of the twenties and thirties, these horses were gathered and, at one point, 1,000 head were rounded up by one group (Austin, 1974).

10. Mining

Most mineral discoveries in Montana were not in the area of the Upper Missouri but they did have an indirect effect on the region. With the discovery of gold in such locations as Gold Creek and Grasshopper Creek, and the development of boom towns at Virginia City and Helena, the mine companies from the east rushed to these locations via the Missouri River steamboats to the Fort Benton head of the Mullan Road. These developments created a widely expanded transportation industry for the riverboats.

During the 1920s, gold production in the Zortman area created a need for additional power sources. Consequently, a mine-mouth coal-burning power plant was built along the north side of the Missouri River between Cow Island and Grand Island, with a supply community and transportation routes north to the mines. This plant operated only briefly (Ruebelmann, 1983).

The first commercial, high-quality, shallow-depth oil well in Montana was drilled in 1919 at the Cat Creek Oil Field, 18 miles northeast of Winnett (Montana Fish and Game Commission, 1975).

11. Politics

Montana was part of several territories before becoming a separate territory in 1864. The western part was first part of the Oregon Territory, then Washington Territory, and finally Idaho Territory. The eastern section had been part of the Louisiana Territory, Missouri Territory, Nebraska Territory, and then Dakota Territory. Montana Territory became a state in 1889 (Lang and Myers, 1979).

The six counties located in the area of the Fort Peck Dam and Reservoir were created during the years between 1893 and 1925. Valley County, was established in 1893 and named for the area's topography. Blaine County, which now contains the Fort Belknap Indian Reservation, was created in 1912 and named for James C. Blaine, an American statesman and politician. The county seat is Chinook. Garfield County was created in 1919 and named for James A. Garfield, the assassinated U.S. President. Phillips County, originally formed from parts of Blaine and Valley Counties in 1915, was named for Senator Benjamin D. Phillips, owner of mines in the Little Rockies and the Bear Paw Pool, and one of the largest sheep owners in the state. It is one of Montana's largest counties (101 by 65 miles). McCone County, also established in 1919, was named in honor of Dawson County's Senator McCone. The Fort Peck Reservoir covers many of the and acres of this county. Petroleum County was created in 1925 and named for the extensive petroleum production in the Cat Creek Fields (Cheney, 1983).

12. Fort Peck Dam and Reservoir

For years, businessmen, shippers, agriculturalists and politicians in the downstream states of the Missouri River wanted a dam on the Upper Missouri to control flooding and improve river navigation. In 1925, in Sioux City, Iowa, the Missouri River Navigation Association organized a meeting of 10,000 farmers and business people to endorse such a project. They sought the support of Presidents Coolidge, Hoover, and finally Franklin D. Roosevelt. To deal with the country's depressed economy and unemployment, Roosevelt offered the "New Deal," which included the Public Works Administration. The Fort Peck Dam became a reality under that organization's auspices (Lang and Myers, 1979; Saindon and Sullivan, 1977).

The dam was to be large enough to maintain the navigational channel, 9 feet deep and 200 feet wide, 8 months of the year between St. Louis and Sioux City, Iowa. In addition, approximately one quarter million acres of downstream farmland in Nebraska and Iowa would be spared occasional flooding although, in return, one quarter million acres of Montana bottomland would be inundated (Montgomery, 1989). Although no long-term benefits would result for the population in the immediate area of the dam, the project would create jobs for unemployed Montanans during construction.

Although the chosen site was ideal, with a 180-mile long water-tight basin for a reservoir, a natural saddle in the hills on the east side for a spillway, and the clay material necessary for construction conveniently near by, the primary reason for the chosen site was a favor to Montana's senior senator, Burton K. Wheeler (Saindon and Sullivan, 1977). Wheeler, who had helped nominate and elect President Franklin D. Roosevelt, saw the dam as a source of employment for his constituents and power for the mining companies around Butte (Lang and Myers, 1979; Saindon and Sullivan, 1977). The devastating drought conditions from 1917 and the Great Depression were major factors in the final decision to push through the massive project.

There were opponents to the dam. The river bottom farms that would be inundated included some of the few Montana farms that had persevered during the drought years. Whereas other dryland farmers were getting four bushels to the acre, these farmers were producing hundreds of thousands of bushels of alfalfa seed, reported to be the best in the United States. Their productivity was yielding as much as $75 to $150 per acre seed and hay in one year (Saindon and Sullivan, 1977). Approximately 100 landowners, most of them long-time settlers and self-sustaining, would have to give up their holdings. In Valley County, 80 percent of the county's farmers expected to lose their land (Lang and Myers, 1979; Saindon and Sullivan, 1977). Of the 275,000 acres needed for the dam and reservoir site, 150,000 acres were in private hands, and 20,000 were owned by the state (Saindon and Sullivan, 1977).

In 1933, President Roosevelt approved the project and on October 23 the first employees, 70 local recruits, began clearing the damsite (Saindon and Sullivan, 1977). The dam, located 20 miles southeast of Glasgow just below Peck's Point, was the Public Works Administration's largest single construction project. It would be an earthfill dam 5 times larger than anyone had ever designed or built, and was projected to hold 18.9 million acre-feet of water, to depths of 220 feet. The reservoir, stretching 180 miles behind the dam, would spread to 16 miles wide at some points and include 1,500 miles of shoreline and an area of 245,000 acres. By 1977, it would cost the government $160,000,000, but would have benefits totalling $200,000,000 in flood control, $130,000,000 in power generation, and $70,000,000 in navigation (Abbott, 1959; Lang and Myers, 1979; Saindon and Sullivan, 1977).

Fort Peck is the world's largest hydraulically filled dam. It is over 250 feet high, 21,000 feet long, and 50 feet thick. It has four tunnels, each over a mile long and 25 feet in diameter, and a spillway of 54,000 cubic yards of concrete and 26,500 tons of steel. Its concrete bridge is 1,000 feet long and over 100 feet high. It has 16 electrically operated gates, each 25 feet high, 40 feet wide, and weighing 80 tons (Lang and Myers, 1979; Montgomery, 1989; Saindon and Sullivan, 1977). Building the dam required clearing 180 miles of river valley, a phase that required more labor than any other single task. The dredging phase required a fully equipped shipyard to build 4, 40foot by 70-foot dredge hulls. There were more than 20 miles of pipeline to pump a mixture of clay and water into the dam. Rock was brought 90 miles by the Great Northern Railroad, over a spur line from Cole, Montana. For riprap, nearly 1,000,000 cubic yards of quarried granite was hauled 130 miles from near Chinook (Montgomery, 1989; Saindon and Sullivan, 1977).

The construction of the Fort Peck Dam brought 10,456 jobs to an area of poverty. During the 6 years between 1934 and 1939, it consumed 60,000,000 person-hours of labor. The jobs, which required the skills of high riggers to deep-sea divers, relieved 900 destitute families of Valley County. Thousands of workers were also imported from every section of the nation. Hundreds of engineers and inspectors supervised the dredge-fill (Lang and Meyers, 1979; Montgomery, 1989; Saindon and Sullivan, 1977).

The Big Slide, a disaster that caused the death of eight men, occurred on September 22, 1938. A 2,000-foot section of the dam on the upstream face, 5,000,000 yards of earth, began sliding into the reservoir. When it was over, 5 percent of the dam was destroyed (Montgomery, 1989; Saindon and Sullivan, 1977).

Fort Peck City, downstream from the dam, was the first planned community in the United States, not counting military reservations or small religious settlements (Montgomery, 1989). It had been sketched and thoroughly planned by Army Corps of Engineers architects in 1933, in particular, Henry Tanner, a Kansas City architect. The buildings were mass-produced, but with many variations in external decorations to create the illusion of variety. It was designed in a style officially designated by the National Register of Historic Places as "Cottage Picturesque." Besides the houses and administration buildings, the city held 134 barracks buildings with a capacity of 3,216 bunk beds for 6,432 men. These were built because of a miscalculation about the prospective workers' family status. A majority of the workers brought their families to the site. As a result, about one third of the barracks were converted to family apartments in 1935. Still, this was not adequate housing and a boom town sprang up around the area. Still surviving today are the dozen permanent houses from the 1930s built for the construction officers. These buildings are still occupied by the Corps of Engineers employees who maintain the dam (Montgomery, 1989).

The boomtowns that sprang up around the dam site were, for the most part, hasty and temporary communities (Figure 5-6). They included Square Deal, Midway, New Deal, Martinsville, Parkdale, Idlewile, Vally, McCone City, Cactus Flat, Minot, Wheeler, Delano Heights, Lakeview, and Wilson Townsite (Lang and Myers, 1979; Saindon and Sullivan, 1977). Altogether, almost 1,500 tarpapered, board-and-batten houses were scattered in these boomtowns. Of these, Wheeler, situated above the east abutment of the dam, became the most prominent. It boasted paved roads, a deputized sheriffs department, and a red-light district. At peak employment, the winter of 1938, it had 498 houses, 83 business buildings, 2 schools, and its own electric light plant. It was nearly twice the size of Fort Peck City. In 1936, when Life Magazine featured on the cover of its first issue a photograph of the half-done ancillary spillway structure, the photographer, Margaret Bourke-White, also photographed Wheeler. In 1989, there was still one surviving business in Wheeler, the Buckhom Bar (Austin, 1974; Montgomery, 1989).

The Fort Peck Dam has been the source of some electric power, although that development has been slow. It was believed that power generation would interfere with flood control downriver, so power plants were not installed at the site until 1938, when war was imminent and a power plant there could be a defensive measure. The first generator went into operation in 1943. There were two more by 1951. In 1961, a second powerhouse was completed (Howard, 1968; Saindon and Sullivan, 1977).

As the dam stands today, much of its potential has not been realized for the immediate area. The water table has not raised, there are no irrigation benefits in the area, it did not improve the value of nearby land, there is no river navigation providing cheap transportation into Montana, no industry has developed in the area, and 180 miles of river bottom wildlife. habitat has been destroyed. On the other hand, the power produced there is distributed to six different states, which provides current at economical rates to rural northeastern Montana; the farmers below the dam can pump from a fairly stable river channel; and the area now contains Montana's largest lake, which is an important part of the Montana river recreation industry (Iwanski, 1991; Saindon and Sullivan, 1977).

D. SUMMARY OF PREVIOUS CULTURAL RESOURCE MANAGEMENT STUDIES IN THE PROJECT AREA

A large number of cultural resource investigations have taken place within the boundaries of the Fort Peck Lake project area. The largest of these survey and testing projects are discussed below.

1. Early Surveys

The recording of archaeological resources in what is now Montana began with the journey of Lewis and Clark in 1804 - 1806. These famous explorers recorded numerous villages up and down the Missouri River. Their data are often cited and used for the interpretation of sites later investigated by archaeologists. Information used by modern archaeologists concerning the distribution and location of protohistoric village sites and early historic sites is often gleaned from early maps sketched in the region (Diller 1946, 1955; Wheat 1957-1963; Wood 1983, 1993b).

2. *An Archaeological Survey of the Shoreline, Fort Peck Reservoir, Montana.* By Dee C. Taylor (1963).

During the 1950s, the Pick Sloan Plan was enacted and a series of reservoirs were planned for construction along the Missouri River, one within Montana. It was at this time the massive loss of cultural resources, or archaeological sites, became a concern. The National Park Service, acting under the authority of the Historic Sites Act, commissioned a survey of the Fort Peck reservoir shoreline. The survey was cut short as a result of a fatal boating accident.

The survey recorded three prehistoric sites and one historic site complex.

3. *Inventory and Assessment of Selected Parcels Along the Fort Peck Reservoir, Valley, McCone and Garfield counties, Montana.* By GCM Services (1997)

This report describes the Class III cultural resources survey of selected areas along Fort Peck Lake undertaken by GCM Services for the Corps. The report is divided into three volumes describing the history, archaeology, and ecology of the study area covering, 3819 acres in seventeen distinct parcels of federal property along the lakeshore. The study resulted in the recording of 6 previously unrecorded sites and seventeen isolated finds. Four of the recorded sites were considered potentially eligible for the NRHP. The remaining sites and isolated finds were recommended as ineligible for the NRHP.

One or more test units were placed on each recorded site, and basic geomorphological analysis was performed. No TCPs were recorded or observed.

4. *Historic Properties Survey of Selected Areas at Fort Peck Lake, Montana.* By Douglas M. Davy, et al. (1992)

This report describes the results of an intensive historic properties survey of selected areas along Fort Peck Lake, resulting in the recording of 49 archaeological sites. The survey covered 4,000 acres in five tracts of 800 acres each, located in McCone, Valley, Garfield, Phillips, and Petroleum Counties. The investigation consisted of a review of records and archival information for the project area, followed by a shoreline survey. Many of these sites were considered undetermined for inclusion on the NRHP. Thirty-seven prehistoric sites of seven different types were identified, including cairns, bison kills and lithic sites. Recorded historic site types included homesteads, camps, and trails. Twelve historic sites were identified. Ten sites were considered ineligible for listing on

the National Register. Fourteen prehistoric sites were judged to be eligible for membership in a NRHP district nomination. This included all the sites within the Fourchette tract. The researchers recommended the remaining sites for further evaluation and potential nomination to the NRHP. No TCPs were recorded or observed.

5. ***A Cultural Resources Inventory of the Proposed Fort Peck Rural Water District System.*** **By Terry J. Wolfgram and John H, Brumley. (2000)**
This report discusses a Class III cultural resources survey within development areas of the proposed Fort Peck Rural Water District system. One hundred and twenty-eight acres of Omaha District lands were included in this project. Thirty-seven properties newly or previously recorded cultural properties were examined during the course of the study. Six of the properties are owned or partially owned by the Omaha District. Of these six sites, one is listed on the NRHP, three were recommended as eligible to the NRHP, and two required further evaluation.

6. ***Cultural Resource Survey: Government Townsites Study.*** **By Jeffery A. Hess and Maricca J. Lutz (1980)**
This report describes the architectural and historical investigations of designated study areas within the townsite limits of Fort Peck, Montana; Pickstown, South Dakota; and Riverdale, North Dakota. The project purpose was to identify and evaluate the resources using the eligibility criteria of the National Register of Historic Places. Forty structures met the criteria for eligibility for nomination as a thematic district. In addition, the Fort Peck Theater was determined eligible as an individual property. Both the district and the theater were subsequently nominated and accepted to the NRHP.

7. **Other Surveys of the Project Area**
The Corps and their subcontractors have conducted numerous surveys were conducted in the Fort Peck Lake project area including sewer lines, power line easements, waterline corridors, electric substations, and campground improvements (see Table A, Volume II).

E. CLASSES OF HISTORIC PROPERTIES

For this CRMP, the term historic property (i.e., cultural resources) applies to both prehistoric and historic entities including sites listed on or eligible for the NRHP. The term implies more than standing structures, ruins, monuments, or cemeteries, and encompass a broad range of material remains, which have the potential to provide data relative to historic or prehistoric human occupation and utilization. The term also refers to any records related to such a property or resource.

The *Guidelines for Evaluating and Registering Historical Archeological Sites and Districts* (*National Register Bulletin* 36, Section II, pg. 10, 1993 printed version) [*Guidelines for Evaluating and Registering Archeological Properties* (*National Register Bulletin* 36, Section V, 2000 online version] defines five classes of historic properties that can be evaluated against NRHP criteria. Some properties may be classed within more than one of these categories.

1. District

A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development. Examples: college campuses; central business districts; residential areas; commercial areas; large forts; industrial complexes; civic centers; rural villages; canal systems; collections of habitation and limited activity sites; irrigation systems; large farms, ranches, estates, or plantations; transportation networks; and large landscaped parks.

2. Site

A site is the location of a significant event, a pre or post-contact occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archeological value regardless of the value of any existing structure. Examples: habitation sites, funerary sites; rock shelters; village sites; hunting and fishing sites; ceremonial sites; petroglyphs; rock carvings; gardens; battlefields; ruins of historic buildings and structures; campsites; sites of treaty signing; trails; areas of land; shipwrecks; cemeteries; designed landscapes; and natural features, such as springs, rock formations, and land areas having cultural significance.

3. Building

A building, such as a house, barn, church, hotel, or similar construction, is created principally to shelter any form of human activity. "Building" may also be used to refer to a historically and functionally related unit, such as a courthouse and a jail or a house and a barn. Examples: Houses; barns; stables; sheds; garages; courthouses; city halls; social halls; commercial buildings; libraries; factories; mills; train depots; stationary mobile homes; hotels; theaters; schools; stores; and churches.

4. Structure

The term "structure" is used to distinguish those functional constructions made usually for purposes other than creating human shelter. Examples: bridges; tunnels; gold dredges; fire towers; canals; turbines; dams; power plants; corncribs; silos; roadways; shot tower; windmills; grain elevators; kilns; mounds; cairns; palisade fortifications; earthworks; railroad grades; systems of roadways and paths; boats and ships; railroad locomotives and cars; telescopes; carousels; bandstands; gazebos; and aircraft.

5. Object

The term "object" is used to distinguish those constructions that are primarily artistic in nature or are relatively small in scale and simply constructed. Although it may be, by nature or design, movable, an object is associated with a specific setting or environment. Examples: sculpture; monuments; boundary markers; statuary; and foundations.

F. DETERMINATION OF SIGNIFICANCE

A determination of eligibility (significance influences eligibility determinations) of a cultural resource is generally reached by consensus between the federal agency and the SHPO or THPO. Contracted professional archaeologists, architectural historians, and other cultural

resource professionals are only empowered to offer opinions/recommendations to these entities regarding the eligibility of heritage and cultural resources based on the criteria as presented in 36 C.F.R. 60.4. If there is a disagreement on eligibility, the Keeper of the NRHP makes the final determination.

1. National Register Criteria

The NHPA was developed to evaluate and preserve significant cultural resources establishing a series of significance criteria to assist in the evaluation process. The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of national, tribal, state, and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

(a) that are associated with events that have made a significant contribution to the broad patterns of our history; or

(b) that are associated with the lives of persons significant in our past; or

(c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) that have yielded, or may be likely to yield, information important in prehistory or history (36 C.F.R. 60.4).

2. Criteria Considerations

36 C.F.R. 60.4 lists additional criteria considerations: ordinarily cemeteries, birthplaces, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; and properties that have achieved significance within the past 50 years, shall not be considered eligible for the NRHP. Such properties will qualify for the NRHP if they are integral parts of districts that do meet criteria or if they fall within the following categories:

(a) A religious property deriving primary significance from architectural or artistic distinction or historical importance.

(b) A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event.

(c) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life.

(d) A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events.

(e) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived.

(f) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance.

(g) A property achieving significance within the past 50 years if it is of exceptional importance.

3. Site Integrity

To qualify for NRHP eligibility under criterion (d), by which most archaeological sites meet eligibility requirements, the site must be evaluated in terms of its contextual integrity. For a site to be significant, it is necessary that the data be well preserved and recoverable. Furthermore, the site or portions of it should be intact and undisturbed. Applying this requirement certainly eliminates many of the previously recorded sites for the Fort Peck Lake project area.

G. SUMMARY AND TABLES OF RECORDED PROPERTIES IN THE FORT PECK LAKE PROJECT AREA

The site data presented below and in Table B, Volume II, and Tables C and D, Volume III is subject to change. No one utilizing this document in its final form should make management decisions based solely on its content without consulting the interested parties under Section 106 of the NHPA. Each Bi-Annual Update, Review, and Coordination Meeting for the Fort Peck Lake project area will address the incorporation of new or updated information into the CRMP.

As of 2003, eighty-two cultural resources have been recorded in the Fort Peck Lake project area. There are also nineteen isolated finds.

Below are lists of sites in the Fort Peck Lake project area presented in several different categories. Among these categories are sites listed on the NRHP, sites eligible for the NRHP, Traditional Cultural Properties, sites with an unknown NRHP status, sites not eligible for the NRHP, sites reported to be destroyed, and isolated finds.

The following site summaries have been compiled from information on file at the Corps and Montana State Preservation Office. These summaries are based, primarily, on site forms prepared by the Corps, University of Montana, and private CRM contractors. These brief summaries provide the reader with a brief summary of when a particular site was first

recorded, and an outline of what has taken place since then, including NRHP eligibility. Additional information regarding these sites can also be found in a variety of Fort Peck Lake CRM reports and site files housed with the Corps and Montana State Preservation Office.

1. NRHP Sites

One site and one district in the Fort Peck Lake project area are listed on the NRHP and three sites are considered eligible.

a. Sites and Districts Listed on the NRHP

III-1: Sites on the NRHP					
FERGUS	**GARFIELD**	**MCCONE**	**PETROLEUM**	**PHILLIPS**	**VALLEY**
24FR310		24MC219*			24VL590*

* these two site numbers are for the same historic district, which crosses county lines

24FR310- Rocky Point Townsite
The town of Rocky Point served as a trading post and steamboat landing. There were still eight standing structures as of the time it was listed in 1975, including two cabins, a barn, a restaurant or hostel, a saloon, a well house, a stable, and a feed storage shed. It was recorded and nominated by Larry Calvert of Charles M. Russell National Wildlife Range.

24VL590/24MC219- Fort Peck Townsite and Dam
The town of Fort Peck was constructed by the US government in 1934 to house and provide services for the worker involved in the construction of Fort Peck Dam. The dam itself was constructed between 1933 and 1940. The dam and portions of the townsite that retain integrity are listed on the NRHP. Part of the property is now under private ownership.

b. Sites Eligible for Listing on the NRHP

The three archaeological sites within the Fort Peck Lake project area considered eligible for inclusion on the NRHP are listed in Table III-2 below.

III-2: Sites Eligible for the NRHP					
FERGUS	**GARFIELD**	**MCCONE**	**PETROLEUM**	**PHILLIPS**	**VALLEY**
				24PH2974 24PH2976	24VL89

[*The descriptive information has been deleted as archeological site locations are restricted from public dissemination.*]

2. Traditional Cultural Properties and Other Sacred Sites

There are four sites within the Fort Peck Lake project area that have been identified as possible TCPs. The potential of TCPs and other sacred sites and areas being identified

with future archaeological investigations in conjunction with tribal monitoring and oral history is high. The four sites are listed in Table III-3 below:

III-3: Potential TCPs					
FERGUS	GARFIELD	MCCONE	PETROLEUM	PHILLIPS	VALLEY
		TV Tower Hill		24PH2976 24PH2981	24VL1337

[*The descriptive information has been deleted as archeological site locations are restricted from public dissemination.*]

3. Sites with Unknown NRHP Status

Fifty-six archaeological sites have been recorded within the Fort Peck Lake project area that have an unknown NRHP status (see Table III-4).

III-4: Sites with Unknown NRHP Status					
FERGUS	GARFIELD	MCCONE	PETROLEUM	PHILLIPS	VALLEY
	24GF370	24MC51	24PT51	24PH2977	24VL25
	24GF371	24MC52	24PT269	24PH2986	24VL51
	24GF372	24MC264	24PT271	24PH2988	24VL90
	24GF373	24MC265	24PT272	24PH2973	24VL91
	24GF374	24MC268	24PT273	24PH2975	24VL92
	24GF375	24MC269	24PT276	24PH2978	24VL1236
	24GF376	24MC270		24PH2980	24VL1337
	24GF377	24MC271		24PH2981	24VL1338
	24GF378	24MC285		24PH2982	24VL1339
		24MC286		24PH2983	24VL1340
		24MC287		24PH2984	24VL1341
		L&C 5-8-05		24PH2985	24VL1342
				24PH2987	24VL1343
					24VL1344
					24VL1613
					24VL1623

[*The descriptive information has been deleted as archeological site locations are restricted from public dissemination.*]

4. Sites Determined Not Eligible for the NRHP

The twenty-one sites in the Fort Peck Lake project area included in Table III-5 have been identified as not eligible for the NRHP.

III-5: Sites Determined Not Eligible for the NRHP					
FERGUS	GARFIELD	MCCONE	PETROLEUM	PHILLIPS	VALLEY
	24GF412	24MC212	24PT270	24PH2979	24VL100
	24GF413	24MC266	24PT274		24VL1345
	24GF417	24MC267	24PT275		24VL1360
		24MC274			24VL1564
		24MC278			24VL1565
		24MC283			24VL1583
					24VL1584
					24VL1612

[*The descriptive information has been deleted as archeological site locations are restricted from public dissemination.*]

5. Sites Reported to be Destroyed

One archaeological site in the Fort Peck Lake project area has been reported to be destroyed (see Table III-6).

III-6: Sites Reported to be Destroyed					
FERGUS	GARFIELD	MCCONE	PETROLEUM	PHILLIPS	VALLEY
		24MC212			

[*The descriptive information has been deleted as archeological site locations are restricted from public dissemination.*]

6. Isolated Finds

There are nineteen isolated finds (IFs) in the Fort Peck Lake project area. In Montana these types of finds are known as Minimum Activity Loci (MALs). IFs are generally considered not eligible for the NRHP.

III-7: Isolated Finds					
FERGUS	GARFIELD	MCCONE	PETROLEUM	PHILLIPS	VALLEY
	B-1	E-4			B-3
	B-2	R-1			B-4
	S-2	R-2			S-4
	T-1	R-3			FP87-IF1
	T-2	S-1			
	T-4				
	T-5				
	T-6				
	T-7				
	COE84-1				

7. Sites in Recreation Areas

A total of 27 sites in the Fort Peck Lake project area are located in recreation areas. Sites in recreation areas are broken down by recreation area starting on page IV-11.

IV. LAND USE GUIDE

This section describes (1) agency land use practices in the Fort Peck Lake project area, (2) associated effects on cultural resources and other culturally sensitive areas (e.g., native burials, cemeteries, and ceremonial areas), and (3) alternative treatments for mitigating adverse effects. A keen awareness is needed of the kinds of activities and processes that threaten the integrity of cultural resources and other culturally sensitive areas at lake projects resulting from construction and development, recreation, inundation, vandalism, unauthorized collecting and excavation, and routine operation and maintenance. Recognition of these impacts will allow Fort Peck Lake resource managers, planners, and tribes to make coordinated informed decisions to ensure the protection of cultural resources under their jurisdiction.

A. LAND USE AT FORT PECK LAKE

Agencies at the federal, state, and local levels manage portions of the Corps-owned land at Fort Peck Lake. This section outlines agency land use responsibilities and activities. Activities associated with the daily operation and maintenance of agency missions may affect the integrity of cultural resources. Figure 1, Volume III, presents the land allocation maps of Fort Peck Lake. Land use responsibilities and activities are described as follows (U.S. Army Corps of Engineers 1977a: 2-5,7-8,7-9,7-10):

- **Project Operations** – Lands in this category are allocated to provide for safe, efficient operation of the Fort Peck Lake project area. These areas include lanes where project structures, such as the dam, switchyard, powerhouse, offices, and maintenance buildings and yards are located. Approximately 1,280 acres are allocated to project operations.

- **Recreation - Intensive Use** – Lands included in this category are those areas developed for concentrated recreation use containing park facilities such as boat ramps, camp pads, picnic sites, comfort stations, and other complimentary facilities. This land use classification includes 5,567 acres.

- **Recreation - Low-Density Use** – Low-density recreation lands are those that are suitable for activities such as hiking, hunting, and fishing. Development of any kind is limited. A total of approximately 1,520 acres have been allocated in the Fort Peck Lake project area to low-density recreational use.

- **Wildlife Management** - Wildlife management areas in the Fort Peck Lake project area total 138,091 acres and are utilized for the production of food and cover for wildlife. An additional 182,300 acres in sixteen parcels are designated as Wilderness Areas. These are reaches of 5,000 acres or more that are suitable for preservation under the National Wilderness Preservation System, and are managed by the FWS. The remaining lands are available for low-density recreation use.

- **Sensitive Areas** - A total of 10,490 acres are classified as sensitive areas in the Fort Peck Lake project area. All are managed by the FWS. This allocation was set up to protect

outstanding values of a scientific, scenic, ecological, archaeological, or historic nature. For purposes of protection in these eleven Research Natural Areas, development is allowed only with preservation of significant features taken into consideration.

1. Management Responsibilities

Aside from the Corps, the Charles M. Russell National Wildlife Refuge (Fish and Wildlife Service, Department of Interior), and the Montana Department of Fish, Wildlife and Parks hold leases and licenses at Fort Peck Lake. Leased areas are monitored to assure compliance with all federal regulations.

The Corps has direct responsibilities for the flood control aspect of the Fort Peck Lake Project including maintenance and operation of the dam, tower, and outlet works. Additionally, the Corps administers the Shoreline Management Plan and Visitor Assistance activities. The Corps, the FWS, and the BLM manage certain recreational sites in full or in part. Other recreation areas are managed by the MDFWP, Petroleum County, and concessionaires. According to land use classifications these are:

Recreation- Intensive Use Areas:

- Fort Peck West- Corps and Concessions
- Downstream- Corps and MDFWP
- The Pines- Corps
- James Kipp- BLM
- Crooked Creek- Petroleum County and Concessions
- Hell Creek- MDFWP and Concessions
- Rock Creek (Big Dry Arm)- Corps, Concessions, MDFWP

Multiple Resource Management- Low Density Use Areas:

- Bear Creek- Corps
- Duck Creek- Corps and MDFWP
- Bone Trail- Corps
- Flat Lake- Corps
- Turkey Joe- FWS
- Devil's Creek- Corps
- Fourchette Creek- Corps
- Slippery Ann- FWS
- Rock Creek (Phillips Co.)- FWS
- Nelson Creek- Corps

2. Types of Activities That Are Not Likely to Significantly Affect Cultural Resources

The following routine operational and maintenance activities should produce no significant adverse impacts to historic properties, and do not require prior cultural resource coordination. Stipulations to these activities are also discussed.

a. Mowing and Controlled Burning

Mowing and controlled burning in the Fort Peck Lake project area should produce no significant impacts to cultural resources as long as the following conditions are met:

- no cultural items are at or above the ground surface;
- any cultural resources are buried at a sufficient depth for protection from the anticipated intensity of the burn; and,
- medicinal plants and medicine plants are taken into consideration.

b. Pedestrian Trails

The emplacement of hiking, nature, or interpretive trails intended for pedestrian use should not affect cultural resources as long as the following takes place:

- the construction of the trail involves mowing with or without the overlay of mulch or other materials;
- the construction of the trail does not involve grading, excavating, leveling of contours, or other surface disturbances;
- the trail does not pass directly over or nearby a known cultural resource;
- the trail is maintained in such a way as to prevent erosion causing impacts to unidentified cultural resources; and,
- no construction of stairs, bridges, overlook stations, rest stations, or other structures which would involve substantial ground disturbance is undertaken along the trail.

Trail construction not meeting the above criteria should be considered an undertaking and the potential effects to archaeological sites should be assessed. Pedestrian trails close to archaeological sites and exposed human remains increase the potential for looting, vandalism, and desecration of these very sacred places.

c. Use of Existing Excavated Areas

The use of existing borrow pits, former ponds, or other areas which have been previously excavated or dredged require no preliminary cultural resource management work so long as the effects of the undertaking are not extended into previously undisturbed areas.

3. Types of Activities That Do Adversely Effect Cultural Resources

The following routine operational and maintenance activities could potentially result in significant adverse effects to cultural resources including native cultural properties, TCPs, medicinal plants, medicine plants, ceremonial sites, sacred sites, human burials,

and cemeteries. Therefore, cultural resource management procedures as outlined in Section V, Part C, should be initiated prior to any undertaking.

a. Facility Construction

This class of impacts includes the construction or enlargement of large-scale projects such as structures. This includes any grading or land alteration associated with the development of campgrounds, beaches, picnic areas, playgrounds, sanitary facilities, fishing docks, boat ramps, and similar facilities. This type of impact has the potential to severely impact native cultural properties, TCPs, sacred sites, human burials, and cemeteries.

c. Right-of-Way Easements

The construction of water and gas pipelines and utility power lines generally require narrow easements which could affect all, or part of, an archaeological site, native burial, cemetery, or other culturally sensitive area. Because of the depth of excavations required to bury such lines, and the workspaces and spoil areas involved in their construction, they can cause significant damage to sensitive cultural areas.

d. Reforestation

Tree planting may occur in areas that are slated for reforestation, erosion control, or habitat restoration. The planting of trees involves activities that could seriously disturb archaeological sites, native human burials, cemeteries, or other culturally sensitive areas, such as the removal of existing vegetation, and deep plowing to prepare the bed for seedlings.

e. Equestrian Trails

The use of trails by horse riders can result in damage to the contextual integrity of cultural resources because it results in disturbance to the topsoil matrix of any remains especially during wet conditions. Equestrian trails close to archaeological sites increase the potential for looting and vandalism.

f. Off-Road Vehicular Use

Off-road vehicular traffic can adversely affect the topsoil of an area by causing ruts and loss of vegetation. Off-road vehicular use close to archaeological sites increases the potential for looting and vandalism.

g. Road and Parking Area Construction

The construction of roads and parking areas involves grading, leveling, and excavation that could damage the upper cultural strata or potentially the entirety of a cultural resource and its viewshed.

h. Shoreline Modification

The emplacement of riprap or other erosion control and bank stabilization techniques along shorelines usually involves prior ground slope preparation that may alter the original ground surface. Because numerous sites are known to exist along the shoreline, this activity could result in significant adverse effects to cultural resources.

i. Other Earthmoving Activities

The excavation of soil for fill dirt (borrow pits), construction of ponds, leveling of contours, and dredging is very destructive to cultural resources because they remove the soil destroying the contextual integrity of the deposits. Dredging along the shorelines could adversely affect cultural resources that were inundated, but may retain intact deposits. Furthermore, the emplacement of large amounts of fill or soil for the construction of levees and dikes can also adversely impact cultural resources because the weight of the soil can cause compression-related damage to the remains.

B. IMPACTS TO CULTURAL RESOURCES

The protection of cultural resources requires an awareness of the natural and human impacts that threaten their integrity. In 1981, a two-volume report on a five-year multi-disciplinary study was published by the NPS that investigated the direct and indirect impacts affecting cultural resources due to freshwater inundation and the construction of lakes (Lenihan *et al* 1981). In 1989, a condensed summary of the findings of this study was sponsored by the Corps under contract with the Waterways Experiment Station (Ware 1989). The following discussion outlines the major points of this effort. As presented by Ware (1989), the study identified three categories of general impacts to cultural resources at lake projects: mechanical, biochemical, and human.

Mechanical Impacts

Mechanical impacts are the physical processes associated with a large body of water, such as erosion and deposition, including saturation and slumping. Wave action is the primary impact to cultural resources in lakes and is created primarily by wind but also by powerboat wakes. These wind and wake waves do affect particulate solid materials (soils) in the deeper areas of the reservoir but are most destructive in the shallow near-shore zone. In this area, the waves remove the fine silty material to deep water and transport the heavier fractions to offshore shoals. As these shoals build, the wave action near the shore decreases and erosion rates decline. This process serves to limit erosion in lakes that maintain a stable pool level. However, at lakes with fluctuating pool levels that are drawn down seasonally, the offshore shoals themselves are subject to erosion and the wave action near the shore again increases proportionately. Such lakes never achieve a stable shoreline profile and cultural resources along the shoreline are therefore at a continuous risk of degradation. The Fort Peck Lake Reservoir can fluctuate as much as 65 feet, providing continuous extensive adverse impacts.

a. Sheet Erosion

The erosion of sites can occur as a sheet action across the surface of cultural resources and strip the topsoil and culture bearing strata. Sheet erosion is generally a shallow to moderately deep erosion created by wind or water action of a broad area such as a terrace. This process commonly results in the exposure of features that intruded into the subsoil. Sheet erosion occurs on slopes of a gentle to moderate

gradient and may affect an entire site at one time eliminating partial to entire horizontal strata within the site.

Suggested Mitigation Actions - Construct a protective levee or barrier along the shoreline to prevent erosion of cultural material.

b. Shear erosion

Along a shoreline that is steep, erosion cuts away vertical portions of cultural resources situated along it. Undercutting results in slumping of the upper portions of the bank, cutting gradually into the site. In contrast to sheet erosion, only a portion of the site is affected at a given time. A Waterways Experiment Station report of a shoreline erosion study has shown that bank erosion may be a more significant threat to archaeological sites than previously imagined (Ebert et al. 1989:117). The study shows the rate of bank erosion and retreat do not slow down or level off after the initial filling of the lake, but continue to be relatively constant over time.

Suggested Mitigation Actions - Stabilize the shoreline and provide offshore shoals.

c. Siltation

Soils carried in solution by a stream are deposited in a fan shaped area as the stream waters meet the standing lake water. Sediments are also derived from shoreline erosion and deposited downstream. The deposition of these sediments over cultural remains, especially on the down river portion of the lake where they tend to accumulate, can serve to protect archaeological sites as it adds a protective buffer at the site's surface from mechanical impacts. There have been few studies on the impact of deep burial in lakes on archaeological sites. There is one area of concern however, related specifically to sediment saturation, slumping, and creep. Subaqueous landslides and sediment shifts have been documented in lakes, especially upon the initial submergence. These processes can destroy the contextual integrity of any intact cultural remains.

Suggested Mitigation Actions - None identified

d. Sediment Shift

In relation to the combined effect of erosion and siltation, it has been noted that wave action can result in the lateral movement of sediments across cultural resources, alternately exposing, and covering features. The shift can result not only in a loss of contextual data, but can mask the presence of sites during shoreline reconnaissance. The secondary deposition of sediments containing small artifacts such as chert flakes can also result in the apparent creation of a site where none previously existed.

Suggested Mitigation Actions - Construct a protective levee or barrier along the shoreline to stabilize and prevent erosion of cultural material, or provide offshore shoals.

Biochemical Impacts

Biochemical impacts relates to the effects of the chemical and biological composition of the lake on the preservation of various archaeological materials. Acidic conditions typify the anaerobic lakebed in most lakes and studies show that bone deteriorates in relation to the acidity of the water. Ceramics were shown to preserve well, as were chert artifacts. Wood deteriorates rapidly in water and shell is likely to be adversely affected by long-term inundation. Seeds and pollen were rapidly affected by inundation in controlled experiments (Mathewson 1989).

The chemical and biological composition of the water depends upon the interrelationships of numerous factors (climate, evaporation, geology, biota, and pollution). Conditions also vary within the lake depending upon the depth of the reservoir's pool level. In deeply buried sediments that are anaerobic, preservation conditions should be ideal, but there have been few studies examining effects of anaerobic burial on archaeological materials. Along the shallower shoreline where waters are oxygenated, preservation is likely poor.

Suggested Mitigation Actions - Perform data recovery in shallow areas.

Human Impacts

This category includes impacts related to human activity. These activities range from such direct impacts as construction and archaeological site looting and vandalism, to indirect impacts associated with changes in land use.

a. Construction

There are direct and indirect impacts on cultural resources resulting from construction activities associated with the continuous operation and management of the project area.

Suggested Mitigation Actions - Consider and plan mitigation of cultural resources as early as possible in the planning phase of a proposed undertaking.

b. Looting and Vandalism

The intensive and regular looting of artifacts along the shoreline, especially during the winter draw down period, is a constant threat to cultural resources. Vandalism may occur on various levels from the occasional fortuitous find of an arrowhead on the ground, to regular systematic illegal surface collecting by amateur archaeologists, concerted digging and looting by pothunters, and indiscriminate defacement or destruction of cultural resources. All of these activities affect cultural resources and their potential for providing data for the interpretation of the local prehistory and history.

Suggested Mitigation Actions - Preventive measures such as continuous monitoring by Corps personnel and tribal members, strict law enforcement, and public education should be continued, or implemented, to prevent this activity from remaining a significant problem. In addition, fencing, planting barrier vegetation such as poison

ivy or thorny bushes, placement of signs warning looters of penalties, and other measures to protect sites from collecting and vandalism should be implemented by the Corps in support of their stewardship to the resources.

c. Improved Access

While improved access is not always in itself a direct impact to cultural resources, the construction of new roads; hiking, equestrian, and off-road trails; and boat ramps would provide access routes to areas that were previously seldom visited. This would increase the chances of such activities as looting and vandalism.

Suggested Mitigation Actions - Plan site camouflage using accepted techniques. Develop recreation areas away from sensitive areas and provide protective barriers (fencing).

d. Land Use Changes

The modified face of the landscape may result in changes to land use. For example, in rural areas where lakes are most commonly located the patterns of livestock grazing may be altered. The pasturage of livestock near the water's edge can lead to serious impacts to archaeological sites including denuding the land of protective vegetation, trampling and breaking artifacts, altered stratigraphy, and disturbance of structural walls, among others.

Suggested Mitigation Actions - Significant cultural resources must be considered early in the planning phase to allow for construction of protective barriers.

Impact Zones at Lake Projects

The severity of impacts varies according to the location of cultural resources in relation to the Fort Peck Lake project area. Lenihan devised a scheme, which categorized the lands at lake projects into five impact zones relative to potential effects to cultural resources (Lenihan et al. 1981). Impacts to cultural resources throughout lake project areas are known to change through time within each of these impact zones.

a. Conservation Pool Zone

The conservation pool zone consists of the permanently inundated portion of a lake below the annual draw down level. At Fort Peck Lake, this is 2160 feet AMSL.

There is little data on the impacts to sites within the conservation pool. Initially, human impacts embracing a range of construction related activities predominate. The severity of wave impacts will depend upon vegetation cover. If the slope of the basin is steep, the impact will be greater. Vegetation, especially a cover with a dense understory of grasses or shrubs, buffers the initial impact.

Archaeological resources that survive will likely be buried under sediment as biochemical impacts become operative. Anaerobic conditions may enhance long-term preservation. The remains are subject to decomposition until such conditions are reached. The deeper the water, the more likely it is for anaerobic conditions to

develop. As the lake ages, subaqueous slump and sediment shift may deteriorate the contextual integrity of a site. In the event of a severe draw down, the lakebed is highly subject to erosion and human activity due to its vegetation free state.

b. Shoreline Fluctuation Zone

The shoreline fluctuation zone is that portion of a lake exposed to periodic fluctuation due to seasonal lowering (fall) and elevation (summer) of pool levels. At Fort Peck Lake, this comprises the area between 2234 and 2240 feet AMSL. Considerable documentation exists relative to impacts within the fluctuating pool zone because of its high level of visibility (Lenihan et al., 1981; Mathewson 1989).

All types of impacts to cultural resources are increased along the shoreline fluctuation zone with wave action posing the most serious problem. Fluctuating lake pools enlarge the area affected by wave action. By increasing the beach area, or the area along the shoreline that is free of vegetation, the waves strike soils that are already saturated and unprotected. Furthermore, they become subject to wind and water run-off erosion.

The degree to which an area is affected depends upon several factors including geomorphology. If the area is steep, the development of erosional cutbanks, undercuts, and subsequent slumping is encouraged. On slopes with a lesser gradient, sheet erosion is more likely. These activities can dislodge and transport artifacts exposed by erosion. Not to mention, the alternate wetting and drying of cultural deposits has significant adverse affects. Controlled studies have shown that these effects occur after only a few exposures.

Biochemical effects are also intensified along the shoreline due to the higher light, dissolved oxygen levels, and ambient temperatures that provide suitable habitat for organisms that decompose organic cultural materials. Due to increased visibility and access, the risks of human impacts are greater. It is along the shoreline that most recreational facilities including beaches, boat ramps, and campgrounds are located. Because vegetation is sparse or absent in the fluctuating shoreline zone, cultural remains, including native burials can be highly visible.

c. Upper Floodpool Zone

The upper floodpool zone consists of elevations above of 2246 feet AMSL for Fort Peck Lake, which is the summer pool level not normally inundated, but which is subject to periodic inundation at the maximum flood stage. The floodpool level at Fort Peck Lake lies between 2246 and 2250 feet AMSL. The same littoral impacts that endanger sites within the shoreline fluctuation zone affect sites within this zone. Although these impacts may be less severe than those to sites within the shoreline fluctuation zone, they can nonetheless be very damaging to archaeological resources. Much of the impact results from improved access and changing land use patterns.

d. Backshore Zone

The upland, or backshore, zone consists of the upper non-inundated reaches of the lake watershed. No direct mechanical or biochemical impacts occur relative to the lake itself in the backshore zone. Impacts in this area are most commonly associated with newly available access to previously seldom visited areas, recreational and commercial development of the lake area, and changes in land use patterns. Other impacts to this area include cultivation and animal grazing patterns.

e. Downstream Zone

The downstream zone comprises that area below the dam that is affected by the release of water (Lenihan et al. 1981). Mechanical impacts in this zone, such as the construction of a silt trap, results in possible changes from an agrading stream to a degrading one. Changes in water quality downstream may also occur after inundation of a stream. Human impacts result largely from recreation activities, irrigation, power generation, and settlement.

C. LAND USE CLASSIFICATION AREAS

For more efficient management of Corps property at Fort Peck Lake a series of recreation areas were established. The land use locations and classifications were established in the Master Plan in accordance with guidance set forth in Engineer Regulation No. 1120-2-400, Change 3, dated February 12, 1976. These allocations have been changed by Engineer Regulation No. 1130-2-435, dated December 30, 1987, and are currently defined by Engineer Pamphlet No. 1130-2-550, dated November 15, 1996. Not all of these properties are managed by the Corps. Each land use classification area is discussed below, including archaeological sites, management agencies, and restrictions. Much of this information is also presented in Table E, Volume III.

Many of the recreation areas at Fort Peck Lake contain cultural resources. The NRHP status of sites recommended for evaluation must be determined if there are planned or required objectives and management practices presented that may or actually will have an impact on the sites. The forthcoming Fort Peck Lake *Operation Management Plan* should be consulted for specific activities in each management unit. Restrictions that apply to cultural resources in the land use allocation areas are described below. Impacts to sites are summarized in Table B, Volume II and Table E, Volume III.

If Standard Restrictions are listed for an area, it is necessary to consult the Omaha District archaeological staff prior to starting any action. Remember that a very good possibility always exists of uncovering previously unreported cultural resources. In the Fort Peck Lake project area, *Standard Restrictions means that all persons involved in earthmoving activities must be informed that there is a possibility that they may expose previously unreported cultural resources. In addition, they must be informed that they must halt any work around the previously unreported cultural resources immediately and inform resource staff.* Resource staff involved with any earthmoving activity must be aware of this possibility and the procedure for dealing with emergency site discovery. Standard Restrictions apply to those areas with no cultural resources. This designation is rarely used.

If the restriction No Disturbance without Coordination is listed, it means cultural resources requiring consideration are located in or adjacent to the land use allocation area. All activities involving any form of earthmoving in these areas must be coordinated with tribes and Omaha District archaeological staff prior to the start of the activity. At this time, all areas at Fort Peck Lake have this designation.

> [*The descriptive information has been deleted as archeological site locations are restricted from public dissemination.*]

D. REQUIRED FEDERAL ANTIQUITY PERMITS

Individuals, private contractors, universities, or other institutions proposing to conduct archaeological or other investigations of cultural resources at Fort Peck Lake must first file an application for an ARPA permit. This federal permit was established under ARPA, approved October 31, 1979 (P.L. 96-95: 93 Stat. 721; 16 U.S.C. 470aa-II), and regulated under 32 C.F.R. 229. Projects proposed on federal and Native American lands are subject to conditions listed in Appendix A, Volume II, ARPA Permit Conditions (except as provided under the North Dakota Intertribal Reinterment Committee MOA and the Rosebud Sioux Tribe MOA).

E. MITIGATION OF ADVERSE AFFECTS

Once the effects of agency activities on cultural resources are recognized, steps can be taken to reduce or eliminate adverse effects to the significant sites. The known impacts to most sites are listed in Table B, Volume II. Much of the data describing these impacts is dated and will have to be adjusted throughout the life of this CRMP.

1. Mitigation Treatment Alternatives

The mitigation of significant archaeological sites implies an amelioration of impending adverse affects to the resource. Mitigation can take several forms: avoidance (always the preferred alternative), monitoring, data recovery (usually excavation), or protection. The appropriate form of mitigation for threatened resources is conditioned on numerous factors including consultation with the Tribes, costs, the feasibility of relocating a proposed undertaking, the site's location within the lake impact zones, and the type of resource, among other considerations.

There are four recognized management treatments for avoiding or reducing impacts to cultural resources including both archaeological sites and standing structures. It is Corps policy, and the preferred option of the tribes, that preservation through avoidance of adverse affects is preferable to all other forms of mitigation (Engineer Regulation No. 1105-2-100, Part 7-48).

a. Avoidance

Avoidance of cultural resources can often be accomplished during the planning phase of proposed developments providing: (1) tribal oral history is collected, (2) an inventory of sites within the project area has been made through adequate and systematic investigation, (3) limited testing is undertaken to detect buried sites, and (4) monitors are on site during all ground disturbing activities. It is sometimes possible to adjust a development's footprint to avoid cultural resources after an undertaking has been initiated. The feasibility of avoidance would largely depend on the nature of the action. Avoidance implies that no direct or indirect impacts from proposed developments will affect the site.

b. Monitoring

Consultation with tribes and tribal monitoring serves several purposes in achieving greater stewardship for cultural resources. First, recorded sites should be inspected regularly to determine the presence and extent of any existing impacts. Secondly, significant sites that have been protected by some means of technology should be monitored to assess the effectiveness of the protective measures. Finally, monitoring is desirable when construction is ongoing to better assure no adverse affects are imposed on archaeological resources or other culturally significant areas (e.g., human burials and cemeteries). Several standardized forms have been prepared for use during monitoring that provide quick and efficient documentation of impacts to archaeological resources or other culturally significant areas (see Appendix D, Volume II, for an example).

All sites should be monitored on a regular basis for erosion, looting, and vandalism, especially if located in recreation areas. Those sites situated on cutbanks or other eroding surfaces such as road cuts should be monitored or visually inspected each fall when the lake is at its lowest elevation. Each time they are near archaeological sites, Corps staff should visually inspect them and report observations on the previously noted standardized form. In the instance of a flood episode, these threatened sites should be visually inspected once the pool level has returned to normal. Inundated sites are exempt from this monitoring schedule unless a draw down or reduction in pool level reveals them.

c. Data Recovery

In the event that protection or avoidance proves unsuitable, data recovery through excavation and accompanied thorough documentation is the usual means of acquiring data and thereby, mitigating the loss of a resource. Data recovery efforts must meet federal standards as outlined in *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines* (*Federal Register* Vol. 48, No. 190, September 29, 1983) and *Guidelines for Conducting Cultural/Paleontologic Resources Inventory Work on Montana State Lands* (Rennie, Patrick J. - Montana Department of Natural Resources and Conservation 2002). This method of preserving (documenting on paper and film) a site through excavation (an archaeologically destructive technique) is anticipated to be opposed by the tribes, unless no other reasonable alternative of a less intrusive and adverse nature can be found through consultation.

d. Protection

Protection means the actual installation of a structural or nonstructural material on an archaeological site or the completion of some activity designed to prevent or mitigate adverse effects of natural or cultural processes.

Stabilization - Stabilization means the effective mitigation of adverse effects resulting from the application of appropriate and effective protective technology. Stabilization of sites is less of a reactive measure in cultural resource management because it follows a carefully planned schedule (Thorne 1988:8). Stabilization is considered an alternative action under Engineer Regulation No. 1130-2-438.
Preservation Technology - Preservation technology refers to any equipment, methods, and techniques that can be utilized in the discovery, analysis, interpretation, restoration, conservation, protection, and management of archaeological sites, structures, and landscapes.

2. Treatment Alternatives at Fort Peck Lake

In the past, mitigation in the form of data recovery has been the preferred alternative solution when avoidance was not feasible. Today, preservation is more widely embraced and depending upon the location of the resource in respect to lake impact zones, has been shown to be generally less expensive than data recovery. Corps sponsored studies have generated the following conclusions relative to treatment alternatives within the impact zones at lake projects:

- **Conservation Pool**
  Sites located below the surface of Fort Peck Lake are protected from exposure to wave action, the most serious source of erosion, however these sites are impacted by the weight of the water in the lake. In situ protection is recommended for sites below the shoreline.

- **Fluctuating Shoreline**
  Bank stabilization has been successfully implemented to protect archeological sites adjacent to the Missouri River. For example, the Corps has worked together with the Cheyenne River Sioux Tribe and Lower Brule Sioux Tribe on vegetative bank stabilization (Brodnicki 2000). Bank stabilization measures used by the Omaha District have included conventional rock riprap and the more innovative system of vegetative bank stabilization.

- **Backshore Uplands**
  In situ preservation is probably the only practical alternative in the backshore uplands. The active protection of sites in this zone has been called the “most important long-term cultural resource management responsibility of reservoir managers” (Ware 1989:32).

3. Protective Measures

Preservation can never be totally achieved as the natural aging process of sites will always exist and is related to environmental conditions. However, such actions as

erosion, looting, and vandalism can be reduced and should be addressed in preservation planning (Thorne 1988:6). Regular monitoring of cultural resources is necessary to determine the nature and extent of these adverse affects. Once impacts are understood, protective measures and technologies are available to eliminate or reduce them. Studies conducted through the Waterways Experiment Station touch upon archaeological site preservation and provide useful data and guidelines for stabilization techniques and their effectiveness. Examples of the preservation measures discussed in these reports, with the exception of tribal monitors, include the following:

- Bank stabilization in areas of known archaeological sensitivity;
- Revegetation of areas of heavy public utilization for soil stabilization including plants such as poison ivy and thorny bushes to deter looters and vandals;
- Fencing or other barriers;
- Site camouflage techniques;
- Non-destructive land-use practices;
- Emplacement of signs regarding illegality of site looting;
- More effective law enforcement; and
- Public education.

Projects utilizing these techniques and their successful results are also reported in *The Archeological Sites Protection and Preservation Notebook* (U.S. Army Corps of Engineers 1992). These Corps studies have shown that cost-effective means of site preservation can be attained. However, each case must be individually examined to determine the proper alternative treatment. All stabilization projects of significant sites and/or sites significant to tribes must be coordinated with the Omaha District cultural resource staff, the tribes, and SHPO.

V. ACTION PLAN

This section details the Action Plan which is comprised of (1) a series of tasks that must be completed in order to meet NHPA compliance requirements; (2) cultural resource management procedures for accomplishing these tasks; and (3) priorities for conducting required cultural resource investigations.

TASKS

The following nine tasks have been identified to better comply with NHPA requirements and to manage the cultural resources in the Fort Peck Lake project area. They are described in more detail below:

- Task 1 –Archeological Surveys and Identification of TCPs at Fort Peck Lake
- Task 2 - Evaluation of Cultural Resources
- Task 3 - Nominate Sites for Listing on the NRHP
- Task 4- Site Monitoring
- Task 5 - Mitigation Measures for NRHP Cultural Resources
- Task 6 - Conduct Staff Training
- Task 7 - CRMP Integration in Corps Planning
- Task 8 - Enhance Public Education
- Task 9 - Bi-annual Update, Review, and Coordination Meeting

1. Task 1 – Archeological Survey and Identification of TCPs at Fort Peck Lake

An intensive survey of Fort Peck Lake (i.e., Corps lands adjacent to both sides of Fort Peck Lake) should be continued as funding permits. Of the approximately 337, 968 acres included in Fort Peck Lake project lands, some 8,000 acres have been surveyed.

Almost all of the cultural resource surveys undertaken for Fort Peck Lake have been carried out with little to no tribal input. This is not to single out the Fort Peck Lake inventories because of a lack of tribal input. Up until the last 10 or so years, most of the cultural resource management undertaken across the United States was accomplished without tribal participation. That is rapidly changing and this is no less true for the Missouri River tribes. Future large-scale cultural resource surveys will encourage the active participation of tribal members.

Consultation with tribal elders and spiritual leaders will assist in identifying TCPs within the Fort Peck Lake project area. More than one tribe may wish to undertake and complete their own TCP survey to record their unique cultural and historical places.

National Register Bulletin 38 formally laid out the relatively new concept of traditional cultural places, or TCPs. TCPs are places and properties originating from many different cultural backgrounds including Native American cultures as well. The concept of TCPs provides archaeologists with an additional tool beyond the traditional archeological perspective to assist in recognizing other cultural information on the landscape. The idea also allows for greater use of Indian consultants to help the researchers and federal

managers identify and manage those native resources, primarily on federal and Indian lands. In short, native peoples begin to play a greater role in how their ancestral cultural resources were identified, assessed, and managed.

TCPs are resources that cannot be identified without consultation, input, and knowledge garnered from the cultures in question. Informants, including elderly tribal members and spiritual people, are called upon to assist in identifying traditional cultural properties. In addition, a thorough review of the available tribal, historical, ethnographic, and anthropological literature may also identify potential TCPs or information supporting previously identified TCPs. It is important to emphasize that only the Missouri River tribes can identify their own TCPs. Cultural resource studies carried out without this tribal input would more often than not fail to provide this tribal information.

2. Task 2 - Evaluation of Cultural Resources

NRHP evaluation of cultural resources identified in earlier studies as potentially eligible or unevaluated needs to be completed to determine if they are in fact eligible under 36 CFR Part 800.4. In coordination with tribes, the evaluation may include oral history, pedestrian survey, and limited testing to better understand the horizontal and vertical dimensions of the site. Qualified archaeologists will conduct these investigations with the assistance of the tribes and SHPO. These parties may also request other forms of evaluations.

Guidelines and qualification requirements for conducting cultural resource investigations are found in the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (*Federal Register* Vol. 48, No. 190, September 29, 1983) *Guidelines for Conducting Cultural/Paleontologic Resources Inventory Work on Montana State Lands* (Rennie, Patrick J., Montana Department of Natural Resources and Conservation 2002).

Fifty-five recorded archaeological sites within the project area have not been evaluated against the NRHP criteria of significance, and therefore have an unknown NRHP status. These sites will need evaluation to manage them adequately. Proposed scopes of work on these sites must be assembled and approved according to the requirements of this CRMP.

[*The descriptive information has been deleted as archeological site locations are restricted from public dissemination.*]

3. Task 3 - Nominate Sites for Listing on the NRHP

All cultural resources in the Fort Peck Lake project area meeting NHPA criteria for eligibility and contributing to the understanding of prehistory, tribal histories, or Euro-American history should be nominated to the NRHP. The 3 sites listed in Table V-2 below are considered eligible and should be nominated. More sites may be added to this list from the list for Task 2 after those sites have been evaluated.

[*The descriptive information has been deleted as archeological site locations are restricted from public dissemination.*]

4. Task 4 - Site Monitoring

All cultural resources in the Fort Peck Lake project area are considered important to the Affected Tribes. Therefore, monitoring for construction activities, recreation, erosion, vandalism, artifact collecting, and agricultural encroachment is preferred. Corps personnel and contractors, with the assistance of tribal members, will monitor various threats to the integrity of cultural resources on a regular basis. Those sites on the NRHP are first priority, sites eligible for the NRHP are second priority, sites with an unknown NRHP status are third priority, and all sites reported to be destroyed will be confirmed as such.

[*The descriptive information has been deleted as archeological site locations are restricted from public dissemination.*]

5. Task 5 - Mitigation Measures for NRHP Cultural Resources

The preservation of cultural resources at Fort Peck Lake as federally mandated requires the coordinated efforts of the Omaha District archaeological staff, Fort Peck Project Area Office personnel, tribes, and interested parties. Greater stewardship and more effective management of cultural resources may be achieved through the implementation of, and consistent adherence to, the objectives outlined in this Action Plan.

The renovation, destruction, removal, or continued deterioration of standing structures or foundations greater than fifty years of age must be coordinated with the Omaha District archaeological staff. If a structure is determined to be a significant local, tribal, state, or national resource, the renovation should be coordinated through the Omaha District archaeological staff, SHPO, Tribes, and ACHP. In addition, follow the Secretary of Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (Revised 1983). The area surrounding the structures and features must also be considered as it may contain archaeological deposits relative to the historical significance of the property.

Mitigation measures will be developed for those sites identified in the previous steps as listed on, or eligible for, the NRHP (see Table V-4). Those sites that have an unknown NRHP status need to be tested. If determined eligible, they can be included in this list. A detailed examination of eligible sites will be made to accurately determine and document their current condition. Field measurements and plans of the sites will be undertaken to assist preliminary engineering studies that will define feasible alternatives for site preservation. This information will be used to develop a priority plan of measures for sites including bank stabilization, increased presence by monitors to discourage and prevent looting and vandalism, fencing, data collection, and the like. The following table identifies sites that are listed on, or eligible for, the NRHP and suggests protective measures. Site 24VL590 has been partially stabilized.

[*The descriptive information has been deleted as archeological site locations are restricted from public dissemination.*]

6. Task 6 - Conduct Staff Training

Corps personnel and tribal representatives should attend training sessions regarding historic preservation laws, Section 106 training, and other historic preservation related activities. Adherence to the Action Plan can only be accomplished with the informed assistance of Corps and tribal cultural resource personnel. Trainings should include the following:

- Cultural awareness;
- Tribal overviews of the regional prehistory and history;
- A non-Indian overview of the regional prehistory and history;
- A discussion and summary description of the types of Euro-American and Native cultural resources in the Fort Peck Lake project area including other tribally significant places such as ceremonial sites, burials, and cemeteries.
- An explanation of the criteria for determining site significance;
- Impacts to cultural resources from current land use practices in the Fort Peck Lake project area (e.g., reservoir, recreation, and cultivation);
- Alternative treatments for mitigating impacts;
- ARPA training and certification; and
- The cultural resource management procedures outlined in this CRMP.

7. Task 7 - CRMP Integration with Corps Planning

The cultural resource management objectives contained in this CRMP should be incorporated into the Corps *Master Plan* and *Operation Management Plan* processes as soon as feasible. The five-year plan for the routine operation and management of Fort Peck Lake should be modified to include staff training, site monitoring, inventory, evaluation, site protection, and the enhancement of interpretive programs. This will enable the earliest possible consideration of cultural resources in the planning stage of proposed activities and better ensure they are not inadvertently destroyed as a result of routine Corps operations and maintenance activities.

8. Task 8 - Enhance Public Education

Engineer Pamphlet No. 1130-2-540 authorizes the preparation of brochures, slide shows, or other media documentation for public presentation relative to historic preservation activities that may be of particular interest to tribes and general public. According to Engineer Pamphlet No. 1130-2-540, District Commanders should encourage the use of cultural resources under their jurisdiction through such means as restoration and public use of historic buildings and properties including archaeological sites. This can be accomplished through educational displays, media shows, interpretive programs and

brochures, or similar means. In that the native cultural resources in the Fort Peck Lake project area are managed in consultation with the tribes, they must be partners in any public education programs or projects that discuss the cultural and natural resources.

The public is generally uninformed about the significance of cultural resources, archaeological sites, and the non-tangible types of data that can provide valuable information to archaeologists. More importantly, they are unaware of the significance these cultural areas or sites have for the tribes whose ancestors lived in these areas and created what are often referred to as archaeological sites. An educational program is encouraged concerning the need for leaving cultural areas, archaeological sites, and material remains undisturbed.

While the removal of artifacts from archaeological sites, or vandalism of sites on federally owned or managed properties is prohibited by various laws and regulations (see Section II: Volume I), many people remain unaware of these laws and the penalties they carry. For this reason, the emplacement of signs (Nickens 1993) and the preparation and availability of pamphlets, brochures, and the like, should be undertaken. Furthermore, the public should be made aware that cultural sites are being monitored for unauthorized activities and severe criminal penalties could result from such illegal activity. An interpretative plan is needed that could guide production of interactive programs in addition to upgrading and adding new hands-on and outreach programs.

9. Task 9 - Bi-annual Update, Review, and Coordination Meeting

A bi-annual meeting for Corps and tribal representatives who are affected by the Fort Peck Lake CRMP will be held at the Fort Peck Project Area Office. The meetings will focus on keeping the CRMP current, reviewing its effectiveness, and to coordinate any events, training, policy changes, procedure changes, or updates associated with the cultural resources of Fort Peck Lake. The Omaha District, or their designated representatives, will be responsible for arranging these bi-annual meetings. Notification to Corps and tribal representatives who are affected by the Fort Peck Lake CRMP should be made at least 30 days in advance. Each meeting is anticipated to require at least two days of effort.

CULTURAL RESOURCE MANAGEMENT PROCEDURES

The following procedures have been developed to ensure that all project operations comply with federal and state law, and federal policy and regulations. The appropriate procedures must be followed by Corps personnel when planning and carrying out any undertaking that might affect cultural resources.

1. Procedures for New Projects

When any federal undertaking resulting in land altering activities is initiated, the area of potential effect (APE) must be determined and it must be determined whether the APE has been surveyed for cultural resources.

a. Procedures for Non-Surveyed Areas

Whenever an undertaking, action, project, activity, or program is planned in an area not previously surveyed or contains known cultural resources:

- The Project Area Manager will first consult the Omaha District archaeological staff. Omaha District staff will coordinate the undertaking with the SHPO and any interested parties.

- If no cultural resources or sacred sites are located within the APE as a result of survey, limited subsurface testing, and evaluation required by Section 110 (a)(2) of the NHPA of 1966, as amended (1992), the Omaha District archaeologist will provide appropriate documentation to the SHPO and any interested parties. Upon the SHPO's concurrence with the negative findings, the project may proceed.

- If cultural resources or sacred sites are identified within the APE, as a result of tribal oral histories, or survey and limited subsurface testing required by Section 110 (a)(2) of the NHPA of 1966, as amended (1992), then Section 106 procedures will be initiated and completed by the Omaha District archaeologist in consultation with the tribes, SHPO, and ACHP before the project can proceed.

b. Procedures for Areas Surveyed Before 1980

Whenever an action, project, activity, or program is planned in an area that has been surveyed for cultural resources before 1980, the Project Area Manager, Omaha District archaeological staff, and the tribes will:

- Undertake tribal consultations, a file and literature search, intensive inventory, and subsurface testing to establish if the APE contains any recorded or unrecorded cultural resources.

- If no cultural resources or sacred sites exist within the APE, the project may proceed.

- If the area does contain cultural resources or sacred sites, the Project Area Manager and Omaha District archaeological staff, in consultation with the tribes, should determine if adverse effects would occur to cultural resources as a result of the proposed activity. If the resources will be adversely affected, the consulting parties should determine if feasible alternatives exist for the proposed undertaking, or if an alternate means of conducting the undertaking is available, so potential effects to cultural resources are avoided.

- If the effects to cultural resources can be avoided, or if existing resources will not be adversely affected, the Omaha District archaeological staff will submit appropriate documentation to the tribes and SHPO. Unless an objection is received from the SHPO or tribes within 30 days, the project may proceed.

2. Unanticipated Discoveries

When cultural resources are discovered prior to, or during an undertaking, or during routine operation and maintenance, the Project Area Manager should take the following steps:

- Halt all work in the vicinity of the discovery and immediately notify the Omaha District archeological staff.

- All reasonable steps should be taken by the Project Area Manager to ensure the discovery is protected and undisturbed until it can be assessed by Omaha District archaeological staff. The site should be assumed to be eligible for the NRHP until a formal determination of eligibility can be made.

- If the find is determined to be significant, Section 106 procedures will be initiated. The Omaha District archaeological staff will coordinate this process with the tribes, SHPO, and interested parties.

3. Discovery of Human Remains

The Corps will follow the procedures of NAGPRA.

a. Procedures when Human Remains are Inadvertently Disinterred

- Upon being notified of actual or potential disturbances of human remains or burial goods, the Omaha District Emergency Operations Center, (402) 221-4148, shall immediately notify the appropriate contacts with the potentially affiliated tribes.

- The Omaha District will also inform the potentially affiliated tribes, the Montana SHPO, and the State Department of Health as to the exact location and condition of the remains and burial goods in which notification was received, and ask for their assistance in possible identification of the deceased.

- If the Omaha District has reason to suspect the burial may be of a recent prosecutable crime or accidental death, local law enforcement shall be notified.

- Within a period of two business days, or preferably less, from the time of notification to actual or potential disturbance, the Omaha District and representatives of the potentially affiliated tribes shall initiate examination of human remains not associated, or suspected of being associated, with a crime or accidental death. Such examinations will be limited exclusively to the following activities:

    - The initial examination will be conducted in consultation between the Omaha District and potentially affiliated tribes and attempt to determine the lineal descendents, race, and age using relevant and available resources.

- If a presumption of next-of-kin, race, or age can be made based upon location, historical data, and associated burial goods, the disposition of the human remains and associated burial goods must be based on that data.

- If initial examination determines that the remains are likely to be Indian, disposition will be made in accordance with NAGPRA.

- If initial examination determines that the human remains are non-Indian or non-tribal, the site will be handled according to Section 106 of NHPA and state burial law.

- If the initial examination cannot determine whether the remains are Indian or non-Indian, it will be presumed the human remains are Indian based on the experience of the Omaha District archaeological staff and potentially affiliated tribes.

b. Procedures for Recovery, Restoration, and Reinterment when Human Remains are Inadvertently Disinterred

- In consultation with the Omaha District, potentially affiliated tribes, and law enforcement, health officials will recover remains determined or suspected to be those of a recent crime.

- Within no more than two business days, or preferably less, the Omaha District in consultation with the potentially affiliated tribes will make a determination whether the human remains can be adequately and safely restored and protected in situ. If this is not possible, the remains and burial goods will be completely disinterred and reinterred in another location agreed upon by the potentially affiliated tribes.

- Prior to any restoration or reinterment of burial contents, the potentially affiliated tribes and other possibly affiliated tribes in consultation with the Omaha District shall attempt to determine tribal identity of any remains.

- If it is determined that a disturbed burial can be adequately and safely restored and protected in situ, it shall be backfilled, stabilized, and protected from the processes responsible for the original disturbance in the presence of the potentially affiliated tribes. These activities shall take place as soon as possible after such a determination is made and the necessary and required ceremonies have been completed.

- If the burial site cannot be adequately restored and protected, and lineal descendents cannot be established, the potentially affiliated tribes shall determine the appropriate Indian reservation for reinterment of all burial goods subsequent to the completion of any studies.

- The Omaha District will provide the opportunity for appropriate tribal religious ceremonies.

d. Dispute Resolution

- The parties must consult with each other within 30 calendar days of notification to resolve disputes or objections.

- If a dispute cannot be resolved, the disputing parties shall agree to meet with a mutually acceptable mediator to attempt to resolve the dispute by consensual agreement.

- The parties will not utilize the court system to resolve disputes until consultation and mediation attempts have been fully exhausted.

e. Amendments

- The potentially affiliated tribes may propose amendments, supplements, or revisions, to this document by submitting them in writing to the other participants.

- Parties agree to consult with each other in good faith within 60 calendar days of such notification to consider any such changes.

4. Monitoring Site Erosion and Vandalism

Fort Peck Project Area Office personnel and Omaha District archaeological staff with assistance from tribal members will monitor erosion, looting, and vandalism at all sites currently endangered.

PRIORITIES, ESTIMATED COSTS, AND SCHEDULES

Table V-5 provides a list of the nine identified tasks, a brief justification, preliminary estimated costs and a tentative schedule for the remaining cultural resource studies, including site evaluation and development of possible protective measures. Tasks are listed in priority order.

[*The descriptive information has been deleted as archeological site locations are restricted from public dissemination.*]

V-4: Future Work Priorities and Costs

Task	Justification	Site Number	Unit	Actions and Estimated Costs	Year
1. Survey the uninventoried recreation areas of Fort Peck	A very small portion of the Corps-owned lands has been	N/A		Complete survey. **Cost: $6,000**	2005

V-4: Future Work Priorities and Costs					
Task	**Justification**	**Site Number**	Unit	**Actions and Estimated Costs**	Year
Lake project area for archeological sites and TCPs.	inventoried at this project.			Complete survey. **Cost: $20,000**	2004
				Complete survey. **Cost: $6,000**	2005
				Complete survey. **Cost: $5,000**	2005
				Total survey. ~110 acres **Cost: $2,200**	2006
				Total survey. **Cost: $6,700**	2006
				Complete survey. **Cost: $50,000**	2006
				Complete survey ~225 acres **Cost: $4,500**	2007
				Complete survey **Cost: $6,000**	2007
				Total survey **Cost: $2,500**	2007
				Total survey ~300 acres **Cost: $6,000**	2007
				Total Survey ~4 acres **Cost: $80**	2008
				Total Survey ~400 acres **Cost: $8,000**	2008
				Total survey ~80 acres **Cost: $1,600**	2006
				Total survey ~5 acres **Cost: $100**	2008
				Total survey ~3 acres **Cost: $60**	2008
				Total survey ~468 acres **Cost: $9,360**	2007
				Total Survey **Cost: $2,000**	2008
2. Testing and evaluation to determine NRHP eligibility of all sites considered unevaluated in previous studies.	Testing to determine NRHP status must be performed in order to comply with Section 110 of NHPA.			Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2006
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2006
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2006
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2006

V-4: Future Work Priorities and Costs					
Task	**Justification**	**Site Number**	Unit	**Actions and Estimated Costs**	Year
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2006
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2006
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2006
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2006
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2006
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2007
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2007
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2007
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2007
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2007
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2007
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2007
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2005
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2005
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2005
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2005
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2004
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2004
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2008

V-4: Future Work Priorities and Costs					
Task	**Justification**	**Site Number**	Unit	**Actions and Estimated Costs**	Year
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2008
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2008
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2008
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2008
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2005
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2005
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				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2006
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2006

V-4: Future Work Priorities and Costs					
Task	**Justification**	**Site Number**	Unit	**Actions and Estimated Costs**	Year
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2006
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2006
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2006
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2006
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2008
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2008
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2008
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2008
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2008
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2008
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2008
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2008
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2006
				Test and evaluate to determine NRHP eligibility. **Cost: $5,000**	2004
3. Nominate sites for listing on the NRHP .	Completion of the nomination process to the NRHP is required under Section 110 of NHPA.				2006
					2006
					2006

V-4: Future Work Priorities and Costs					
Task	**Justification**	**Site Number**	Unit	**Actions and Estimated Costs**	Year
4. Develop a system for monitoring sites regularly for erosion, looting, vandalism, and agricultural encroachment.	Sites that have been determined eligible or unevaluated to the NRHP will be monitored regularly. The unit cost may be reduced when sites to be monitored are grouped into units.	N/A	N/A	Monitor sites on the NRHP. **Cost: $250 per site** Monitor sites eligible for the NRHP. **Cost: $250 per site** Monitor sites with an unknown NRHP status. **Cost: $250 per site**	2008
5. Develop and implement mitigation measures for preservation of cultural resources. Field visits to each site eligible or on the NRHP will be undertaken to determine current condition, types and levels of impacts, and to collect preliminary engineering data. This information will be used to set priorities for future protective measures and evaluation of these sites.	Long-term solutions, such as signage and various forms of stabilization, must be developed and implemented to protect sites from the impacts associated with the operation and maintenance of Fort Peck Lake.			1) Perform field study of site conditions at XX sites on or eligible for the NRHP ($500 per site). **Cost: $1,500** 2) Develop measures to protect sites ($2,500 per site) such as signage, fencing, etc. **Cost: $2,500** 3) Implement these measures (costs highly variable, from $1,000 per site to a possible maximum of $100,000).	2008
6. Conduct training for tribal, Omaha District, and Fort Peck Dam Project Area Office personnel and implement CRM procedures.	Training tribal, Omaha District, and Fort Peck Dam Project Area Office personnel will increase the overall success of the CRMP program by teaching them about CRM procedures and emphasizing its importance.	N/A	N/A	This training will be developed and offered at convenient times. The estimated cost is approximately $300 per person per year (based on two days of training) and will come from the current operational budget for the Omaha District.	2005
7. Integrate CRMP objectives into the Master Plan, Missouri River Master Manual, and Operation Management Plan processes.	Combining the information in the CRMP with other documents provides uniform guidance for cultural resource related activities.	N/A	N/A	Missouri River Master Manual **Estimated Cost $10,000** Fort Peck Master Plan **Estimated Cost $5,000** Fort Peck Operation Management Plan Estimated **Cost $5,000**	2006

V-4: Future Work Priorities and Costs					
Task	**Justification**	**Site Number**	Unit	**Actions and Estimated Costs**	Year
8. Enhance Public Education a. Develop interpretative programs jointly with the Affected Tribes on the history of the Fort Peck Lake project area. b. Develop an interpretive plan for educational programs and events, and other forms of deterrence against looting and vandalism.	Informing the public about the importance of preserving our National Patrimony will insure the overall success of the CRMP program.	N/A	N/A	1.) A draft interpretive plan with the Affected Tribes **Estimated Cost $15,000** 2.) Interpretative, educational and other similar plans **Estimated Cost $10,000**	2006
9. The Corps personnel and Affected Tribes impacted by the drafting of the Fort Peck Lake CRMP will participate in bi-annual update, review, and coordination meeting.	Bi-annual meetings will be held to ensure compliance is being met, to update the CRMP, review the effectiveness of the CRMP, and to coordinate any events, training, or policy or procedure changes associated with the cultural resources of the Fort Peck Lake project area.	N/A	N/A	A bi-annual meeting will be held at the Fort Peck Dam Project Area Office, Fort Peck, Montana for managers.	2005

CONCLUSIONS AND RECOMMENDATIONS

As mandated by federal law, the protection of cultural resources at Fort Peck Lake requires the coordinated efforts of the Omaha District archaeological personnel, Affected Tribes, SHPO, ACHP, and interested parties. Management of cultural resources will be achieved through consultations undertaken on a regular basis between the Corps, the Affected Tribes, and interested parties, and implementation of and consistent adherence to the objectives outlined in this Action Plan.

The cultural resource management objectives contained in the CRMP should be incorporated into the project *Master Plan* and *Operation Management Plan* processes as soon as reasonable. The five-year plan for the routine operation and management of Fort Peck Lake should be modified to include Indian and non-Indian staff training, site monitoring, site inventory, site evaluation, site protection, and the enhancement of interpretive programs. This will enable the earliest possible consideration of cultural and archaeological resources in the planning stage of proposed activities and ensure they are not inadvertently destroyed as a result of routine Corps operations and maintenance activities.

A bi-annual meeting will be held at the Fort Peck Project Area Office, Pickstown, South Dakota for all non-tribal and tribal managers. The Corps personnel and Affected Tribes participating in this meeting will be representatives of the parties impacted by the drafting of

the Fort Peck Lake CRMP, and those federally recognized Indian tribes retaining an interest in their natural and cultural resources along the Missouri River. The meeting will focus on updating the CRMP, reviewing the effectiveness of the CRMP, and coordinating any events, training, policy or procedure changes, or updates associated with the cultural resources of Fort Peck Lake.

ABBREVIATIONS

Abbreviations have been used throughout the Fort Peck Lake Cultural Resource Management Plan (CRMP). Generally, once an abbreviation is indicated (as in the preceding sentence), only the abbreviation will be used thereafter.

ACHP: Advisory Council on Historic Preservation, Lakewood, CO
AIRFA: American Indian Religious Freedom Act
AMSL: Above Mean Sea Level
APE: Area of Potential Effect
ARPA: Archaeological Resources Protection Act
C.F.R.: Code of Federal Regulations
C&NW: Chicago & North Western Railroad
Corps: U.S. Army Corps of Engineers, Omaha District
CRM: Cultural Resources Management
CRMP: Cultural Resources Management Plan
GF: Garfield County
IF: Isolated Find
L&C: Lewis & Clark Expedition
MAL: Minimum Activity Loci
MC: McCone County
MOA: Memorandum of Agreement
NAGPRA: Native American Graves Protection and Repatriation Act
NEPA: National Environmental Policy Act
NHPA: National Historic Preservation Act
NPS: National Park Service
NRHP: National Register of Historic Places
PA: Programmatic Agreement
PH: Phillips County
P.L.: Public Law
PT: Petroleum County
RBS: River Basin Survey
SHPO: State Historic Preservation Office, Helena, Montana
SITS: Smithsonian Institution Trinomial System
TCP: Traditional Cultural Property
THPO: Tribal Historic Preservation Office
U.S.C.: United States Code
VL: Valley County

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APPENDIX F

APPENDIX F

Public Involvement
Summary of Scoping Comments
Summary of Comments on Draft Master Plan

FORT PECK MASTER PLAN
SUMMARY AND RESPONSE
PUBLIC SCOPING COMMENTS

The Corps of Engineers held a public scoping period on the update of the Fort Peck Master Plan from March 12 to April 20, 2007. At public request, the deadline for written comments was extended to May 11, 2007. As part of the scoping process, the Corps conducted three public scoping meetings. These meetings were held on March 12 in Lewistown, March 13 in Glasgow/Fort Peck, and March 14 in Glendive. Representatives from the Corps, including the Fort Peck Lake Manager and consultants working on the Master Plan update conducted the meetings. Seven people, including USFWS representatives attended the Lewistown meeting, three people attended the meeting in Glasgow, and 11 people attended at Glendive. At the Lewistown and Glendive meetings, the Corps presented a short PowerPoint presentation then opened the meeting for questions and comments. Because of the limited attendance at Glasgow, meeting attendees discussed Master Plan issues without the presentation. At all meetings project fact sheets and comment forms were provided. No comment forms were turned in at the meetings.

Written comments were received from 13 organizations and individuals. The McCone County Commissioners also submitted written comments.

The following table summarizes the comments provided at the meeting and written comments. The comments have been summarized by subject matter. General responses to the comments are provided.

Comments	Responses
Meeting Notification	
--Concerns about limited notification of meetings --Rock Creek Marina owners were not contacted or invited to discuss the impacts of the Master Plan on their economic interests. --Meetings were not held at convenient locations	The Corps values the comments and participation of all stakeholders. We regret that notice of the scoping meetings was not distributed in a timely manner. The Corps will be more diligent with future notifications on comment opportunities. The scoping comments provided are being used to develop the Draft Master Plan update. There will be additional opportunities in the future to comment on the Draft Plan and all comments will be welcome throughout the update process. The Corps will review the location of meetings and schedule more accessible locations for the Draft Master Plan.

Comments	Responses
Lake Levels	
--Master Plan needs to be changed to retain more water in the upper dam system. Providing flows for navigation is jeopardizing hydropower, irrigation, recreation and municipal water supplies at the upper reservoirs. --Are there plans to raise lake elevations or dredge recreation areas? -- A lake level should be maintained to provide access for boaters, fishermen, camping, concession viability, and general appearance.	The Master Plan guides the development and management of natural and cultural resources and recreation-related facilities in and around the reservoir. It does not include lake water levels or purposes of the reservoir. Lake levels are established in the Master Manual and the purposes of the reservoir system were established by Congress. The Corps does not plan to dredge because of cost and disposal issues. The state of Montana requires that dredge material be disposed of on upland sites. The Corps plans to maintain lake access at eight locations on the lake in 2007. The Corps has developed a management plan for high and low water levels which will be include as a special section of the Master Plan update.
Access during low water periods	
--Plans for maintaining lake access in 2007 --Keep all the boat ramps open --Keep all access roads open and add additional roads to compensate for low lake levels	The Corps plans to keep as many boat ramps open as possible under the current low water conditions. Access will be maintained by extending temporary ramps. In 2007, the Corps plans to maintain eight recreation areas for access—Rock Creek, Flat Lake, Duck Creek, Fort Peck, The Pines, Hell Creek, Devils Creek, and Bone Trail. The Corps will not provide access to additional areas during low water years, but will continue to extend boat ramps to provide access at existing recreation areas. Access during low water years will be addressed in a special section of the Master Plan.
Impacts of low water levels	
--Address the detrimental impacts of low water levels	The impacts of both high and low water levels are being addressed in a special section of the Master Plan titled High/Low Pools.
Recreation demand and need for new facilities	
-- Recreational demands have exceeded expectations in the 1992 Master Plan. More developed recreation areas and additional access is needed to meet increased recreation demands since the 1992 Master Plan. -- Provide additional concessionaire marina facilities and services when visitor numbers exceed current facility capacity.	The Master Plan update will evaluate whether recreational demands have exceeded the capacity of the facilities. The Plan will recommend expansion of recreational facilities in existing defined recreation areas, where needed. The Corps does not anticipate the need for creating new recreation areas. The Master Plan update will evaluate the need for additional marina facilities and services. The Plan will recommend expansion of recreational facilities in existing defined recreation areas, where needed.
Improvements to existing facilities	
-- Improve and expand existing facilities -- Upgrade campgrounds -- Add restroom facilities, picnic facilities, etc.	Some of the campground and facility improvements identified in the 1992 Master Plan have not been implemented. The Master Plan Update will evaluate the need for implementing those plans and the need for additional facilities not included in the 1992 Plan.

Comments	Responses
Roads and Access	
-- Open more access roads -- Improve access to the lake during low and high water years—roads, trails and boat ramps. -- Maintain access to Low-Intensity Recreation areas. -- Pave access to Intensive Use areas or at least provide graded roads.	The need for additional access and access improvements will be evaluated in the Master Plan Update. The evaluation will include the USFWS restrictions and the cost of maintenance.
Road easements	
-- The Corps should transfer road easements to the surrounding counties and the easement should be a minimum of 60 feet as required by Montana state law.	The Corps will be granting road easements as part of the cabin sales process, a separate process from the Master Plan. The easements will meet state of Montana requirements, where possible.
Improvements to Rock Creek Marina on the South Fork	
-- Before the Rock Creek Marina can relocate to the North Fork of Rock Creek as proposed in the 1992 Master Plan, the financial success of the existing Marina needs to be assured through the following steps: --Construct a new all-weather road --Construct a permanent breakwater to prevent further erosion	The 1992 Master Plan identified the North Fork site as more suitable for providing recreation facilities and services for the public. The Corps supports developing a marina on the North Fork rather than continued improvements to the Sorth Fork location.
Maintain Marina for South Fork Trailers	
--Existing marina should remain on the South Fork with the grandfathered trailers. A resort facility with rental units campground facilities, and boat storage should be constructed on the North Fork.	The Corps supports the development of a resort facility on the North Fork of Rock Creek to meet the recreational needs of the public. The Corps mission is to provide recreational facilities for the public. It is not authorized to provide recreation facilities for private developments such as the trailer area.
"Camp Crazy" at Rock Creek	
-- Section 24, "Camp Crazy", at Rock Creek should be outgranted to the Marina Association for development as recreational facility.	The area recommended for the outgrant appears to be outside the recreation area boundary and in an area that is classified as a sensitive area. It would not be appropriate to develop this area for recreation. The Corps supports developing recreation facilities on the North Fork.
Feasibility Study for new Rock Creek Marina	
-- The Association would like to discuss the possibility of the marina owners, Corps, and USFWS entering into an agreement to share the cost of a feasibility study for the creation of a new marina on the North Fork of Rock Creek.	The Corps and Fish and Wildlife Service are not authorized to fund private development. Therefore, they cannot participate in a feasibility study of a new marina. However, the Corps supports the relocation of the marina and will support and work with the Marina Association where possible. The Corps may be able to provide technical assistance and conduct the environmental review process.

Comments	Responses
Improvements at North Fork Rock Creek	
--Need a comprehensive plan for a campground at Rock Creek on the North Fork. --Improve fish cleaning station so it is usable at low lake levels --What will be done with the old State Park area at Rock Creek?	Although there are currently no funds for campground planning or construction, the Master Plan will identify the need to develop a plan for the Rock Creek campground. The campground area would be outgranted to the Marina Association for maintenance and operations. The Montana Department of Fish, Wildlife, and Parks has indicated the boat area to the Marina Association for management. The fish cleaning station has no water supply because its well is dry with the low lake levels. The Master Plan will include recommendations to provide a reliable water supply for the Rock Creek area. The State of Montana wanted to discontinue management of the campground area. The Corps and USFWS have entered into an agreement to transfer management of that land to USFWS. The area can continue to be used informally as it is today, but no recreation development will occur.
Improvements at Crooked Creek	
-- What is the future of Crooked Creek recreation area which is unusable because of low flows? Walleyes Unlimited will hold a work day at Crooked Creek this spring.	The Corps plans to maintain the facilities at Crooked Creek in anticipation of rising lake levels and encourages maintenance activities such as those of Walleyes Unlimited.
Improvements at Hell Creek	
-- Are there plans for expansion at Hell Creek?	The Corps met with the Montana Department of Fish, Wildlife and Parks, Regions 6 and 7 and discussed plans for Hell Creek. Montana Department of Fish, Wildlife and Parks has no plans for improvements beyond continuing to implement what is described in the 1992 plan. Those plans include developing interpretive trails.
Improvements at Duck Creek	
-- Provide Duck Creek with campgrounds with potable water, showers, playgrounds, fish cleaning stations, shelters, tables, and fireplaces. -- Need to address safety concerns at Duck Creek and other areas when low lake levels concentrate use. Need separate docks for boaters and swimmers.	The Montana Department of Fish, Wildlife and Parks has indicated it has no current plans for additional improvements at its Duck Creek facilities. The need for additional facilities at the Corps managed facilities at Duck Creek will be included in the Master Plan. Safety concerns at Duck Creek are a low lake level issue that will be included in the High/Low Pool discussion in the Master Plan. Signage may help direct users to the proper location.
Improvements at Downstream Campground	
-- Are there plans to upgrade the Downstream Campground?	The Corps proposes to add an area with 10 to 12 tent only sites. This will be included in the Master Plan.
Improvements at Devil's Creek	
-- Can an all-weather road be provided to Devil's Creek for summer and winter access for people in the Lewistown area?	Currently, the level of use of Devil's Creek does not justify the cost of constructing an all-weather road. If visitation increases, this could become a priority. The Master Plan will include an assessment of the need for road improvements.
Improvements at Fort Peck Campground	
--What improvements are proposed at Fort Peck Campground?	A Class A camping area is proposed for Fort Peck Campground. Plans for campground improvements are included in the current Master Plan. Additional information about this proposal will be included in the update.

Comments	Responses
Fish Cleaning Station at The Pines	
--What is the status of fish cleaning stations at Rock Creek and The Pines?	The Rock Creek station currently has no water because of low lake levels. The Pines station is currently usable. The Master Plan will consider options for maintaining water at fish cleaning stations.
Improvements to Interpretive Facilities	
--Need more walking, biking and nature trails with interpretation around the lake. --Add more interpretive signage representing the history and species of plants and animals at the lake. --Additional funding is needed to expand the amenities at the Interpretive Center and for future interpretive displays.	The Corps agrees with the need to provide additional interpretive facilities. Some additional facilities are already being planned and the Master Plan Update will include a section on land-based recreation and interpretation. The Master Plan will include the Interpretive Center.
Improvements to the Fishery	
-- Improve the quality of the lake fishery. -- Add more feed fish like cisco and walleye.	The fishery in Fort Peck Lake is managed by the Montana Department of Fish, Wildlife and Parks. The Corps will continue to cooperate with MDFWP to implement the Fort Peck Reservoir Fisheries Management Plan.
Noxious Weed Management	
-- Will plans for addressing noxious weeds be addressed in the Master Plan? -- Make cooperative agreements with counties for reimbursement of noxious weed control. -- Control vegetation to the high water mark. -- What can be used to eliminate salt cedar on Rock Creek?	Noxious weed management will be included in the Master Plan update. In the High Low Pool section, the Master Plan will also address the problems of controlling weeds during low water periods. The Corps is working cooperatively with other federal, state, and local agencies to address the noxious weed problem at a statewide level. The herbicide Habitat can be used. It is approved for use near water bodies. The Corps and USFWS have used Habitat to attempt to control salt cedar in some areas.
Fire Control	
-- What is the Corps role in fire control and will this be addressed?	Fire control is primarily the responsibility of the USFWS and Montana Department of Natural Resources and Conservation. The Corps role in actual fire fighting is limited because the Corps does not have a fire fighting mandate and few staff are "red card" certified. The Corps is interested in coordinating with other agencies to develop a plan for responding to fires and the Master Plan will include a section identifying this need.
Cabin Sales	
-- Will cabin sales be included in the Master Plan update? -- What is status of cabin sales? -- Make money available for land appraisals. -- Concern about lot sales. Has heard that there is a problem because the USFWS does not support the sales.	The cabin sale process is separate from the Master Plan update and is authorized by separate legislation. The Master Plan will include documentation of the legislation and a general discussion of the process. Funding for the surveys, sanitation studies, and appraisals that must be conducted before the cabins can be sold must be authorized by Congress. No money has been authorized this year. The 2010 deadline for purchasing cabins is approaching. It is likely that deadline will be extended. The USFWS does support the sales. USFWS is interested in using the funds it will acquire from the sales to purchase inholdings on the Refuge from willing sellers.

Comments	Responses
Rock Creek Cabin Sales	
-- The South Fork cabin lots should remain included in the Rock Creek Concentrated Cabin Area and not be part of the agreement with the CMR Wildlife Refuge.	The cabins on the South Fork will remain in the Rock Creek Recreation area. Management changes in the MOA will not affect the cabin area. The cabin sales and the MOA are a separate process from the Master Plan. The conditions of the cabin sales were established by Congress.
Additional Cabin Areas and Private Development	
-- Provide land next to the Lake for increased number of cabin areas in McCone County. -- Private development should be considered in the Master Plan as it is at other Missouri River lakes.	The Corps is prohibited from providing additional land for cabin sites. The 1986 Water Resources Development Act prohibits the construction of new cabin sites on Corps of Engineer project lands. The 2000 Water Resources Development Act specifically prohibits the construction of new cabin sites on Fort Peck project lands. The potential for private concession development was included as part of the 1992 Master Plan and will be included as part of the update. Other private development on public land is not authorized as part of the Fort Peck project.
USFWS Inholdings	
-- Will USFWS condemn inholdings? -- What will USFWS do with the inholdings it acquires?	The Corps is not aware of such plans. USFWS does not want to condemn land, but will purchase from willing sellers. The lands will be managed by USFWS as part of the Wildlife Refuge.
USFWS Memorandum of Agreement	
-- The Memorandum of Agreement (MOA) with the USFWS should not be included in the Master Plan unless it is modified to show the USFWS proposed management of the areas. -- The Memorandum of Agreement between the Corps and the USFWS is in conflict with the Corps mandate to provide public access and recreation on the Dry Arm. -- Opposes MOA with the USFWS to manage access. -- What is the USFWS consultation process for issuing permits for shoreline use? -- Less Fish and Game involvement with land.	The MOA is a separate process from the Master Plan. The cabin sales legislation and the MOA will be documented and generally described in the Master Plan, but the Master Plan cannot influence those processes. The USFWS will manage the lands out granted as part of the existing cooperative agreement for wildlife management and grazing purposes. The MOA is not in conflict with providing access and recreation on the Dry Arm. The MOA does not preclude development in designated recreation areas. The MOA does not authorize the USFWS to manage access. Access to existing recreation areas will be maintained. Generally USFWS does not get involved in activities inside the Corps recreation boundaries. The US Fish and Wildlife Service is authorized by Congress to manage lands that are part of the Wildlife Refuge. Management of the Refuge will not be included in the Master Plan Update.

Comments	Responses
County Involvement in Master Plan Development	
-- The Corps should solicit more local community input on management decisions, including memorandums of agreement, to avoid the conflicts being generated by the agreement with the US Fish and Wildlife Service. Counties should be treated as partners in the management of public lands. -- Is the Corps working with counties on the update? -- Is there an opportunity for counties to become part of the team through a cooperative agreement?	As described in previous comment responses, the cabin sales and MOA are a separate process than the Master Plan update. The Corps's mandate is to manage the Fort Peck project on behalf of all of the people of the United States. For that reason, the Corps is actively seeking input from a wide range of stakeholders on the Master Plan. The Corps considers local counties to be equal stakeholders in development of the Master Plan update. Because the Corps mandate is to meet the broader national interests, the Corps cannot give extra weight to local interests. The Corps has invited the six counties surrounding the lake to participate in the scoping and update process. The Corps can enter into cooperative agreements with counties for specific issues, such as road maintenance.
Tribal Consultation	
-- Why are tribes included in the consultation process, but not businesses?	Because the tribes are sovereign nations, they are entitled to separate consultation as described in the Programmatic Agreement between the Corps and the 27 tribes of the Missouri River Basin. The Corps is also consulting with the public, including businesses, as part of the public scoping and meeting process.
Fort Peck Advisory Committee	
-- Continue to coordinate and create partnerships with the Fort Peck Advisory Committee and with local, state and federal agencies.	The Corps welcomes input from the Fort Peck Advisory Committee and others on the Master Plan and management and improvement of the Lake resources.
Dry-Redwater Rural Water Project	
-- The Master Plan should include the Dry-Redwater Rural Water Project.	The Master Plan will acknowledge the potential for the Dry-Redwater Rural Project. The Master Plan will support the development of a reliable potable water supply for the Rock Creek area and future facilities at the Nelson Creek area.
Water Rights	
-- Does the Corps pay attention to the prior appropriation doctrine and specifically Montana Code 2-1-209?	The Corps does comply with the prior appropriation doctrine and cannot supercede state water law. The Corps has researched Montana Code 2-1-209, which relates to the rights the state reserved to the lands ceded to the federal government for Fort Peck Dam and Lake. The Corps respects the rights retained by the state.
Economic Study	
-- What will the economic study in the Master Plan include? Will an economic impact analysis be done?	Because the Master Plan is a general plan that does not propose specific actions, the economic study will be general. It will include information on visitation data and general descriptions of the local, regional and state economy. It is expected that recommendations included in the Master Plan will have a positive economic impact on the surrounding area.

Comments	Responses
Lake Operations	
--Questions regarding lake operations at low flows What are the current flows through the turbines? Why is so much water being released when levels are low? What happens if the pool drops too low? What happens if the pool drops below 2160? Would water be released through the turbines?	Lake operations are established through the Master Manual a separate process from the Master Plan. The Fort Peck project was authorized for a variety of uses including flood control, navigation, hydropower, and recreation. The Corps is required to release water from the lake for navigation and hydropower production. Currently (March 2007) the Corps is releasing 5,500 cfs through the turbines. The electricity generated by the turbines is mostly sold locally to Rural Electric Associations. The Corps is required to release a minimum flow of 4,000 cfs from the reservoir. If the pool level falls below 2,160 feet, water cannot pass through the turbines and power cannot be generated. If any releases were required when the lake level is below 2,160 feet, they would be released through the flood tunnels. There are no plans in place at this time for providing flow releases at that low lake level. The Master Manual establishes a minimum lake level that must be met in order for flows to be released for downstream navigation. The length of the navigation season is also regulated by the Master Manual. There must be 31 million acre-feet on March 1 in the mainstem system to permit a navigation season. For Fort Peck Lake, this translates as a lake level of 2.189 feet on March 1.
Dam Safety Issues	
-- Concerns with safety of the dam at low lake levels Will low levels cause erosion of the dam? Is there a weak point on the spillway?	There are no safety issues with the dam. The upstream side of the dam is riprapped and protected from erosion. There are no problems with the spillway. Monitors are located throughout the dam to detect seepage and no problems have been detected. The dam has remained very stable since it was constructed.
Fees	
-- There was a $250 fee on the latest renewal of annual leases. What is the purpose of the fee? -- Can users get a break on the dock fee since the water is low and the dock is dry?	The Corps is authorized to assess an administrative fee that goes to the Real Estate Division to offset the cost of the renewal. Similar fees are assessed for irrigators, waterlines, and licenses. The dock fee must be paid if the dock is on the shore. However, if the dock is pulled away from the shore and stored on the property, the fee does not have to be paid.
Safety Issues at Low Water	
-- Courtesy boat docks are need at all major boat ramps and concession areas. -- Marked and graded roads and signs are need adjacent to boat docks for vehicles, campers and boat trailer parking.	These are low lake level issues and can be included in the High/Low Pool discussion in the Master Plan. Signage may help direct users to the proper location.
University of Montana Class Plans	
-- Consider use of facilities by the University of Montana when it begins teaching classes at the Lake.	The Master Plan will include a description of the cooperative agreement with the Fort Peck Paleontology Institute (FPPI) and the University of Montana. Specific plans by the University of Montana will not likely be incorporated, but the Corps will check on the University's plans.

Comments	Responses
Monetary Resources	
-- The Corps and USFWS apparently do not have adequate resources to manage the area for the benefit of the public. -- Allocate Corps marketing money to promote fishing and recreation resources.	The Corps agrees that in general federal agencies have lacked adequate resources to develop recreational facilities in recent years. One of the purposes of the Master Plan update is to identify those areas where additional resources are needed. The Master Plan can be used in the future as the basis for requesting additional funding for management and development of facilities. The Corps is not authorized to fund promotional activities. To the extent possible, the will cooperate with efforts of the Glasgow Chamber, regional tourism bureaus, Travel Montana and others to promote the area.
Recreation as a Priority	
-- Recognize recreation at Fort Peck Lake as a project priority.	The management of natural and cultural resources and recreation-related facilities in and around the reservoir is the focus of the Master Plan. Recreation is an authorized purpose of Fort Peck Lake, along with flood control, navigation, hydropower, wildlife, and municipal and industrial water supply. Making recreation a project priority would require a change in project authorization by Congress.
Enhance and Protect Project Resources	
-- Enhance, promote, and protect historical, cultural, paleontological, fish, wildlife, and recreation resources.	These subjects will be included in the Master Plan Update.

FORT PECK MASTER PLAN
SUMMARY AND RESPONSE
DRAFT MASTER PLAN PUBLIC COMMENTS

The Corps of Engineers held a public and agency comment period on the update of the Fort Peck Master Plan from January to March 2008. As part of the comment process, the Corps conducted three public meetings, which were held on March 3 in Lewistown, March 4 in Fort Peck, March 5 in Glendive, and March 6 in Jordan. Representatives from the Corps, including the Fort Peck Lake Manager and consultants working on the Master Plan update conducted the meetings. Ten people, including USFWS representatives attended the Lewistown meeting, 13 people attended the meeting in Fort Peck, 11 people attended at Glendive, and nine people attended at Jordan. At the meetings, the Corps presented a short PowerPoint presentation then opened the meeting for questions and comments. Several people provided verbal comments at the meeting, but no comment forms were submitted. Written comments were received from five individuals.

The following table summarizes the comments provided at the meeting and written comments. The comments have been summarized by subject matter. General responses to the comments are provided.

Comments	Responses
Lake Levels	
--Master Plan needs to be changed to establish a minimum lake level for Fort Peck. --Recreation at Fort Peck has higher value than barge traffic in Missouri.	The Master Plan guides the development and management of natural and cultural resources and recreation-related facilities in and around the reservoir. It does not include lake water levels or purposes of the reservoir. Lake levels are established in the Master Manual and the purposes of the reservoir system were established by Congress.
Roads and Access	
--Provide more gravel roads to Bone Trail. --Improve gravel roads in Valley County. --Can Corps build additional access roads on lands? --Reopen roads that have been closed.	The Corps has worked with county governments in the past to improve existing roads within Corps boundaries and will continue to do so in the future. The Corps evaluated the need for additional access and access improvements in the Master Plan Update. The evaluation concluded that because of the high maintenance costs and the USFWS restrictions providing additional roads is not feasible.
Recreation Access	
--Plans to replace boat ramp slabs with permanent ramps? --Improve access to replace recreation areas that have been cut off.	The boat ramp slabs are an economical way to respond to changing water levels. Some permanent improvements have been made. The Master Plan evaluated the need for new recreation areas and access. It concluded that existing facilities are adequate to meet recreation demand in the foreseeable future and does not propose new access or recreation areas. The USFWS is currently developing a Comprehensive Conservation Plan. Comments should be submitted to USFWS regarding more access on CMR lands.

Comments	Responses
Recreation development and opportunities	
--Work with private sector to provide opportunities for activities such as sea kayaking and diving. --Pleased with camp sites at Fort Peck. --Pleased with the proposed recreation improvements and natural resource protections in the master Plan. --Does the Master Plan include development needs for each specific recreation area?	These activities could be allowed as a concession with a permit. The Master Plan tries to capture and include new recreation trends. The Master Plan proposes a new camping loop at Rock Creek Recreation Area and camping improvements in other areas. Chapter 6 of the Master Plan includes site specific development needs for each recreation area.
Rock Creek Recreation Area	
--What facilities will be closed at Rock Creek? --What future development is proposed?	No new facilities are proposed for closure. The State closed the Rock Creek State Park Area because of a shortage of funds. In the area north of Houseboat Harbor, all recreational facilities have or will be removed except for the marina. Two hundred to 300 acres will be outgranted to USFWS. See the Rock Creek section of Chapter 6 of the Master Plan for additional details. The Rock Creek Recreation Area is a priority for improvements, including campground expansion and additional day-use facilities. The Corps supports the relocation of the marina to the North Fork and expanded marina facilities.
Crooked Creek Recreation Area	
--Plans for additional improvements at Crooked Creek including tree watering and maintenance? --Pleased with plans for hitching post and equestrian facilities outside the pavilion area.	The Master Plan does propose establishing additional tree cover at the Crooked Creek campground. If equestrian facilities are developed, the Corps will identify specific areas and access points and work with backcountry horse groups to design the facilities.
The Pines Recreation Area	
--Concerns with increased resort development. --Potential for increased fire risk with additional development. --Solicited $50,000 from BLM to write fire protection management plan for the area.	The Master Plan maintains the recommendation for resort development at The Pines that was included in the 1992 Master Plan. The level of development that will occur is uncertain. Any resort development would require additional NEPA review through an Environmental Assessment or Environmental Impact Statement. In 2004, the Corps contracted to study urban interface issues such as reducing fire potential at The Pines. The Corps is looking at grants to eliminate fuels and reduce fire potential. The specifics of fire management would have to bee detailed in an Operations Management Plan.
McGuire Creek Recreation Area	
--Could the McGuire Creek Recreation Area be developed with a boat ramp for smaller boats and take the pressure off the Rock Creek Recreation Area?	Additional development at McGuire Creek is limited by the condition of the road, which is entrenched, and the remoteness of the area. The Master Plan does not propose development of additional recreation facilities, but recommends maintaining the existing primitive facilities and improving the access road where feasible.
Bear Creek Recreation Area	
--Will the Bear Creek Recreation Area be closed down?	Existing recreational facilities at Bear Creek will be removed, but access will remain and primitive camping and hunting will be allowed. The lands at Bear Creek have been outgranted to the USFWS for management.

Comments	Responses
Fish and Wildlife Resources	
--What is the impact of water level fluctuations on fish spawning? --Concern that opening the dams may help downstream sturgeon, but hinder upstream fish. --Will Master Plan allow for fish enhancement for spawning such as dredging or fill material for habitat improvement? --Recreation use conflicts with loons rearing young.	Lake levels do not affect fish spawning. The fishery in Fort Peck Lake is managed by the Montana Department of Fish, Wildlife and Parks. The Corps will continue to cooperate with MDFWP to implement the Fort Peck Reservoir Fisheries Management Plan and other habitat improvements. The Corps works with USFWS to protect nest sites. Recreational activities can be limited with posted signs.
Noxious Weeds	
--Is the management of noxious weeds included in the Master Plan? --How can noxious weeds be managed if reservoir levels are not controlled by the Master Plan? --How are noxious weeds controlled at recreation areas? --Can bugs, cattle, mowing be used to manage noxious weeds?	Noxious weed management is addressed in the Master Plan, specifically in Chapter 3, Special Issues. Chapter 3 discusses options for managing noxious weeds as reservoir elevations change. The Corps is working cooperatively with other federal, state, and local agencies to address the noxious weed problem at a statewide level. Control methods include spraying and the use of bugs. It is unlikely that cattle would be effective because they tend to not eat the noxious weeds, but just knock them down. The major limit to managing noxious weeds is funding.
Aquatic Nuisance Species	
--Concerns about aquatic nuisance species including zebra mussels and Eurasian milfoil.	The Master Plan provides general information on aquatic nuisance species, but does not detail specific management guidelines. The Corps will continue to work cooperatively with the USFWS, Walleyes Unlimited, and others to address this issue.
Paleontological Resources	
--Does the Corps have a program to identify paleontological areas?	Paleontological resources are addressed in Chapters 2 and 3 of the Master Plan. The Corps has contracted with graduate students to survey areas for potential resource sites and will continue this arrangement in the future as funding permits.
Cabin Sales	
--Have appraisals been completed for the cabin sales? --Will cabin sales be completed by 2010?	The cabin sale process is separate from the Master Plan update and is authorized by separate legislation. The Master Plan includes documentation of the legislation and a general discussion of the process. Congress has appropriated some money to implement the cabin sales and a contract to complete surveying, platting, and sanitation work is being advertised. No cabin sales are expected for at least another year. The 2010 deadline for purchasing cabins is approaching. It is likely that deadline will be extended, but the extension will require Congressional action.
Water Supply and Wind Power Development	
--Is there enough water at Rock Creek for an intake for water supply? --Can wind turbines be provided to complement power production at the dam?	The Master Plan includes support for the Dry-Redwater Regional Water Authority, which is investigating the potential for a water supply. The feasibility of this at Fort Peck is unknown and would require additional studies and cost-benefit analyses to determine the feasibility.

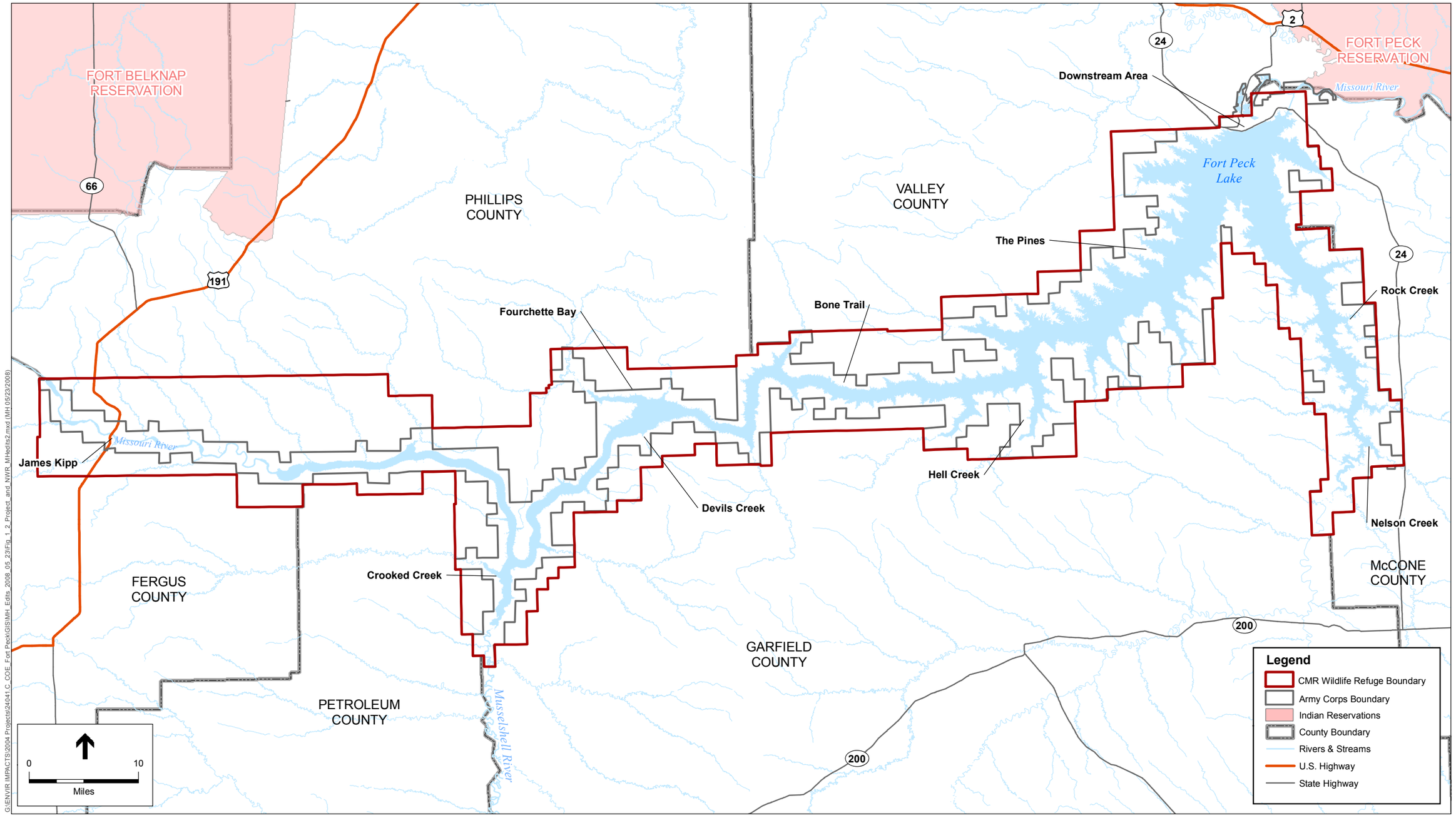
Comments	Responses
Dam and Reservoir Operations	
--A variety of questions were posed about dam and reservoir operations and management including: 1. Who is responsible for maintenance of the dam? 2. Does the USFWS mange lands to the high water mark? 3. Are other reservoirs on the Missouri going through the Master Plan update process and following the same guidelines? 4. How much water is expected to be released this summer (2008)? What is current flow? 5. Did the 2007 Missouri River floods require changes to Fort Peck lake levels? 6. Are the turbines currently running at full capacity? How much water is needed to run all the turbines? 7. How much snow pack is needed to raise lake levels up to 2245 feet msl? 8. Are historic lake elevations available? 9. What has more impact on lake elevations—drought or the amount of water released? 10. How much navigation occurs on the Missouri River? 11. Does barge traffic impact upstream lake levels? 12. How long did it take the lake to fill after the dam was built?	Lake operations are established through the Master Manual, a separate process from the Master Plan, and are not addressed in the Master Plan. Answers to these questions were provided at the public meetings. 1. The Corps is responsible for dam maintenance and operations and conducts annual and periodic inspections. 2. The Corps and the USFWS (CMR Wildlife Refuge) have defined boundaries are shown on maps in the Master Plan. The USFWS manages some lands within the Corps boundaries through outgrants. Generally the Corps manages recreation areas and the USFWS manages wildlife management areas. 3. Other reservoirs are going through the process using the same guidelines. The Garrison Master Plan update is complete and Oahe's is partially complete. 4. Planned releases for 2008 are not known at this time. Flows were approximately 5,500 cfs throughout the winter of 2007-2008. 5. Flood control is handled by reservoir control. The 2007 floods did not have much impact on Fort Peck, but downstream dams may have been affected. 6. The turbines are currently running at about 60% capacity. Approximately 11,000-12,000 cfs is required to operate at 100%. 7. Approximately 120-130% of normal for four to five years would be required, but it is difficult to estimate because it is dependent on a number of factors. 8. Historic lake elevations are provided in the Hydrology section of Chapter 2 of the updated Master Plan. 9. Drought has the most impact on lake elevations. 10. Barges on the Missouri River carried 1.3 million tons of grain in 2000, the last year before the drought. In 2006, only 200,000 tons of grain were carried because of low water levels. 11. Flows for barge traffic are one of the factors that influences upstream lake levels. Navigation and flood control are the major purposes for which Fort Peck and other Missouri River reservoirs were authorized. 12. Fort Peck Lake began filling as soon as the dam was closed in 1937 and continued filling after the dam was completed in 1940.
State Tax	
--Will there be a streambed tax?	Property taxes are the responsibility of the State of Montana and the Corps is not involved in proposals to enact or implement such a tax.
Water Rights	
--Who owns the water at Fort Peck? --Do the Tribes own the top pool level at Fort Peck?	All waters in Montana, including Fort Peck Lake, are the property of the State of Montana and the Corps complies with state water rights. Through treaties, Tribes have claims to water for beneficial use, but there is no claim to a specific quantity at Fort Peck.

APPENDIX G

FORT PECK DAM / FORT PECK LAKE
PREVIOUS DESIGN MEMORANDUMS

Number	Title	Submitted	Approved
MFP 1-99	Unassigned		
MFP-100	Report on Analysis of Design of Fort Peck Dam - Second Power Plant	Jul 59	
MFP-101	Recreational Facilities Proposed for FY 1961	Jan 61	Feb 61
MFP-102	Modification to Transformer Untanking Facility of Power Plant #1	Jun 61	Jul 61
MFP-103	Additional Recreation Facilities	May 62	Jun 62
MFP-104	Permanent Housingt and Related Facilities	Jan 64	
MFP-105B (C1)	Public Use Facilities	Dec 63	Apr 64
MFP-105B (C2)	Public Access Facilities	May 64	
MFP-105C	Master Plan	Sep 65	Jun 66
MFP-105C (Appx 1)	Appendix to the Master Plan - Drawings	Aug 65	
MFP-105C (Appx C)	Appendix to the Master Plan - Cost Estimate	Aug 68	
MFP-105C (Rev 1)	Updated Master Plan	Sep 67	
MFP-105C (Appx A)	Natural Resource Management Plan	Dec 77	Jun 78
MFP-105C (Appx B)	Natural Resource Management Plan	Jul 78	
MFP-105C (Appx F)	Lakeshore Management Plan	Jun 77	
MFP-105D	Updated Master Plan	Feb 92	Jun 93
MFP-106	Spillway Gate Structure Downstream - Joint Repair	Feb 64	May 64
MFP-107	On-Project Signs	Apr 64	May 64
MFP-108	Permanent Housing and Related Facilities	Nov 64	Aug 65
MFP-109	Rehabilitation of Downstream Portion of Fort Peck Spillway	Jun 65 Rev Sep 66	Mar 67
MFP-110	Intake Structure Bulkhead	Aug 66 Rev Dec 66	Aug 68
MFP-111	Hell Creek Access Road	Apr 67	May 68
MFP-112	Service Roads Rehabilitation - Dam and Vicinity	May 69 Rev. May 69	Oct 69
MFP-112 (Supl 1)	Service Roads Rehabilitation - Teton Road	Jan 74	
MFP-113	Spillway Slope Excavation, Stage II	Apr 70	Jun 70
MFP-114	Additional Storage, Shopping Center	Aug 70 Rev Aug 70	Sep 70
MFP-115	Miscellaneous Rehabilitation; Powerhouse-Spillway Area	Jun 71 Rev Nov 71	Jan 72
MFP-116	Powerhouse Slope Excavation	Oct 72	
MFP-117	Richardson Coulee Line Terminal Revision and Replacement 115 kV Disconnect Switches	Nov 72 Rev Sep 73	Aug 73
MFP-118	Spillway Slope Excavation	Sep 73	Jan 74

MFP-119	Derrick Barge Rehabilitation	Oct 73	Apr 74
MFP-120	(not used)		
MFP-121	Conversion Heating - Hotel	May 76	Oct 78
MFP-122	Reactor Switching-Switching Capability 15.4 MVAR Reactor	Jun 76	
MFR-123	Generator Thrust Bearing High Pressure Lift System; Unites 1, 2, and 3; Power Plant #1	Oct 76 Rev Jan 77	Feb 77
MFR-124	Outlet Works Modifications	Aug 77 Rev Mar 91	
MFP-125	Increased Power Output Capability for Unites 4&5, Exhibit B - S&P Report	Mar 78	
MFP-126	Fishing Dock for the Handicapped; Flat Lake	Oct 78	Dec 79
MFP-127	Embankment Toe Drain	Mar 80	
MFP-128	Utility Building Replacement	Mar 80	Apr 80
MFP-129	Galpin Coulee Erosion Control	Apr 81	
MFP-130	Regrade Downstream Toe Area	Nov 80	Dec 80
MFP-131	Power Plant Emergency Intake Gate Hoist Controls Rehabilitation	Aug 81	Sep 81
MFP-132	Power Plant #1 Penstocks and Surge Tanks Solution to Alleviate Discharge Restrictions and Increase Power Capacity	Oct 81	Approved 1985
MFP-133	Water Treatement Facilities	Feb 82	Mar 82
MFP-134	Rehabilitate Garage and Fire Station		
MFP-135	Rehabilitate Spillway Storm Drain System	Sep 82	
MFP-136	Rehabilitate Electrical Distribution	Apr 83	May 83
MFP-137	Crest Road Lighting Revisiions	Apr 83	May 83
MFP-139	Administration Building Modernization	Dec 83 Rev May 84	
MFP-140	Study of 13.8 Switchgear Rehabilitation Alternatives	Aug 84	
MFP-141	Maintenance Facility	Mar 88	
MFP-142	Campground Expansion - Downstream Area		Approved 1985
MFP-143	Sewage Tratement System Improvements fo Downstream Recreation Areas and Powerhouse	Jan 85	
MFP-144	Revised Powerhouse Lighting	Jul 85	
MFP-145	Replace Electrical Distribution System at Shaft and Spillway Areas	Dec 85	
MFP-146	Replace Main Excitors Power Plan #2	Aug 88 Rev 1 - Oct 88 Rev 2 - Jan 89	
MFP-147	Trifurcation Alternatives, Power Plant #1	Jul 89	



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SOURCE: ESRI, 2005; USACE, 2007; USFWS, 2004.

Fort Peck Dam/Fort Peck Master Plan . 204041.C

Plate 1

Fort Peck Project and Charles M. Russell National Wildlife Refuge

Fort Peck, Montana

LEGEND VEGETATION TYPES

PONDEROSA PINE — JUNIPER

(A) JUNIPER

(B) PONDEROSA PINE — JUNIPER

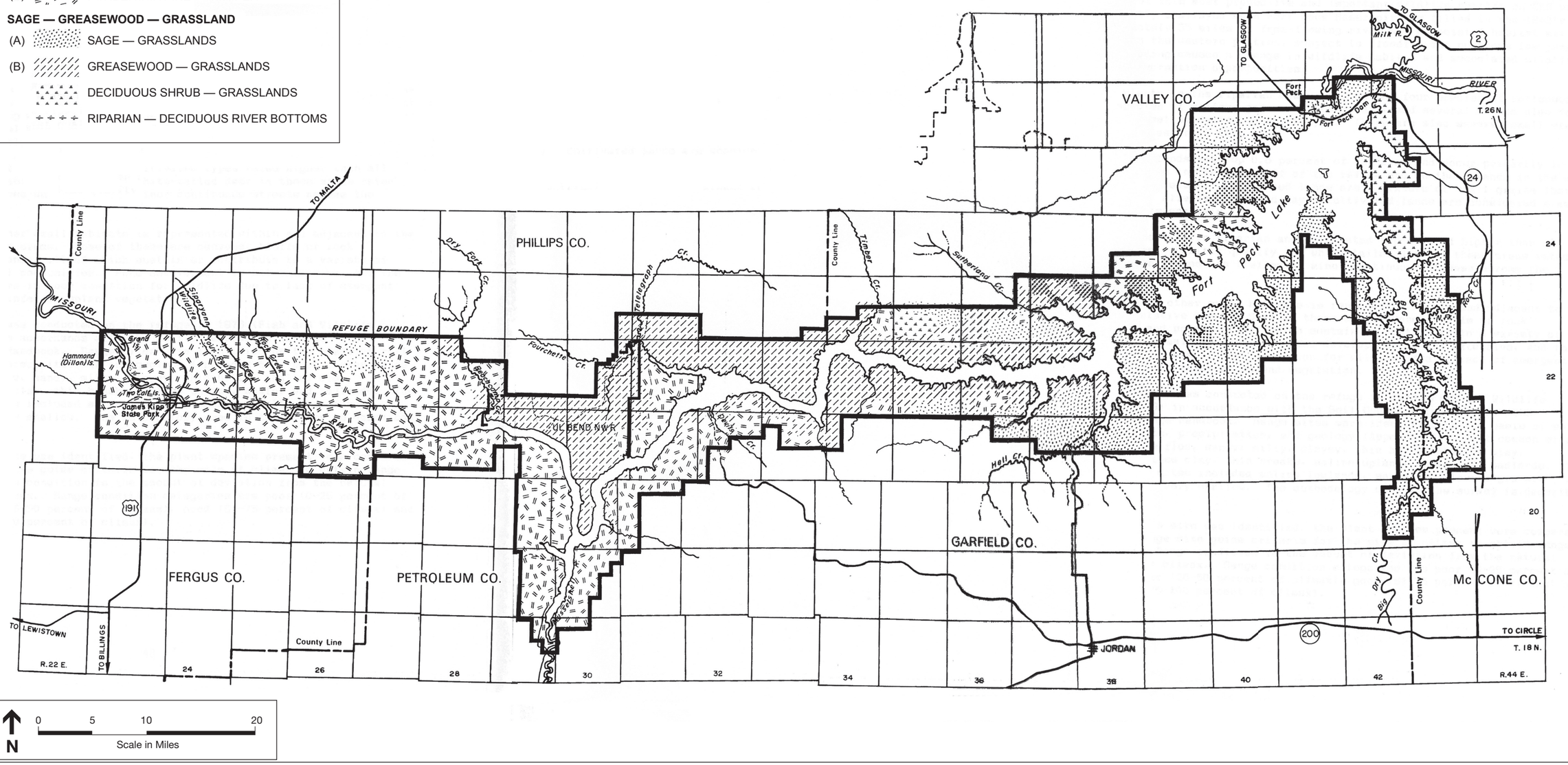
SAGE — GREASEWOOD — GRASSLAND

(A) SAGE — GRASSLANDS

(B) GREASEWOOD — GRASSLANDS

DECIDUOUS SHRUB — GRASSLANDS

RIPARIAN — DECIDUOUS RIVER BOTTOMS



FILE NAME: Plate02_vegtypes.ai
CREATED BY: JAB / DATE LAST UPDATED: 05/01/08

SOURCE: USFWS, 1985.

Plate 2
Vegetation Associations
Montana

May 8, 1805
we passed a large river on the Starboard Side …from the colour of it's water we called it Milk river —Lewis

Flat Lake

Fort Peck West

Missouri River

The Pines

Fort Peck Lake

May 9, 1805
today we passed the bed of the most extraordinary river that I ever beheld. it is as wide as the Missouri is at this place or ½ a mile wide and not containing a single drop of running water…This stream (if such it can properly be termed) we called Big dry river. —Lewis

May 11, 1805
saw today some high hills on STARD. Whose summits were covered with pine [The Pines] —Lewis

May 24, 1805
a small river falls in on Lard. Side this we called South Mountain creek [Armells Creek] —Lewis

Missouri River

James Kipp

May 18, 1805
the timber consists of a few cottonwood trees along the verge of the river; the willow has in great measure disappeared. we passed a creek on the Stard. Side [Fourchette Creek]…encamped on the Lard. Side opposite to the lower part of a small Island [near Devils Creek Recreation Area] —Lewis

May 16, 1805
the country on either side of the river is broken and hills much high than usual, the bottom now become narrow and the timber more scant; some scattering of pine and cedar on the steep declivities of the hills —Lewis

Devils Creek

May 21, 1805
the Missouri in it's course downward makes a suddon and estensive bend to receive the Muscle shell river —Lewis

Crooked Creek

August 1-2, 1806
At 11 A.M. we passed the entrance of the Mussel shell river. At 1 in the evening we arrived at a bottom on the S.W. side where there were several spacious Indian lodges built of sticks [near Horseshoe Point] —Lewis

May 20, 1805
At 11 A.M. we arrived at the entrance of a handsome bold river which discharges itself into the Missouri on the Lard. Side [Musselshell River] —Lewis

Musselshell River

May 14, 1805
The Countrey like that of yesterday, passed a Small Island and the enterence of 3 large Creeks, one on the Stard. & the other 2 on the Lard. Side [Sutherland, Hell, and Snow Creeks] —Clark

N

0 10

Miles

Legend

- Lewis & Clark Campsite
- Rivers and Streams

FILE NAME: Plate03_LewisClark.ai
CREATED/EDITED BY: ARJ/AB / DATE LAST UPDATED: 03/21/08
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SOURCE: ESRI, 2005; USFWS, 2004; USDOI-BLM, 2005; Moulton, 1987.

Fort Peck Dam/Fort Peck Lake Master Plan . 204041.C

Plate 3

Route of the Lewis and Clark Expedition, 1805-1806
Montana

Havre
Harlem
Malta
Glasgow
Wolf Point
Culbertson
Fort Benton
Great Falls
Lewistown
Winnett
Jordan
Circle
Bowdoin NWR
Medicine Lake NWR
ROCKY BOY'S RESERVATION
FORT BELKNAP RESERVATION
FORT PECK RESERVATION
Upper Missouri Breaks National Monument
Missouri River
Musselshell River

Legend

- CMR Wildlife Refuge Boundary
- Army Corps Boundary
- Indian Reservations
- Upper Missouri River Breaks National Monument
- National Wildlife Refuge (Additional)
- Cow Creek Wilderness Study Area
- Upper Missouri National Wild & Scenic River Boundary
- Upper Missouri Wild & Scenic River
- Nez Perce National Historic Trail
- Towns
- Lewis & Clark Interpretive Center
- Big Sky Back Country Byway
- Missouri Breaks Back Country Byway
- River
- Interstate
- U.S. Highway
- State Highway
- County Boundary

0 20 Miles

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SOURCE: ESRI, 2005; USACE, 2007; USFWS, 2004; USDOI-BLM, 2005.

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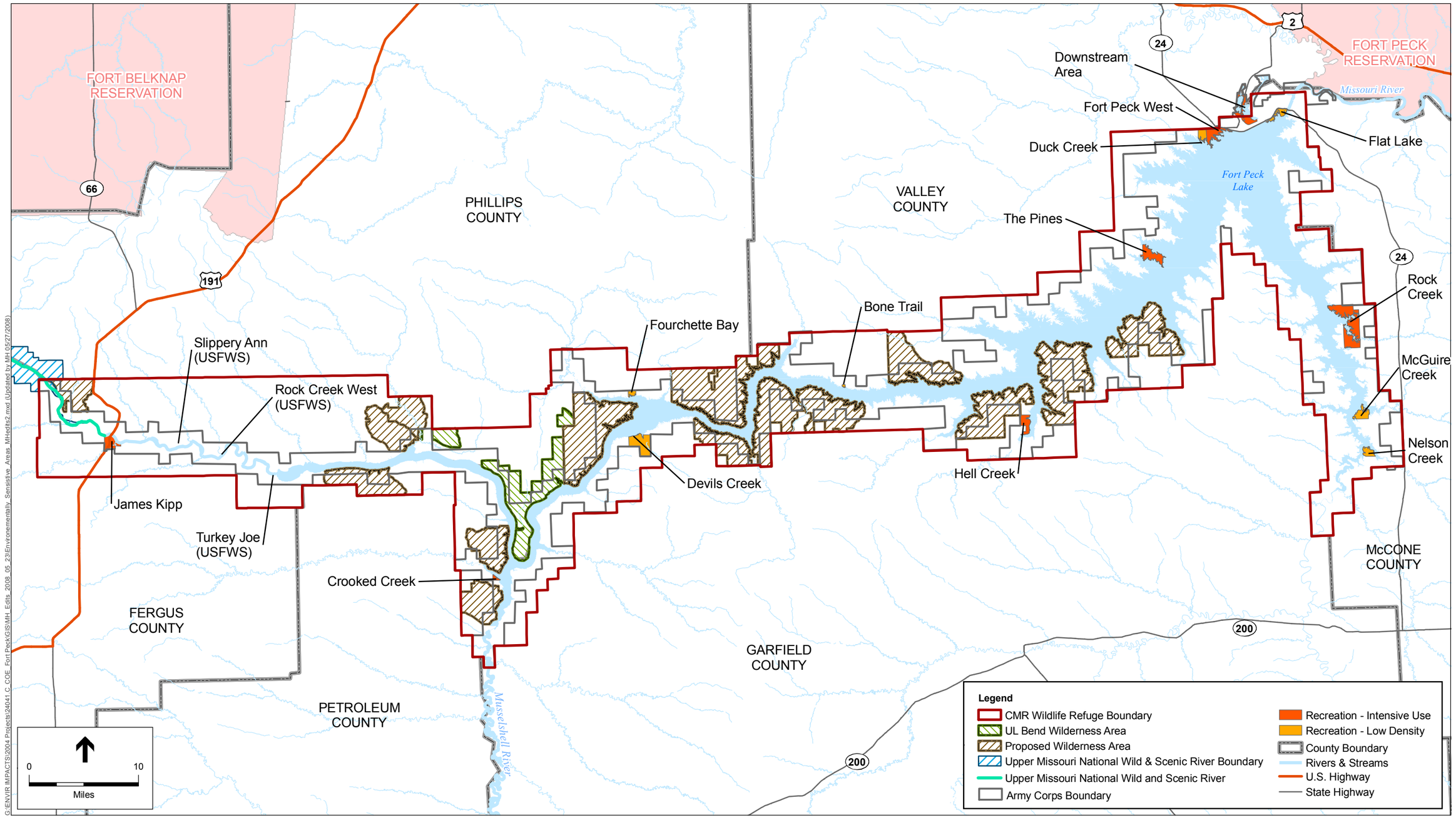
Plate 4

Regional Recreation Opportunities
Fort Peck, Montana



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SOURCE: ESRI, 2005; USACE, 2007; USFWS, 2004.

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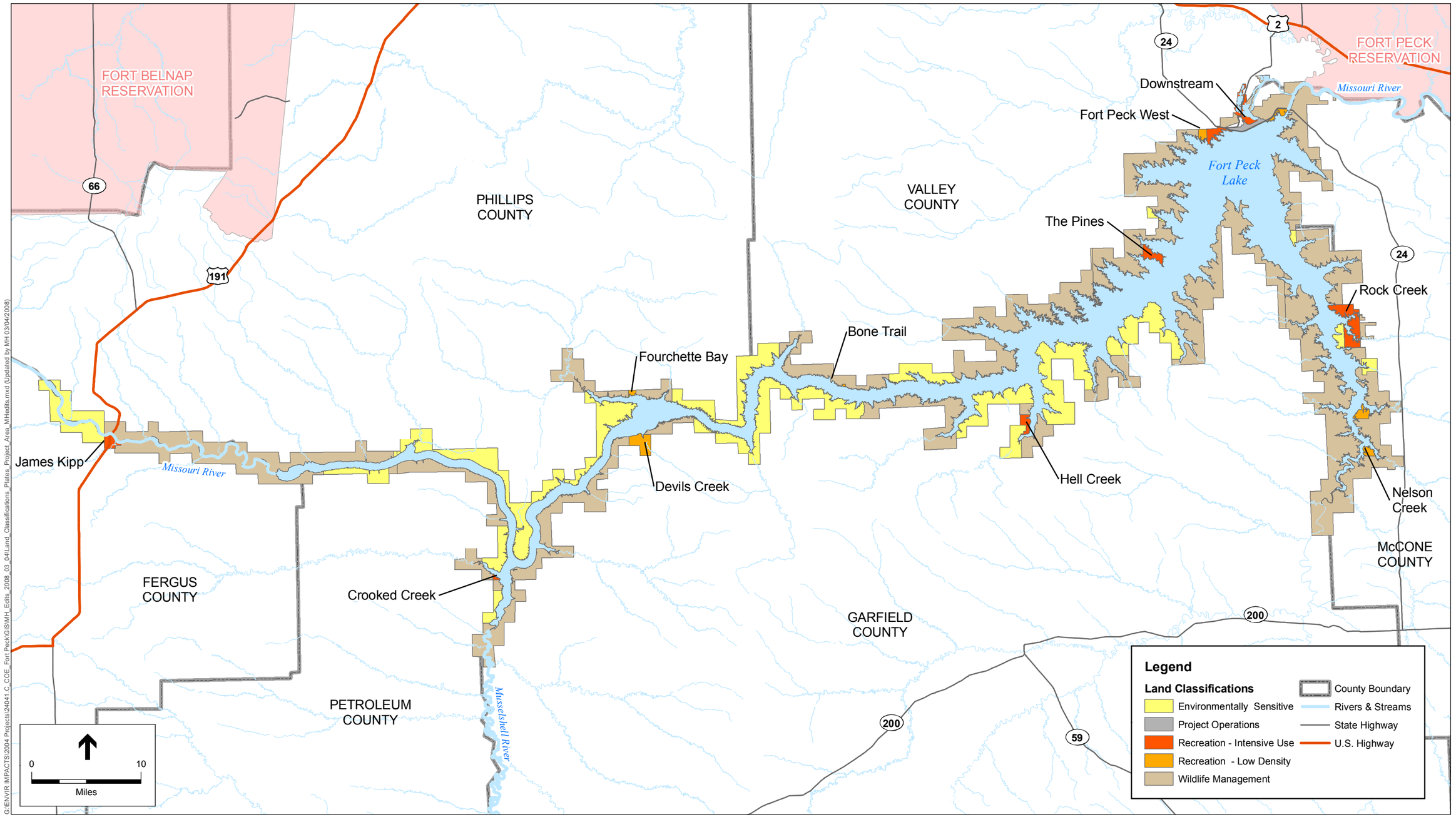
Plate 5

Environmentally Sensitive Areas

Fort Peck, Montana



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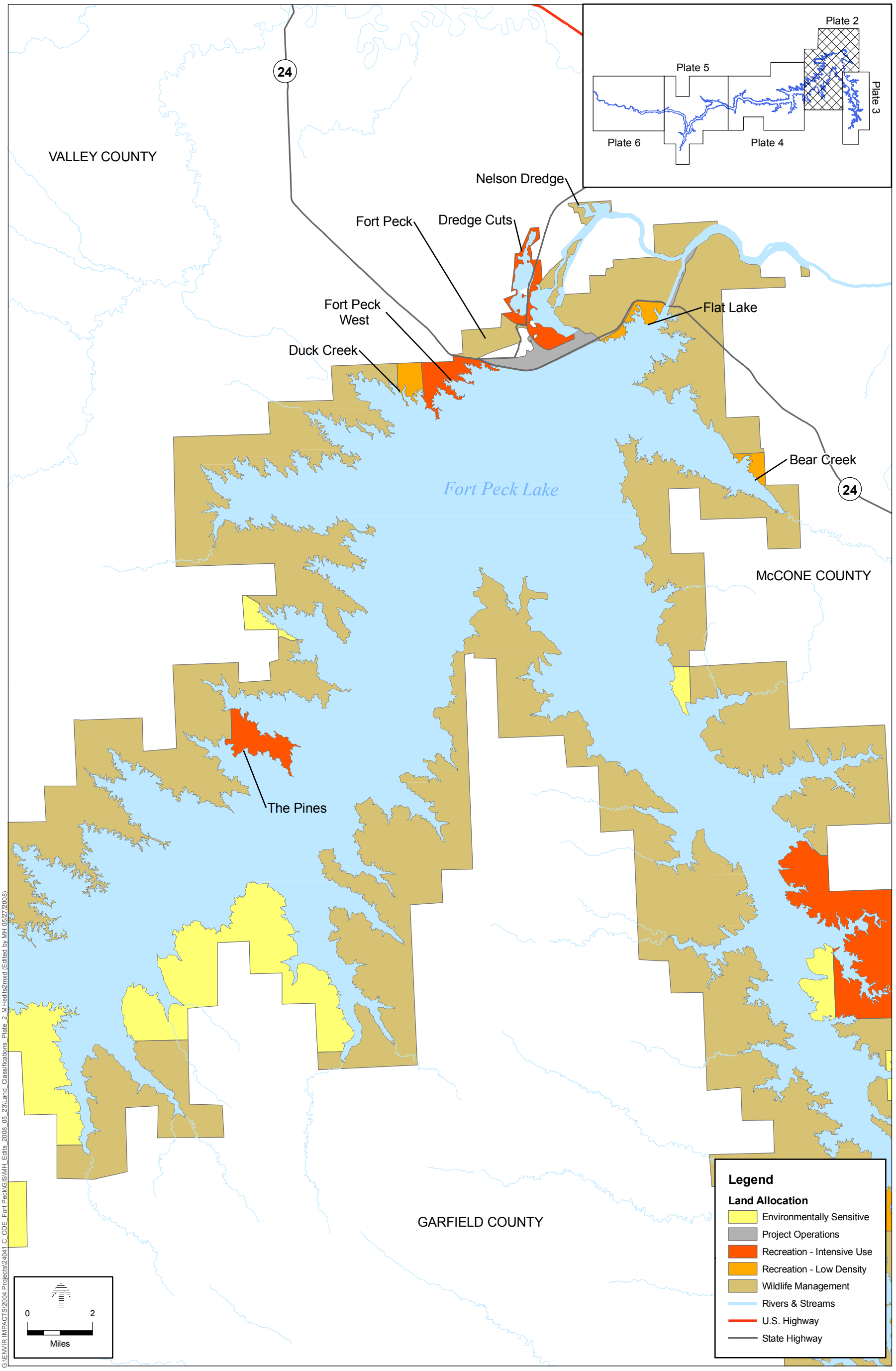
SOURCE: ESRI, 2005; USACE, 2007.

Plate 6

Land Classifications Fort Peck Dam/Fort Peck Lake Project
Fort Peck, Montana

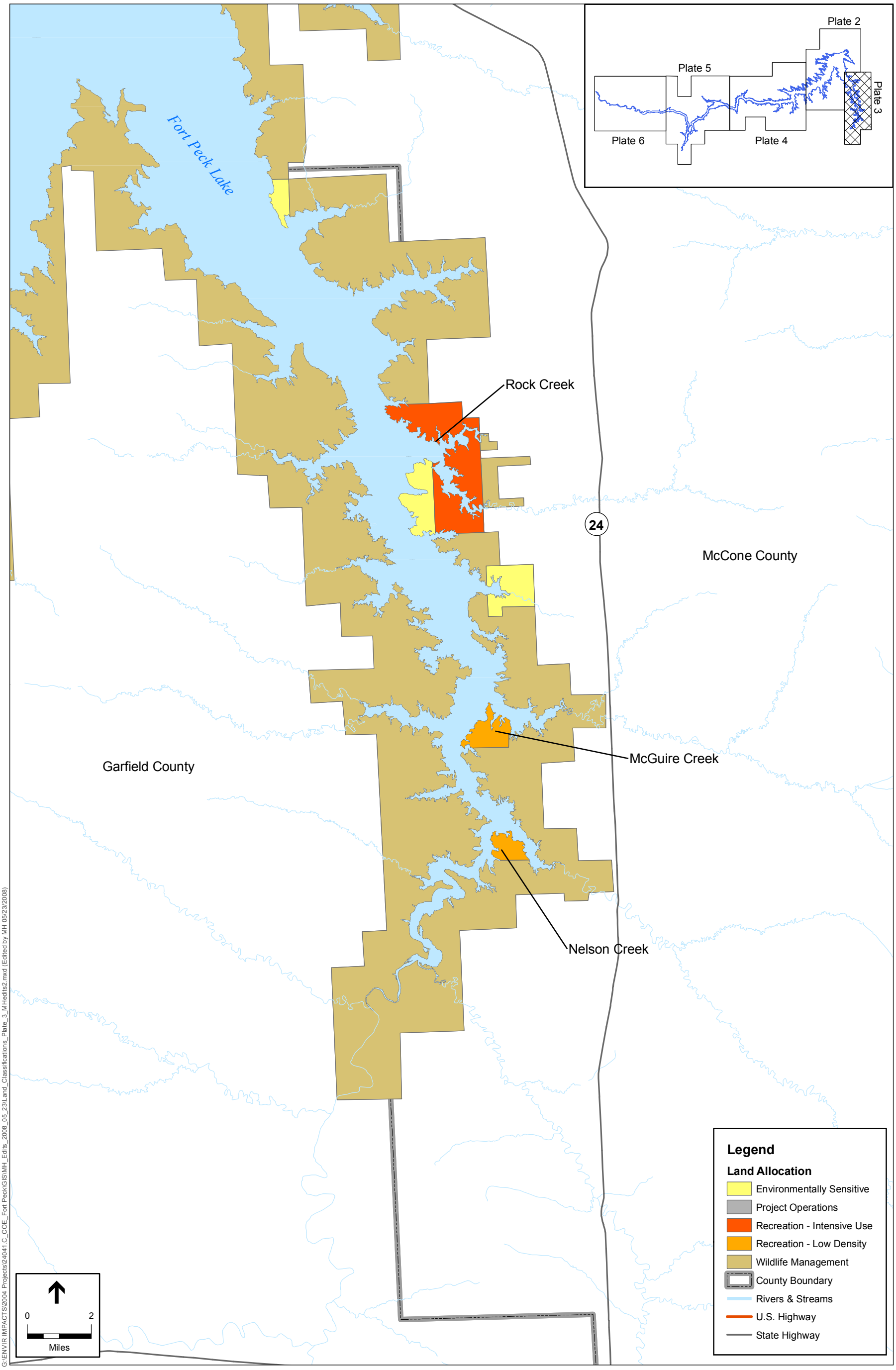


Fort Peck Dam/Fort Peck Master Plan. 204041.C

SOURCE:ESRI, 2005; USACE, 2007.

Plate 7

Land Classifications, Plate 2
Fort Peck, Montana



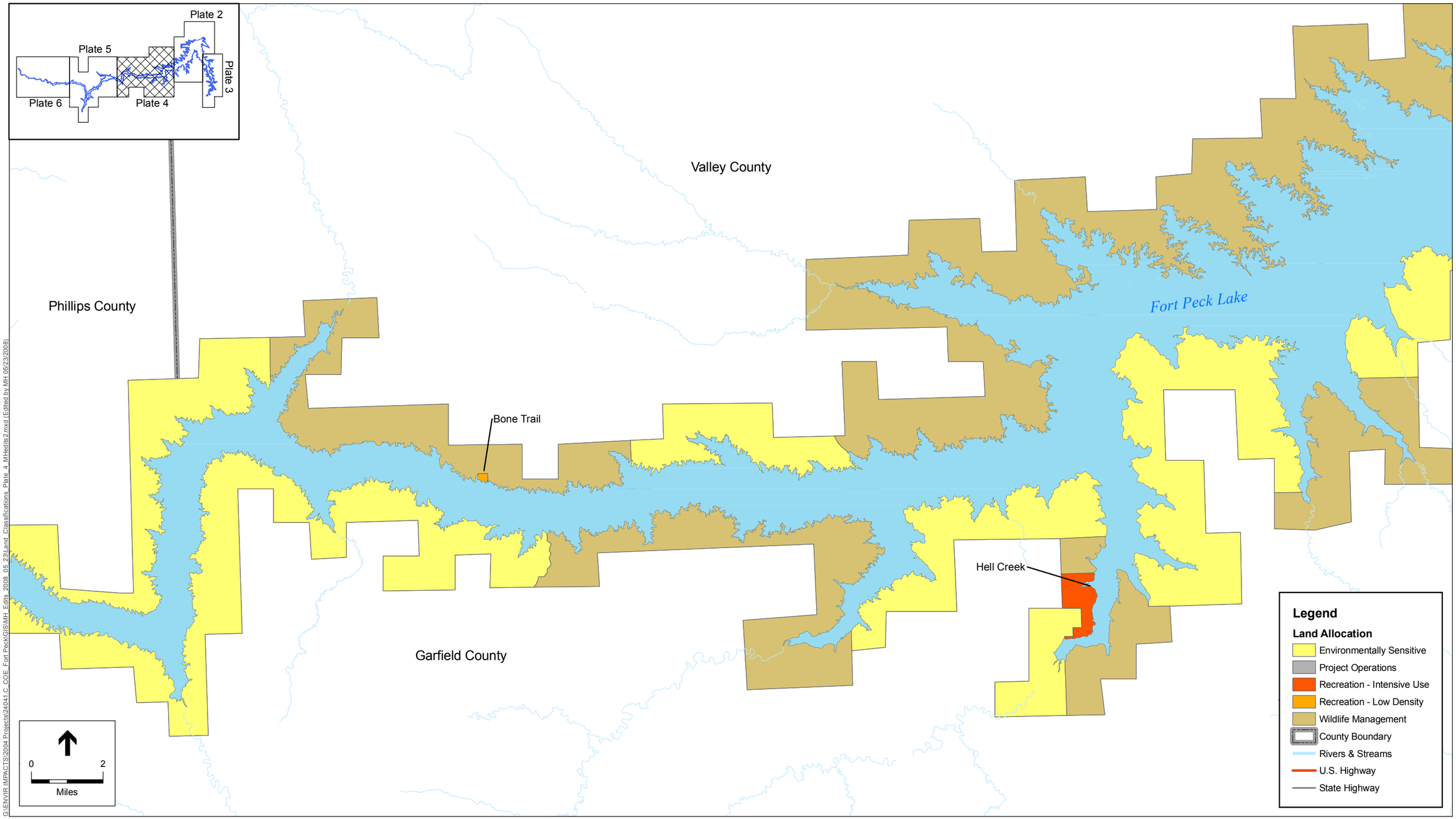
Fort Peck Dam/Fort Peck Lake Master Plan . 204041.C

SOURCE:ESRI, 2005; USACE, 2007.

Plate 8

Land Classification: Plate 3

Fort Peck, Montana



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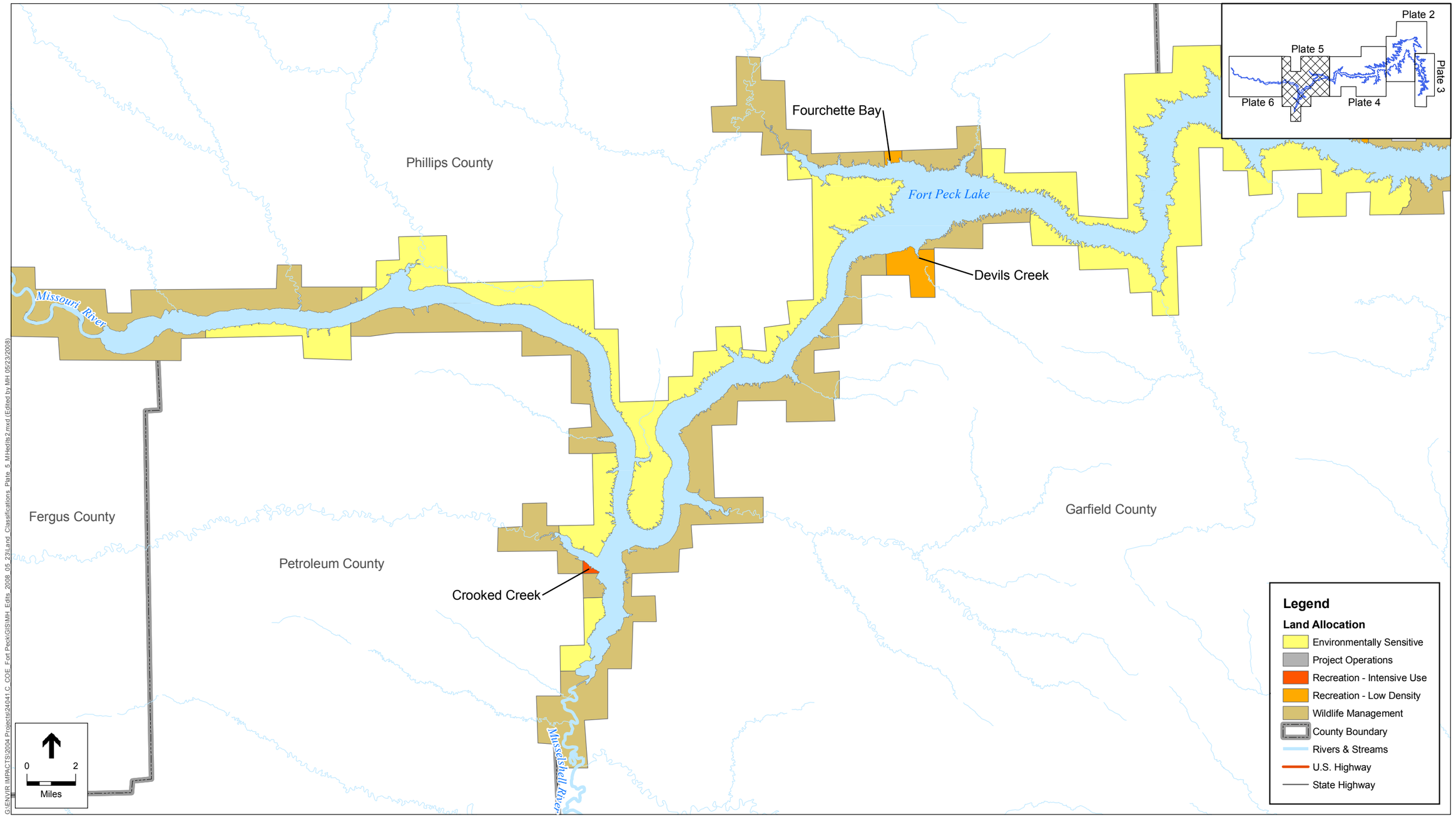
SOURCE: ESRI, 2005; USACE, 2007.

Plate 9

Land Classifications, Plate 4
Fort Peck, Montana



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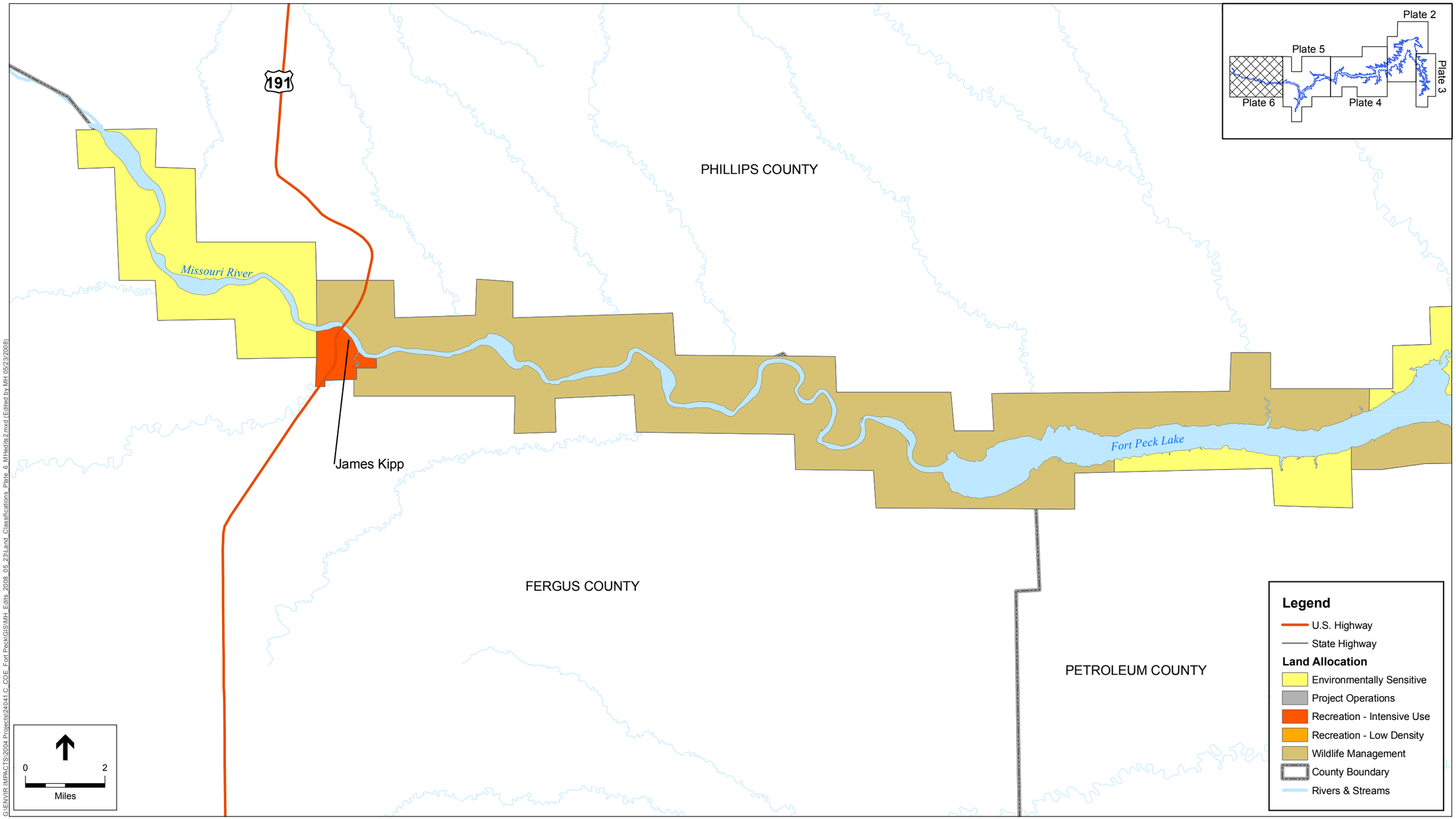
SOURCE: ESRI, 2005; USACE, 2007.

Plate 10

Land Classifications, Plate 5
Fort Peck, Montana



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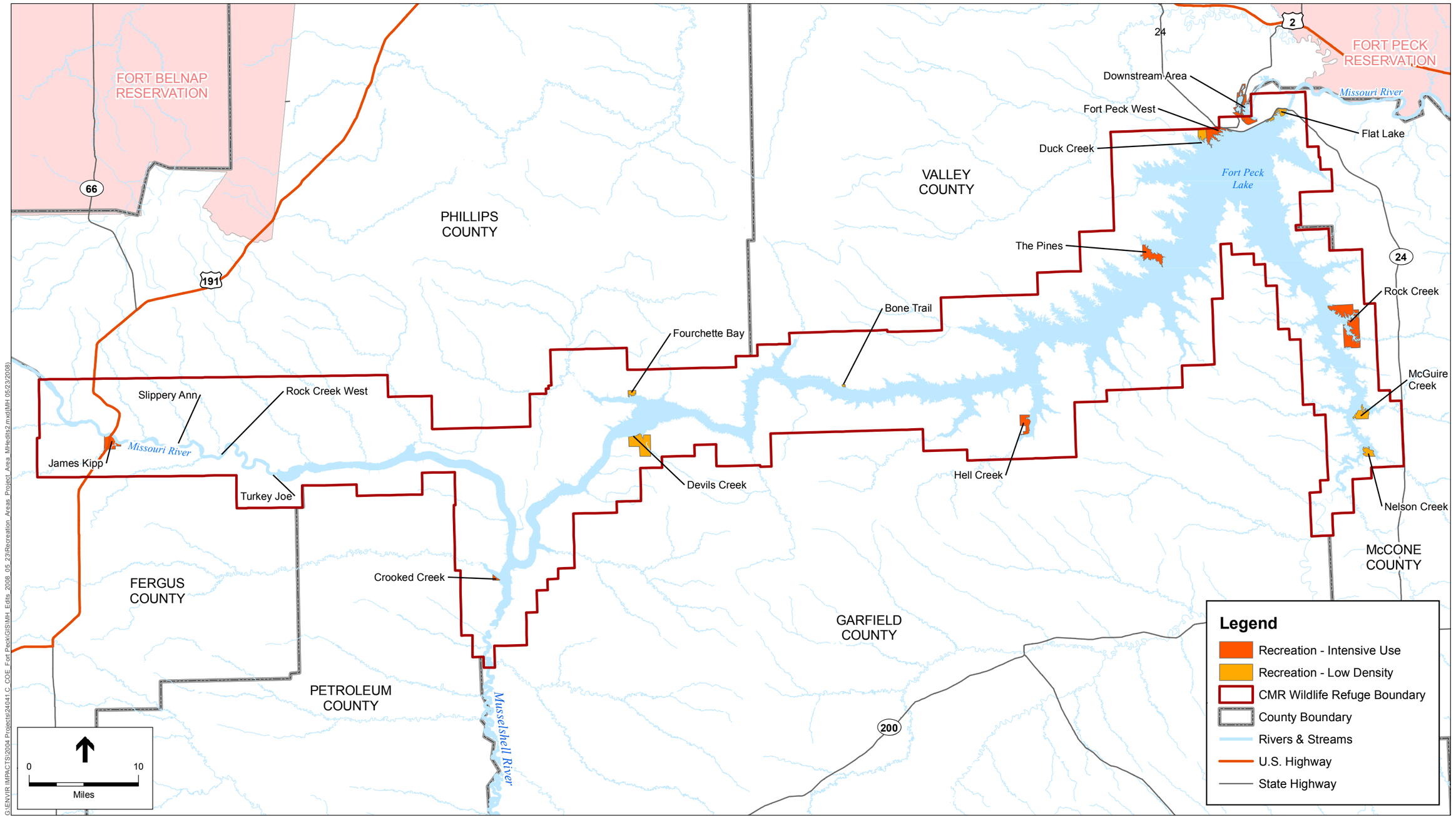
SOURCE: ESRI, 2005; USACE, 2007.

Fort Peck Dam/Fort Peck Master Plan. 204041.C

Plate 11

Land Allocation: Plate 6
Fort Peck, Montana



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SOURCE: ESRI, 2005; USACE, 2007; USFWS, 2004.

Fort Peck Dam/Fort Peck Lake Master Plan . 204041.C

Plate 12

Fort Peck Project Recreation Areas
Fort Peck, Montana