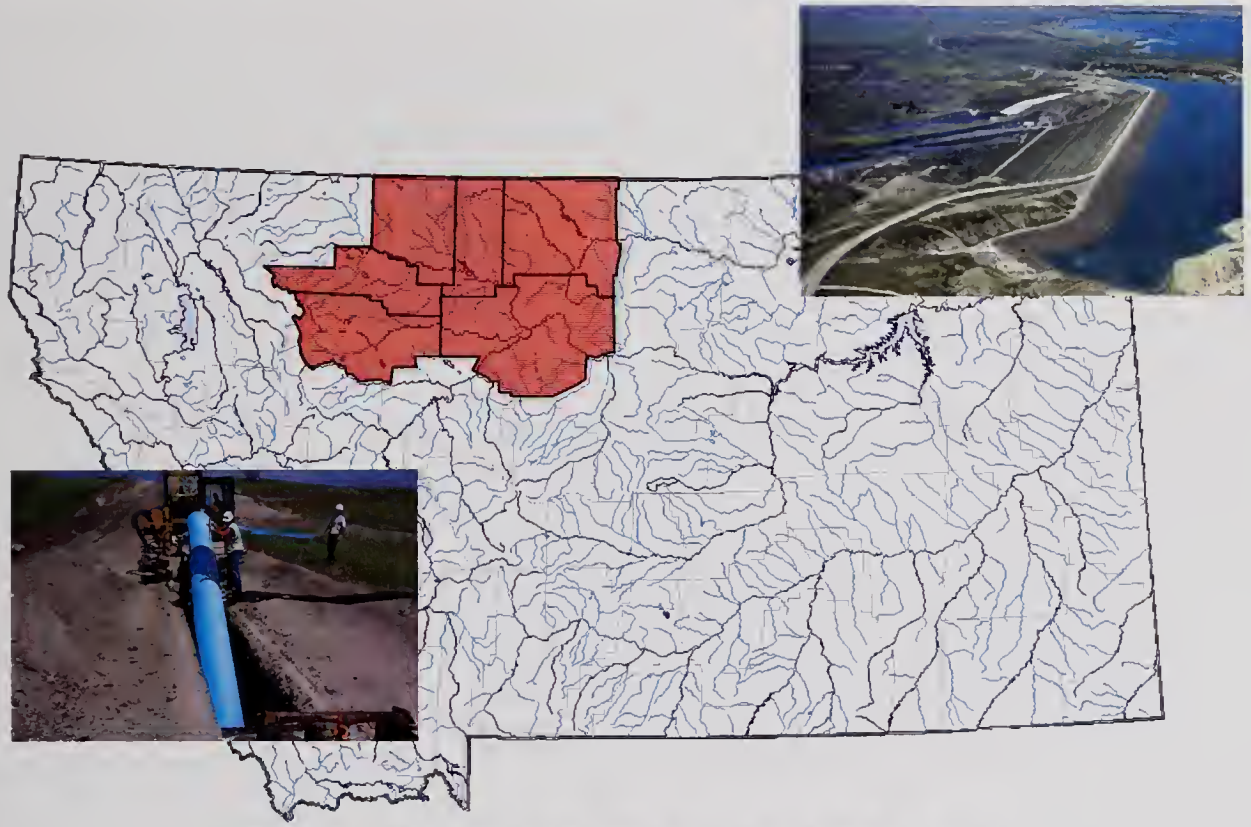
Draft
Environmental Assessment



Rocky Boy's / North Central Montana Regional Water System

Department of the Interior, Bureau of Indian Affairs and Bureau of Reclamation
Montana Department of Natural Resources and Conservation
Montana Department of Environmental Quality

March 25, 2004

HKM ENGINEERING

222 N. 32nd Street
Suite 700
P.O. Box 31318
Billings, MT 59107.1318
Phone: 406.656.6399
Fax: 406.656.6398
www.hkminc.com

March 25, 2004
H:\06\M414130\EA\EATransLtr3_25_04.doc

Dear Reviewer:

Enclosed for your review is a copy of the Draft Environmental Assessment (EA) for the Rocky Boy's/North Central Montana Regional Water System that has been authorized for development in northcentral Montana by Public Law 107-331. This Draft EA has been prepared in compliance with the National Environmental Policy Act (NEPA) and the Montana Environmental Policy Act (MEPA). If you have comments concerning the Draft EA, please send them in writing, by April 30, 2004 to:

Jeff Baumberger
Bureau of Reclamation
2900 4th Avenue North, Suite 501
P.O. Box 30137
Billings, MT 59107-0137

Substantive comments received by the expiration date of the public review period will be addressed and incorporated in the final EA. If there are no significant environmental impacts expected as a result of the analysis in this EA, the Bureau of Reclamation will prepare a Finding of No Significant Impact (FONSI), and the project will proceed to construction. Thank you for your participation in this review. If you have questions concerning this project, you can contact Doug Oellermann at (406) 247-7333.

Sincerely,

HKM ENGINEERING INC.

Gary E. Elwell

Gary E. Elwell, P.E.

Enclosure

Environmental Assessment
For The
Rocky Boy's / North Central Montana
Regional Water System

A Joint NEPA/MEPA Compliance Document

Lead Agency

U.S. Bureau of Reclamation

Cooperating Agencies

U.S. Bureau of Indian Affairs
Montana Department of Natural Resources and Conservation
Montana Department of Environmental Quality

TABLE OF CONTENTS

List of Tables

List of Figures

Americans with Disabilities Act

In compliance with the Americans with Disabilities Act, alternative formats will be made available on request.

ABBREVIATIONS AND ACRONYMS

"	inch (inches)
$	Dollars
%	percent
ac	acre(s)
ACHP	Advisory Council on Historic Preservation
AF	Acre-Feet
Alum	Aluminum Sulfate
Ag.	Agriculture
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
Co.	Company
COE	U.S. Army Corps of Engineers
Const.	Construction
CRP	Conservation Reserve Program
CTU	Central Terminal Unit
DBP	Disinfection By-Products
DEQ	Montana Department of Environmental Quality
DNRC	Montana Department of Natural Resources and Conservation
DWSRF	Drinking Water State Revolving Fund
E	East
EA	Environmental Assessment
Ed.	Education
e.g.	exempli gratia
EMT	Emergency Medical Technician
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESWTR	Enhanced Surface Water Treatment Rule
FONSI	Finding Of No Significant Impact
FPPA	Farmland Protection Policy Act
fps	feet per second
FWCA	Fish and Wildlife Coordination Act
GAC	granular activated carbon
GAP	Geographical Analysis Program
gpd	gallons per day
gpm	gallons per minute
GWR	Groundwater Rule
GWUI	Groundwater Under the Direct Influence of Surface Water
ID	Interdisciplinary Team
ITA	Indian Trust Asset
KWh	Kilowatt hour

M.C.A. ..... Montana Code Annotated
MDT ..... Montana Department of Transportation
MEPA ..... Montana Environmental Policy Act
Mfg. ..... Manufacturing
MFWP ..... Montana Fish, Wildlife and Parks
mgd or MGD ..... Million Gallons Per Day
mi ..... mile(s)
MNHP ..... Montana Natural Heritage Program
MR&I ..... Municipal, Rural & Industrial
MT ..... Montana
N ..... North
NCMRWA ..... North Central Montana Regional Water Authority
North Central Water System ..... Rocky Boy's/North Central Montana Regional Water System
NEPA ..... National Environmental Policy Act
NHPA ..... Natural Historic Preservation Act
NRCS ..... Natural Resource Conservation Service
NRHP ..... National Register of Historic Places
NWI ..... National Wetland Inventory
O&M ..... Operation & Maintenance Manual
PAC ..... Powdered Activated Carbon
PL ..... Public Law
Prof. ..... Professional
psi ..... pounds per square inch
PVC ..... polyvinyl chloride
R ..... Range
Reclamation ..... U.S. Bureau of Reclamation
ROW ..... Right of Way
RTU ..... Remote Terminal Units
S ..... South
SCADA ..... Supervisory Control and Data Acquisition
SDWA ..... Safe Drinking Water Act
SHPO ..... State Historic Preservation Office
SPA ..... Stream Protection Act
SWTR ..... Surface Water Treatment Rule
T ..... Township
T&E ..... Threatened & Endangered
TCR ..... Total Coliform Rule
TERO ..... Tribal Employment Rights Office
THPO ..... Tribal Historic Preservation Office
TMDL ..... Total Maximum Daily Load
Trans. ..... Transportation
US ..... United States
U.S.C. ..... _____
USFS ..... United States Forest Service
USFWS ..... United States Fish and Wildlife Service
USGS ..... United States Geological Survey

W ..... West
WQB ..... Water Quality Bureau
WTI ..... Wetland Training Institute
WUA ..... Water Users Association
yr ..... year

SUMMARY

This environmental assessment (EA) discloses the effects of construction of the Rocky Boy's/North Central Montana Regional Water System (North Central Water System), a municipal, rural, and industrial project in seven counties of north central Montana. The proposed project would provide an adequate supply of good-quality water for domestic and industrial use and for livestock water in the Rocky Boy's Reservation and adjacent service areas. The proposed project would consist of a water withdrawal intake and treatment plant at Tiber Dam, pumping stations, pipelines, storage tanks, power lines, and other ancillary facilities. The proposed project would serve a future population of about 27,000 people. Major features of the project are presented in Summary Table.

Informal consultation with the U.S. Fish and Wildlife Service (USFWS) was initiated on February 12, 2004 in compliance with Section 7 of the Endangered Species Act (ESA). Reclamation has requested concurrence on the following finding: The proposed project is not likely to adversely affect the bald eagle or black-footed ferret. No current or proposed critical habitat will be destroyed or adversely modified. The concurrence letter will be appended to the Final Environmental Assessment.

Viability of populations of species of special concern (both plants and animals) would not be jeopardized by the Proposed Action Alternative. Areas of important habitat would be avoided or construction would be timed to avoid sensitive life-history stages of species of special concern.

Losses of larval fish and eggs as a result of entrainment at the water intake would have a negligible effect on fish populations in Tiber Reservoir.

At this time it is not possible to quantify the wetland acreage that would be impacted by construction of the proposed pipeline. However, prior to construction, all areas exhibiting general wetland characteristics and falling within the pipeline route will be delineated and assessed using the methods described in Chapter 3. Following these studies, the pipeline route will be adjusted as necessary to reduce or eliminate disturbance to wetlands. If adjustment of the pipeline is not possible, the minimization and compensation measures identified in Chapter 4 will be implemented to reduce wetland damage and to perpetuate the swift recovery of wetland functionality. Due to the identification, avoidance, minimization, compensation and monitoring measures identified in this EA, impacts to wetlands will be limited and short-term in nature. In the instance monitoring shows wetlands to be irreparably damaged, these areas will be mitigated by enhancing or creating wetlands of similar functional capacity within the project area at a 1:1 ratio. Additionally, an inter-disciplinary team with members from cooperating government agencies and project sponsors will be formed to provide technical assistance regarding wetland issues and to ensure that the minimization, compensation and monitoring requirements outlined in this EA are being met during and following the construction phase.

The interdisciplinary team (ID Team) will also provide input and oversight during phases of construction that may affect cultural resources, threatened and endangered species, prime and unique farmlands, fish and wildlife resources, and noxious weed control.

Degradation of water quality from sediment generated during construction would have a negligible effect on the aquatic biota. Prairie streams in the project area typically have high levels of suspended and deposited sediment to which native fishes have adapted. Timing construction to take place during low-flow periods would minimize the downstream transport of sediment and would avoid sensitive spawning periods for fish.

SUMMARY TABLE			
Project Features	**Tribal**	**Non-Tribal**	**Total**
Statistic			
Population			
Current 2000	3,478	14,770	18,248
50 Year Design	12,000	15,402	27,402
Design Requirements			
Average day w/Losses, gpm	1,719	3,010	4,729
Average day w/Losses, mgd	2.5	4.3	6.8
Peak Day w/Losses, gpm	3,793	8,138	11,931
Peak Day w/Losses, mgd	5.5	11.7	17.1
Peak Day w/Losses & Operational Requirements, mgd	5.7	12.3	18.0
Average Annual Requirements			
Lake Elwell (Tiber Reservoir), AF	2,777	4,856	7,633
Project Costs, Millions of $			
Core, Tiber to Reservation	87.4	34.3	121.7
Non-core	---	88.9	88.9
Total	87.4	123.2	210.6
Project Cost Funding by Source, Millions of $			
Federal Grants			186.0
State Grants			12.3
Local Loans			12.3
Total			210.6
Annual Operation and Maintenance, $/yr	1,069,652	907,487	1,977,140
Cost Per 1,000 Gallons, $(2)		0.57	
Electrical Cost, $/yr	87,252	202,366	289,618
Pipelines			
Raw Water, feet			3,000
Transmission Mains, mi			408.6
Core (1)	52.1		52.1
Non-core		303.2	303.2
Reservation Distribution	53.3		53.3
Pumping Stations			
Core, High Service			2
Core, Tiber to Reservation			7
Non-Core			10
Cost Index Date	December 2002	December 2002	December 2002

(1) Pipelines and pump stations quantities are assumed to be tribal.
(2) Cost per 1,000 gallons in December 2002 dollars and based on water sales equal to the projected average day demands for the 50-year design life.

Pipeline installation on prime and unique farmland soils could cause short-term soil erosion and compaction during construction. These effects would be short-term and eliminated by

cultivation and natural freeze-thaw cycles. Because pipeline depth would be approximately seven feet, prime farmland soils could continue to be farmed without affecting their prime farmland status. The presence of pipelines would not affect the designation of prime farmlands.

Native prairie would be disturbed as a result of construction of the distribution pipelines, pumping stations, and water storage tanks. Disturbance of native prairie would increase the potential for proliferation of noxious weeds. Control of noxious weeds will be addressed in noxious weed plans that would be submitted to each county weed district prior to construction. Replacement of topsoils in the sequence in which it was removed and seeding in fall following construction with native species would reduce the potential for noxious weeds and reestablish native plant communities.

Site-specific cultural resources surveys would be conducted for all parts of the project where construction activities would pose a risk to historic and prehistoric resources. Cultural resources would be avoided if possible. Cultural resources that cannot be avoided will be mitigated following conditions specified in the programmatic agreement between the Bureau of Reclamation (Reclamation), the Chippewa-Cree Tribe, the North Central Montana Regional Water Authority (NCMRWA), and the State Historic Preservation Officer (SHPO).

Site-specific, Class III cultural resources studies have not been completed for most the project area. Prior to construction, a Reclamation archaeologist or an archaeologist approved by Reclamation would determine areas where Class III surveys are required.

During periods of high demand (e.g., peak tourist season and hunting season) there could be competition for available lodging (e.g., motels/hotels, rooms and RV spaces) among construction workers on the North Central Water System project and other temporary visitors to the project area. Temporary lodging limitations in some parts of the project could require workers and others seeking lodging to drive longer distances for lodging. Workers would likely find local rooms or camp in RV's at designated sites, on public lands, or on private lands.

The proposed project would not adversely affect Indian Trust Assets or raise issues with environmental justice. Social and economic conditions on the Rocky Boy's Reservation would improve with a reliable supply of good-quality water. The project sponsors will continue to work with state and federal regulatory agencies to secure the necessary permits for construction and operation of the proposed project.

1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 History and Background

In 1997, the State of Montana, the Chippewa-Cree Tribe of the Rocky Boy's Reservation, and the United States of America entered into a Water Rights Compact in recognition of the need for imported water to meet the municipal, rural, and industrial (MR&I) needs of the Tribe. The Compact allocated 10,000 acre-feet of water for the Tribe to meet future tribal water requirements.

A number of adjacent municipal and rural water systems expressed an interest in joining with the Rocky Boy's Reservation in a regional water system as a cost-effective means of providing high quality drinking water to an area historically plagued by water supply and quality problems.

A Coordinating Committee was formed to facilitate efforts to promote development of a regional water system. This Committee included members of the Chippewa-Cree Tribe of the Rocky Boy's Reservation and interested water systems. The following municipal and rural water systems were interested in being a part of the proposed regional system:

Town of Big Sandy	Oilmont County Water District
Town of Chester	Riverview Colony
City of Conrad	Rocky Boys' Rural Water System
Devon Water Incorporated	Sage Creek County Water District
Town of Dutton	Sage Creek Colony
Eagle Creek Colony	City of Shelby
Galata County Water District	South Chester County Water District
Hill County Water District	Town of Sunburst
Loma County Sewer and Water District	Sweetgrass Community Water and Sewer District
North Havre County Water District	Tiber County Water District

Each of the interested water systems has paid a fee and passed a resolution in support of the proposed project.

The proposed Rocky Boy's/North Central Montana Regional Water System project was authorized by Congress in December 2002, under Public Law 107-331. This Environmental Assessment (EA) has been prepared to fulfill the specific requirements of *Section 906 - Limitation on Availability of Construction Funds*, of the Law, stating:

> *The Secretary shall not obligate funds for construction of the core system or the noncore system until . . . the requirements of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) are met with respect to the core system and the noncore system.*

As a result of Federal legislation and funding, this document has been prepared in conformance with the National Environmental Policy Act (NEPA) requirements for an Environmental

Assessment (EA) under 42 U.S.C. 4321 et.seq. It is also prepared in conformance with Montana Environmental Policy Act (MEPA) requirements and contains information required for an EA under provisions of ARM 18.2.237 and 18.2.239.

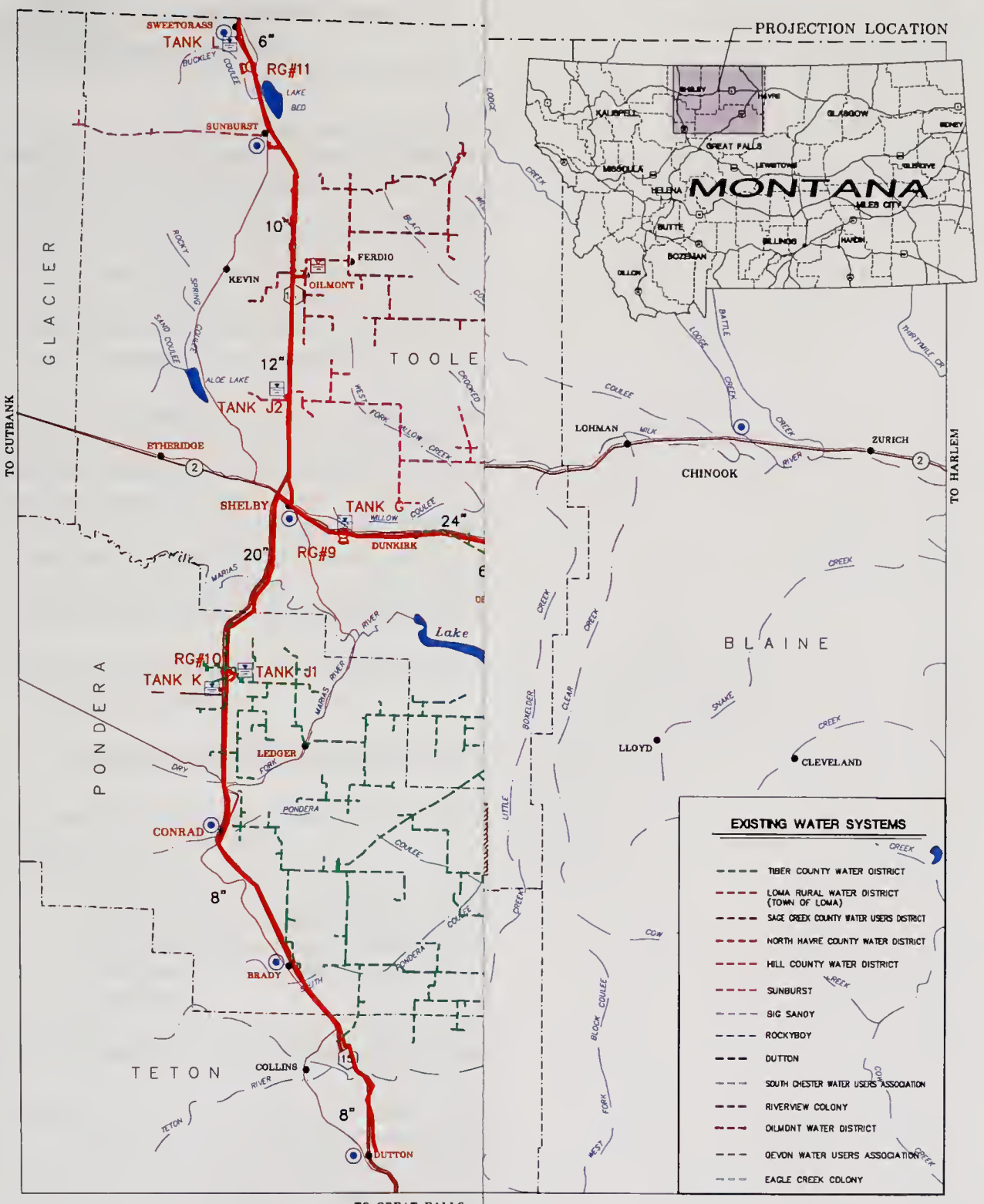
As the federal funding authority for this proposed project, the Bureau of Reclamation (Reclamation) is the lead agency for the preparation of this EA. The Montana Department of Natural Resources and Conservation (DNRC) and Montana Department of Environmental Quality (DEQ) have agreed to participate as Cooperating Agencies. The Bureau of Indian Affairs (BIA) is also a Cooperating Agency in preparation of this EA, and will use this document to satisfy NEPA compliance regarding leases, easements, rights-of-way, and permits that BIA may approve regarding Indian trust land or trust resources. BIA could adopt this EA or tier to its analysis to meet requirements of future actions. The North Central Montana Regional Water Authority (NCMRWA) is the entity established under state law (M.C.A. 75-6-301) which has joined the several public water and sewer agencies together within the study area to secure and provide water for resale under this project.

1.2 Description of the Proposed Action

The Rocky Boy's/North Central Montana Regional Water System (North Central Water System) is a municipal, rural, and industrial (MR&I) water system proposed for a 10,700 square mile area in north central Montana (as illustrated in Figure 1-1), which is about 7.3 percent of the total land area of the state. As illustrated in Figure 1-2, the area is generally bounded on the north by the Canadian border, the west by Interstate 15, the south by the Missouri River, and the east by the town of Havre, and includes the Rocky Boy's Reservation.

This project would provide MR&I water service primarily to Toole, Pondera, Teton, Liberty, Chouteau, and Hill Counties. Service could eventually be extended to portions of Glacier County.

Figure 1-1
Project Location Map



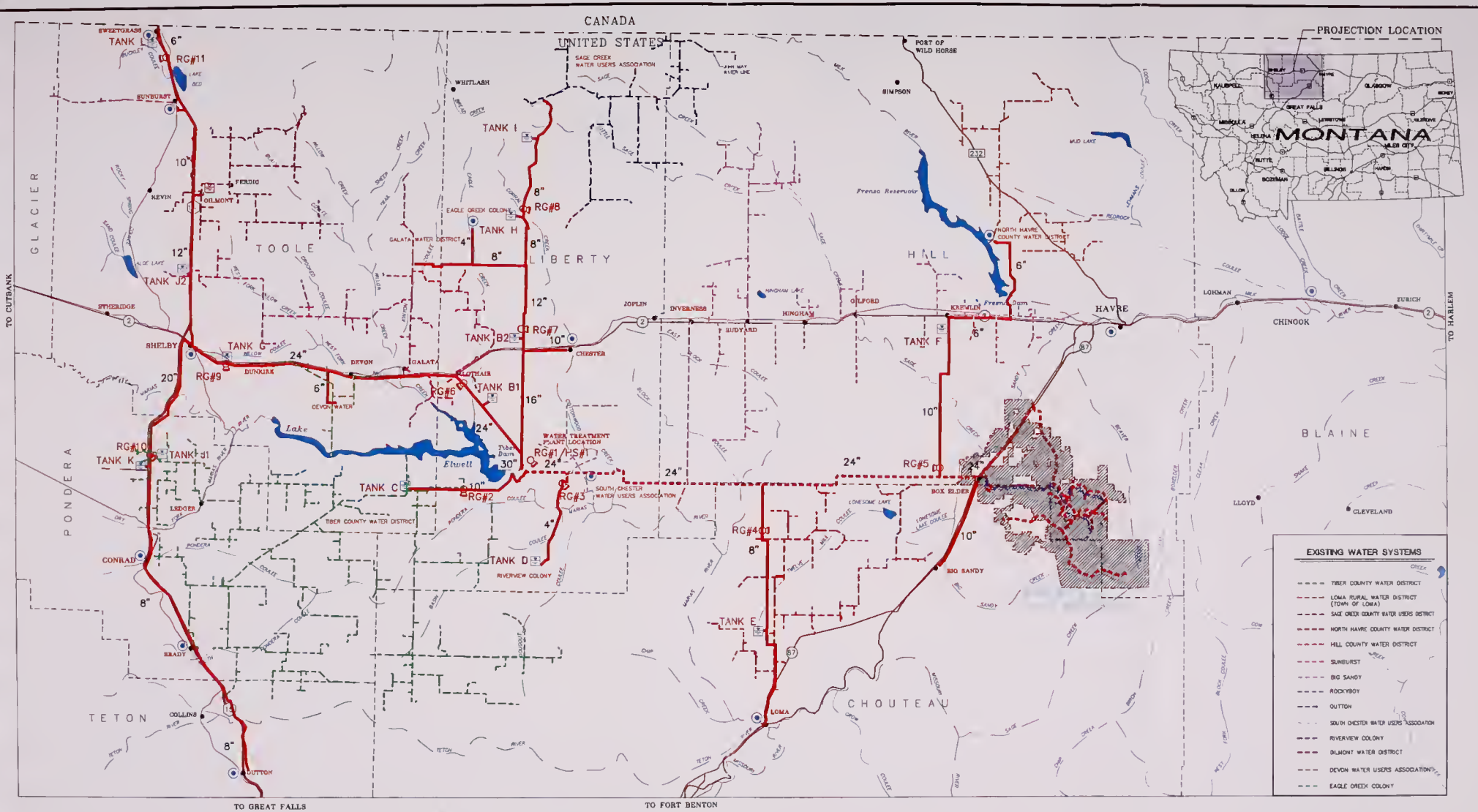
ANA
MPONENTS

FIGURE 1-2

HKM ENGINEERING

6M414.130 | SEPT. 2003

Q:\06\M414130\DWG\MC-PIPE.dwg 2/13/2004 10:20:39 AM MST



NORTH CENTRAL MONTANA REGIONAL WATER SYSTEM COMPONENTS

FIGURE 1-2

HKM ENGINEERING

6M414.130 | SEPT. 2003

The system has an intake and water treatment plant at Tiber Reservoir, a core system, non-core system, and on-reservation water distribution system. The core and on-reservation water distribution system provides water to the Rocky Boy's Reservation and is held in trust by the United States for the Tribe. The non-core system provides wholesale water to the off-reservation systems and is owned by the North Central Montana Regional Water Authority. Existing municipal and rural water district systems currently deliver water to off-reservation users that will receive wholesale water from this project. These existing distribution systems are not part of this project and are not under the control of the Authority or Tribe. Therefore, these systems will not be discussed in this document.

While not originally part of the Compact, several county and local municipal jurisdictions have requested service extensions that would provide a more reliable supply of good quality water to their communities and rural residences in the general project area. This system would provide wholesale water to these various rural water systems, but the project would not address any deficiencies in the individual systems. The overall regional system would draw water from the Tiber Reservoir and provide treated MR&I water to approximately 30,000 people currently served by 20 independent water systems. The project will provide water for livestock watering, but will not provide water for agricultural irrigation.

For more information on the proposed action, see Section 2.4 Proposed Action Alternative – Tiber Reservoir Alternative.

1.3 Purpose of the Proposed Action

The purpose of the proposed project is outlined in PL 107-331. The purposes of the project as outlined in Title IX of this PL are:

(1) to ensure a safe and adequate rural, municipal, and industrial water supply for the residents of the Rocky Boy's Reservation in the State of Montana;
(2) to assist the citizens residing in Chouteau, Glacier, Hill, Liberty, Pondera, Teton, and Toole Counties, but outside the Reservation, in developing safe and adequate rural, municipal, and industrial water supplies;

1.4 Need for the Proposed Action

The need for additional water at the Rocky Boy's Reservation was established through PL 107-331. The need for a new regional water system is founded on the basis of poor quality drinking water, major water supply constraints, and the high costs of compliance with new federal Safe Drinking Water Act (SDWA) regulations not only at Rocky Boy's, but also throughout the rural communities in the region. Water supply surveys of towns, rural areas, and the Rocky Boy's Reservation show a patchwork of different systems and water sources with a range of treatment capability. These needs are discussed below.

The system has an intake and water treatment plant at Tiber Reservoir, a core system, non-core system, and on-reservation water distribution system. The core and on-reservation water distribution system provides water to the Rocky Boy's Reservation and is held in trust by the United States for the Tribe. The non-core system provides wholesale water to the off-reservation systems and is owned by the North Central Montana Regional Water Authority. Existing municipal and rural water district systems currently deliver water to off-reservation users that will receive wholesale water from this project. These existing distribution systems are not part of this project and are not under the control of the Authority or Tribe. Therefore, these systems will not be discussed in this document.

While not originally part of the Compact, several county and local municipal jurisdictions have requested service extensions that would provide a more reliable supply of good quality water to their communities and rural residences in the general project area. This system would provide wholesale water to these various rural water systems, but the project would not address any deficiencies in the individual systems. The overall regional system would draw water from the Tiber Reservoir and provide treated MR&I water to approximately 30,000 people currently served by 20 independent water systems. The project will provide water for livestock watering, but will not provide water for agricultural irrigation.

For more information on the proposed action, see Section 2.4 Proposed Action Alternative – Tiber Reservoir Alternative.

1.3 Purpose of the Proposed Action

The purpose of the proposed project is outlined in PL 107-331. The purposes of the project as outlined in Title IX of this PL are:

(1) to ensure a safe and adequate rural, municipal, and industrial water supply for the residents of the Rocky Boy's Reservation in the State of Montana;
(2) to assist the citizens residing in Chouteau, Glacier, Hill, Liberty, Pondera, Teton, and Toole Counties, but outside the Reservation, in developing safe and adequate rural, municipal, and industrial water supplies;

1.4 Need for the Proposed Action

The need for additional water at the Rocky Boy's Reservation was established through PL 107-331. The need for a new regional water system is founded on the basis of poor quality drinking water, major water supply constraints, and the high costs of compliance with new federal Safe Drinking Water Act (SDWA) regulations not only at Rocky Boy's, but also throughout the rural communities in the region. Water supply surveys of towns, rural areas, and the Rocky Boy's Reservation show a patchwork of different systems and water sources with a range of treatment capability. These needs are discussed below.

1.4.1 Sources and Treatment

Water for existing systems comes from tributaries of the Missouri River or groundwater. A variety of treatment methods are utilized, and water sources may have to be changed to meet water quality requirements.

1.4.2 Water Quality

The Montana Department of Environmental Quality (DEQ) evaluated the compliance status of the municipal and rural water systems that have expressed an interest in the regional water system. Table 1-1 provides a summary of this evaluation with regard to the expected difficulty in meeting future regulatory requirements based on current U.S. Environmental Protection Agency (EPA) regulatory proposals and/or requirements of the 1996 amendments to the SDWA.

1.4.3 Quantity Needed

Peak day demand with losses and operational requirements is estimated to be 17.1 million gallons per day (MGD). Because of the water quantity and quality issues throughout the various systems within the region, the future demand cannot be met without upgrades to the existing systems. A future system capable of providing 17.1 MGD of good quality water will supply existing and future water needs.

Table 1-1
DEQ Current and Future Compliance Concerns

Category 1	Category 2	Category 3
1. Hill County W&S District (SWTR)	1. Hill County W&S District (DBP, ESWTR)	1. Town of Big Sandy
2. South Chester WUA (GWUI)	2. Loma W&S District (DBP, ESWTR)	2. Galata W&S District
3. Riverview Colony (GWUI)	3. Tiber W&S District (DBP, ESWTR)	3. Eagle Creek Colony
	4. North Havre W&S District (DBP, ESWTR)	
	5. Devon WUA (DBP, ESWTR)	
	6. Sage Creek WUA (GWUI, GWR)	
	7. City of Shelby (GWUI, GWR)	
	8. Town of Chester (DBP, ESWTR)	
	9. Sweetgrass W&S District (DBP, ESWTR)	
	10. Town of Dutton (GWUI, GWR)	
	11. City of Conrad (DBP, ESWTR)	
	12. Oilmont W&S District (GWR)	
	13. Town of Sunburst (GWR)	

Source: Montana Department of Environmental Quality
Note: Rocky Boy's is not included in this evaluation because the Reservation is not under the jurisdiction of DEQ.

Definitions:

Category 1:	Currently out of compliance
Category 2:	Expected to have difficulty meeting future regulatory requirements based upon current EPA regulatory proposals and/or other requirements of the 1996 amendments to the SDWA. Primarily small systems that either utilize surface water or groundwater systems that may be classified as groundwater under the direct influence of surface water.
Category 3:	Currently in compliance, and expected to be in compliance with future regulations.
DBP:	Disinfection by-products
ESWTR:	Enhanced surface water treatment rule
GWR:	Groundwater rule
GWUI:	Groundwater under the direct influence of surface water
SWTR:	Surface water treatment rule
TCR:	Total coliform rule

2.0 ALTERNATIVES

This Chapter presents the reasonable range of alternatives developed to satisfy the stated Purpose and Need, provides a description of the screening process used to refine the alternatives, and identifies a "Preferred Alternative" that best satisfies the Purpose and Need and can be confidently designed, constructed, and operated.

2.1 Basis for Development of Alternatives

Alternatives were developed that would be capable of supplying the needs of municipal/rural domestic users, livestock, and industry. Water needs were estimated, surface and groundwater sources were examined to see how these needs could be met, and facilities were designed to withdraw, treat, and distribute a safe and reliable water supply to water users in the project area. Table 2-1 presents the criteria developed and utilized to generate the initial range of alternatives.

Table 2-1
Design Criteria

Variable	Criteria
Water Demand	
Design Period	50 Years
Design Flow	Peak Day Domestic Demands + Livestock + Losses
Peak Day Peaking Factor	2.5 for Reservation; 2.7 for communities using the minimum per capita use rate. Other communities use peak rates as established by the demands from the Needs Assessment.
Losses	10% of Average Domestic and Livestock Demand
Physical Parameters	
Pipelines	4" to 12" diameter and pressure less than 200 psi – PVC 4" to 12" diameter and pressure greater than 200 psi – Steel 14" to 24" diameter and pressure less than 150 psi – PVC 14" to 24" diameter and pressure greater than 150 psi – Steel 30" diameter and any pressure - Steel
-max velocity	5 fps (2-4 fps typical) (Velocity is a guideline only. Headloss ultimately governs.)
-minimum pressure	35 psi
-maximum pressure	200 psi (Where topography makes this value unpractical, higher strength pipe is used)
-sizing	Pipelines sized for peak day domestic demand plus livestock demand and losses. Peak hour and fire flows are not provided by the transmission mains. The local distribution system and storage is intended to provide these flows.
-Hazen-Williams C-Factor	Cement Mortar Lined Ductile Iron or Steel C=130, PVC C=140
Intake, WTP and Pump Station Sizing	These components are sized for peak day domestic demand plus livestock demand and losses.
Water Delivery Period	24 hours

Source: HKM, Inc.

Definitions: psi = pounds per square inch
fps = feet per second

2.2 Alternatives Screening

A range of alternatives was generated to satisfy the design criteria outlined in Chapter 1. These alternatives were further developed and refined based on the results of three different studies completed during the early planning period between 1997 and 2002. The studies were completed by MSE-HKM, Inc. under contract to the Chippewa-Cree Tribe, and ultimately examined 17 possible alternatives. The purpose of these studies was to identify a preferred alternative or alternatives that provided reliability, engineering feasibility, service to the desired population, mitigation of water quality constraints, reasonable construction cost, and manageable operation and maintenance (O&M) costs. A summary of these studies and their results follows.

The ***Needs Assessment Report*** identified the water needs of the interested water systems and evaluated the groundwater and/or surface water sources that have suitable quantity and quality to supply the demands of the study area. The report concluded that Tiber Reservoir and the Marias and Missouri Rivers have the quality and quantity to supply the proposed regional water system. Furthermore, the Milk River is a potential water source for a portion of the proposed regional water system. Groundwater was eliminated as a viable water supply for the regional system because of inadequate quantity. It was recommended that an appraisal level engineering study be performed to further evaluate the potential water sources and estimate costs for each water service alternative.

An ***Appraisal Level Study*** examined fourteen alternatives to serve the study area. The resulting report identified the design criteria, the water delivery system configurations, applicable power rates by service area, and construction and life-cycle costs for the candidate water service alternatives. These alternatives included water from the Marias River (Tiber Reservoir), Missouri River, Milk River (Fresno Reservoir via the Havre water intake), and Box Elder Creek (Enlarged Bonneau Reservoir). Special (reverse osmosis) water treatment was considered for use of Missouri River water, which has high arsenic concentrations. Two service areas were also evaluated. The first consisted of the entire area of study, while the second included service only to the Rocky Boy's Reservation.

Of the alternatives supplying the entire project area, options using conventional treatment of Missouri River water and/or Milk River water were determined to be non-viable. Conventional treatment of Missouri River water would allow arsenic to be introduced into the Milk River basin causing degradation in water quality of the receiving streams. The future yield of Fresno Reservoir (Milk River) and the availability of direct flow supplies from the Milk River were questioned because of loss of active storage due to the rapid rate of sedimentation, unused Canadian treaty rights, and unquantified Indian reserved water rights. The recommended alternative for supplying the entire project area utilized Tiber Reservoir, which has a firm water supply and the lowest capital project and life-cycle costs of the viable alternatives. On a life-cycle cost basis, there was little difference between the Tiber Only option and any other alternative. Table 2-2 presents the cost estimates generated during the appraisal level study.

Table 2-2
Projected Cost Summary

Alternative	Project Cost	Life Cycle Cost
Tiber Only – Conventional Treatment	$ 182,865,000	$ 237,113,000
Missouri Only – Conventional Treatment	$ 207,647,000	$ 282,048,000
Missouri Only – Special Treatment	$ 221,900,000	$ 349,484,000
Tiber and Missouri – Conventional Treatment	$ 176,006,000	$ 241,278,000
Tiber and Missouri – Special Treatment (Missouri)	$ 190,836,000	$ 295,861,000
Tiber, Missouri, and Milk – Conventional Treatment	$ 158,927,000	$ 225,046,000
Tiber, Missouri, and Milk – Sp. Treat. (Missouri and Milk)	$ 161,039,000	$ 246,057,000
Tiber and Milk – Conventional Treatment	$ 164,216,000	$ 223,227,000
Missouri and Milk – Conventional Treatment	$ 191,978,000	$ 265,440,000
Missouri and Milk – Special Treat. (Missouri)	$ 199,532,000	$ 313,214,000
Tiber Only (*Reservation*) – Conventional Treatment	$ 51,592,000	$ 74,865,000
Missouri Only (*Reservation*) – Conventional Treatment	$ 40,737,000	$ 65,004,000
Missouri Only (*Reservation*) – Special Treatment	$ 40,981,000	$ 76,832,000
Bonneau Reservoir (*Reservation*) – Conventional Treatment	$ 52,547,000	$ 65,540,000

Source: HKM Engineering, Inc.

Of the alternatives that only supply the Reservation portion of the project area, conventional treatment of Missouri River water would result in degradation in water quality of the receiving streams in the Milk River basin. Additionally, local sources of supply were rejected because they are extremely limited and no entity has demonstrated that transferring the Tribe's irrigation rights to MR&I purposes is a viable option. Both of these issues are strongly opposed by the Chippewa-Cree Tribe. The Tiber Reservoir Only option is comparable to the Missouri River, with special treatment, and Bonneau Reservoir alternatives on a life-cycle cost basis.

Based upon the appraisal level study, the Coordinating Committee recommended three alternatives for feasibility level study. These included: use of Tiber Reservoir to serve all of the interested water systems within the project area; using Tiber Reservoir to serve only the Rocky Boy's Reservation with no action for the remaining water systems; and no action for the entire project area.

A project feasibility analysis was performed based on the following funding assumptions:

- The "core" system, comprised of the intake at Tiber Reservoir, the raw water pipeline, the water treatment plant, and the transmission pipeline and associated pump stations and reservoirs from Tiber Reservoir to and on the Rocky Boy's Indian Reservation will be owned by the United States in trust for the Tribe and be 100 percent federally funded.

- The remaining transmission pipelines and related components serving the non-Indian water users will be owned by the North Central Montana Regional Water Authority. Funding for these components will be funded 75 percent by federal grants and 25 percent by state grants and loans.

- State loans would be for 20 years with a four percent rate of interest.

- Operation and maintenance (O&M) charges associated with building a system that will serve only the Reservation will be 100 percent federally funded. The non-Indian users will be responsible for the incremental O&M costs of the "core" system (above the tribal only base) plus all the operation and maintenance costs of the remaining transmission system.

- Estimated water rates for non-Indian water users include capital repayment and O&M charges associated with the regional system, and capital repayment and an estimated 25 percent of current O&M charges associated with existing individual water systems.

- The existing systems will contribute their existing infrastructures plus be responsible for necessary upgrades.

Results were presented to the participating municipal and rural water systems during a series of public meetings and work sessions. Cost sharing options and project scheduling were discussed and projected monthly costs per household were presented. As a result, the regional study area was reduced as Havre, Chinook, Brady, Kevin, and Box Elder chose to no longer be a part of the project. The study area and system capacity were accordingly modified. Concurrently, capacity to service interested individuals, not a part of an existing system, was added to the project. A system sized to serve all of the interested water systems and individuals within the project area would have estimated project (construction) and life-cycle costs of $199,888,200 and $247,864,500, respectively.

The project feasibility analysis indicates each project hookup would be required to pay a fee of $23 to $100 per month for loan repayment and O&M depending on the community. It is anticipated that the federal government would totally fund the cost of the alternative that supplies Tiber Reservoir water to just the Rocky Boy's Reservation.

Finally, the ***Planning/Environmental Report*** provided an examination of the environmental impacts associated with the three alternatives forwarded from the *Appraisal Level Study*. The analysis in the *Planning/Environmental Report* identified a "Preferred Alternative" that would deliver water from Lake Elwell, stored behind Tiber Dam.

These reports are available for public review at the Reclamation offices in Billings as noted in Chapter 7 of this EA.

Based on the evaluations conducted and documented in the above reports, this EA considers two alternatives: "No Action" and the "Proposed Action Alternative". A summary of each rejected alternative and reasons for rejection is also provided at the end of this chapter.

2.3 No Action Alternative

Under the No Action Alternative, no water system would be constructed as part of a regional pipeline project. Until other sources of funding could be found, the project would be delayed or perhaps not built as proposed. The twenty water systems in the service area would continue to operate as separate systems. The existing systems would continue to use their current sources of water supply and experience problems with DEQ compliance under the No Action alternative.

Selection of the No Action Alternative would not resolve water shortage issues on the Rocky Boy Reservation or in the North Central Service Area. Accordingly there would likely be continued efforts to obtain potable water including the drilling of new wells, the expansion of existing water treatment and distribution facilities or the construction of new facilities. These activities would have inherent impacts to surface water quality and wildlife resources by increasing traffic on roads. In addition, the activities could negatively impact native prairie, riparian areas, croplands, result in wildlife habitat disruption and displace wildlife from construction sites as the existing systems are expanded. The reduction in ground water levels through the increased use of wells could also have an adverse affect on water quality by decreasing water quantity, resulting in concentrations of salts, increased water temperatures and lower water supplies in streams and wetlands, all of which have the potential to negatively effect fisheries and aquatic life beneficial uses. .

2.4 Proposed Action Alternative – Tiber Reservoir Alternative

The Proposed Action Alternative would provide municipal water from Tiber Reservoir (Lake Elwell) to the Rocky Boy's Reservation, assist in meeting the goals of PL 107-331 through construction of a core pipeline system, and provide a way for the remaining rural water systems to mitigate their current compliance and supply problems through construction of the non-core system. The Proposed Action Alternative is Reclamation's preferred alternative. Specific elements of this alternative are outlined below.

2.4.1 Detailed Plan

Reservoir Intake and Raw Water Pumping Station

The intake and pumping facility would be located at Tiber Dam on Lake Elwell. Tiber Dam is located about 55 miles north of Great Falls, Montana and is central to the service area. Lake Elwell was determined to be the preferred source of water for this project largely through the efforts contained in the *Appraisal Level Study* and *Planning/Environmental Report*. Several systems have existing intakes on Lake Elwell which are in disrepair and/or undersized for this project. The intake is proposed at the downstream end of Lake Elwell for several reasons:

- It is located near a federal power line.
- It is located at the deepest part of the reservoir.
- It shortens the core transmission line to the Rocky Boy's Reservation.

Figure 2-1 illustrates the pumping station and intake structures. The recommended intake consists of a vertical caisson along the shore of the reservoir with two 36-inch to 42-inch diameter horizontal laterals microtunneled (if viable) from the caisson into the reservoir. The lateral pipes would be installed at different levels to draw water from these depths to allow for the best water to be withdrawn and will have fish screens on the ends of the laterals to block fish and debris from entering the intake. The intake will have vertical turbine pumps to lift the raw water through a 24-inch transmission main to the water treatment plant facility. A building on top of a vertical caisson would contain electrical controls, switch-gear, piping, and valves to control the pumps.

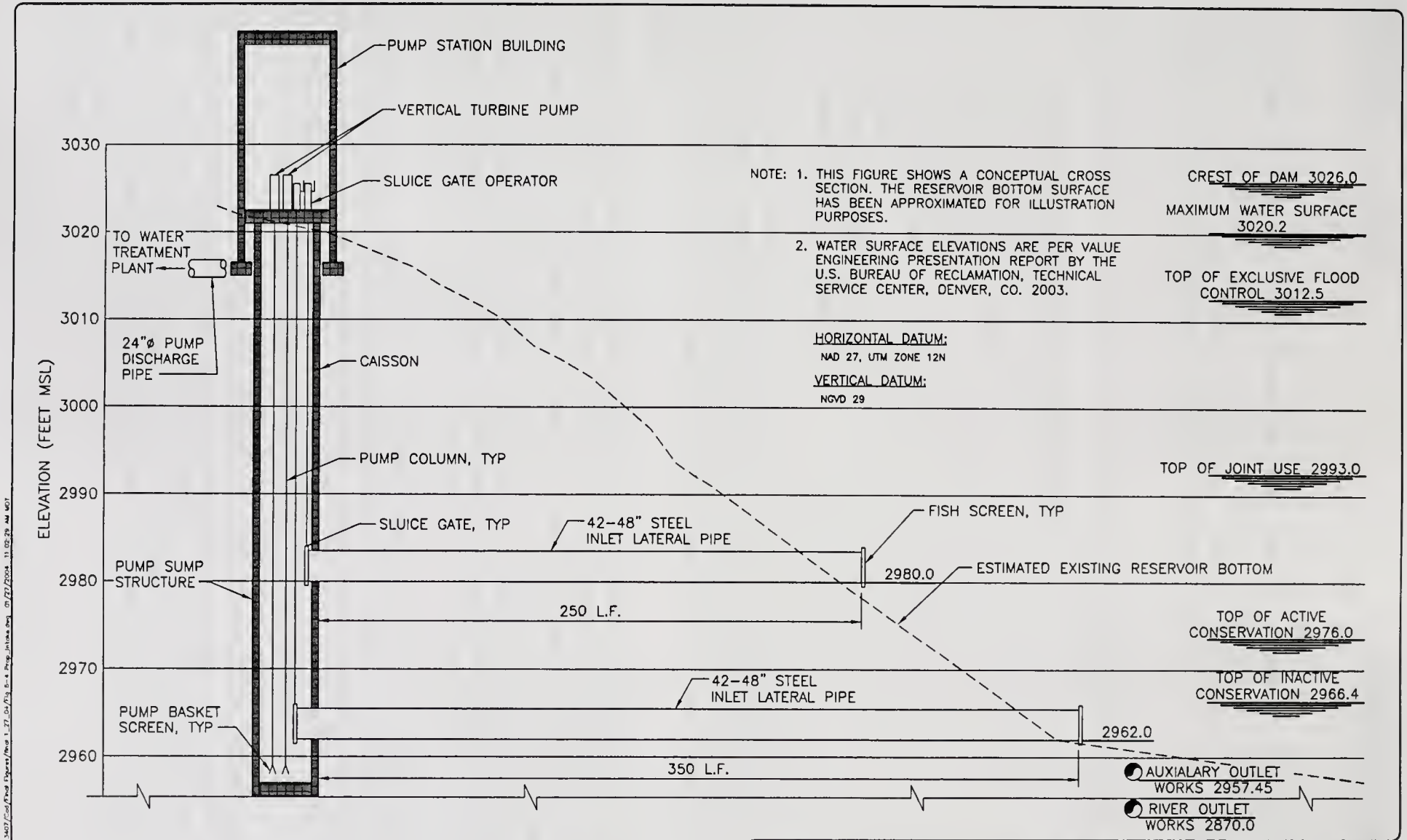
During preliminary design, a geotechnical investigation will be performed to assess whether microtunneling is viable or whether more conventional tunneling should be used. Review of existing soils boring information completed for the dam construction indicates that microtunneling is likely viable. The final decision as to the method utilized will be made once the detailed geotechnical investigations have been completed.

Water Treatment Plant

The water treatment plant will be a conventional filtration plant and consist of pretreatment, filtration, disinfection, and solids handling. Several options for each process were evaluated and the preferred method will need to be verified early in the design process through pilot testing. Regardless of the treatment plant type, the physical footprint and related construction and operational impacts identified in subsequent discussions in this EA would remain very consistent.

There were several pretreatment options analyzed including conventional sedimentation, plate settling, and a proprietary high rate sedimentation process that uses mircosand-enhanced flocculation (Actiflo). The analysis identified the Actiflo pretreatment process as the preferred method based primarily on cost, but the final decision will not be made until the pilot study has been completed.

Several filtration options were investigated including conventional filtration and microfiltration followed by granular activated carbon (GAC) contactors. Microfiltration was eliminated from further consideration when additional raw water quality data indicated that the total organic carbon (TOC) levels were too high for operation of a microfiltration treatment system. Therefore, a conventional filtration system is recommended with a porous cap underdrain and dual media. The treatment plant will have a total of six filters, each equipped with air/water backwash, filter-to-waste capabilities, and backwash cycle initiated by head loss, turbidity, or elapsed time from the last backwash cycle. Each filter will have its own turbidimeter as well as the raw water and combined filter effluent. Process control will be automated and linked to an overall Supervisory Control and Data Acquisition (SCADA) system for the entire raw water, treatment, and pumping system.



HKM ENGINEERING

HDR Engineering, Inc.

Project No. 6M4114.130 File Name: Date: PRELIMINARY DRAFT

ROCKY BOY'S / NORTH CENTRAL MONTANA REGIONAL WATER SYSTEM
PROPOSED INTAKE/PUMP STATION

FIGURE 2-1

P:\Rocky\700_3407\Conf\Final Figures\final 1_27_04\Fig 5-4 Prop_Intake.dwg 05/27/2004 11:02:29 AM MDT

Primary disinfection will be accomplished using chlorine fed in the form of liquid sodium hypochlorite. Contact time will be accomplished in a clearwell adequately sized to achieve the required CT (concentration and contact time) to meet EPA and DEQ disinfection standards. Ammonia will be fed after primary disinfection to create chloramines and minimize the formation of Total Trihalomethane (TTHM) and Haloacetic Acid (HAA) that are typically formed when chlorine is allowed to react with TOC.

The chemicals that will likely be used on the water treatment plant include the following:

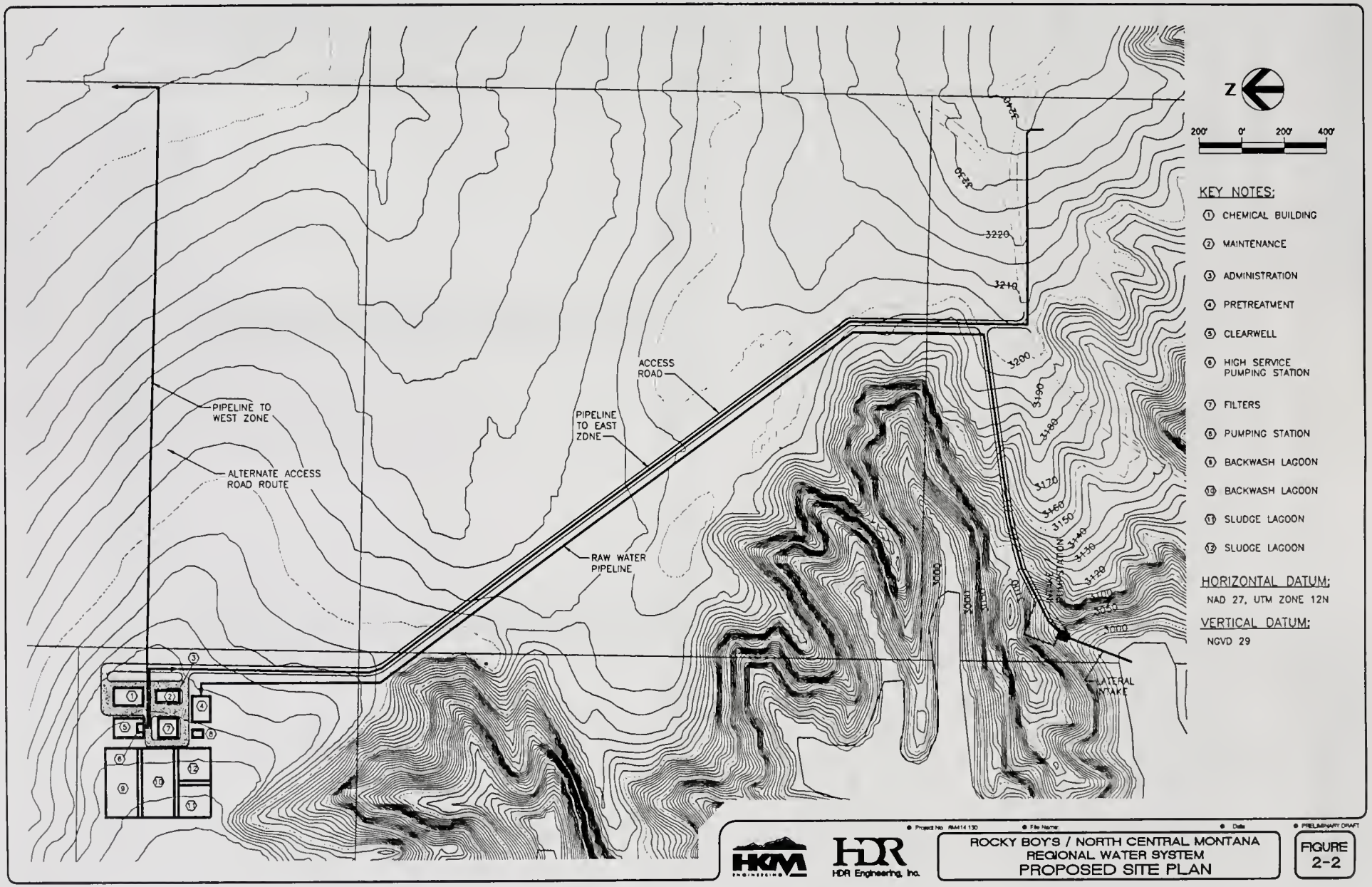
- Aluminum Sulfate (Alum)/Ferric Chloride (Ferric)
- Sodium hydroxide
- Powdered Activated Carbon (PAC)
- Chlorine Dioxide
- Coagulant Polymer
- Filter Aid Polymer
- Fluoride
- Sodium Hypochlorite (chlorine)
- Aqueous Ammonia (ammonia)

These chemicals will be housed in a separate chemical storage and feed building. This building will have adequate storage facilities to allow bulk delivery of the chemicals and to provide adequate supplies of chemicals to ensure continuous operation of the treatment facility. The building will be fitted with ventilation and fire protection systems to meet health and safety standards.

Residuals will be handled at a separate handling facility to deal with solids generated in the pre-treatment and backwashing processes. Solids will be accumulated in sludge/backwash lagoons with decant from these lagoons being returned to the head of the plant. These residuals handling facilities will also handle the filter-to-waste water and return it to the head of the plant. A recovery pump station will be equipped with the pumps to return the decant water to the head of the plant. Sludge from this process will be moved to an appropriate landfill or disposed of through land application in compliance with state and federal regulations.

Filtered water will be stored in a two million gallon on-site reservoir. The high service pump station will be located over this storage tank and will utilize vertical turbine pumps to deliver treated water to both the east and west zones. Under normal conditions, the high service pumping station to the east zone will not be needed since it will be fed by gravity. During higher demand periods, the high service pumps will be utilized to deliver water to the east zone.

Figure 2-2 illustrates a general site plan which includes space for the administration and maintenance functions that will be required for the rural water system. All components of the water system (pump stations, tanks, and other important features of the system) will send signals back to this site via radio transmitters so that the entire system can be controlled and monitored from this central location using the SCADA system. This site will be centrally located in the system and will provide an efficient location to centralize administration, operations, and maintenance.



HKM ENGINEERING

HDR Engineering, Inc.

ROCKY BOY'S / NORTH CENTRAL MONTANA REGIONAL WATER SYSTEM
PROPOSED SITE PLAN

FIGURE 2-2

Water Transmission System

The transmission system was modeled using the PIPE2000 computer modeling software. The software completes the thousands of calculations required to compute the flows, head losses, and pressures for the data input and allows for alternative analysis to optimize the pipeline system. The ultimate goal of this modeling will be to satisfy the projected water demands while staying within the design parameters identified for the project. This data was used to create a transmission system to be analyzed using the computer model and to optimize the pipe, pump station, and storage tank sizes and locations. The model allows the pipeline route, pipeline size, pump station location, pump station size (flow and discharge head), storage tank location and size to be varied to determine the most economical transmission, pumping, and storage system based on the system requirements.

The transmission system will consist of transmission mains, pumping stations, and storage reservoirs to ensure that the treated water is delivered to the Rocky Boy's reservation and the participating communities, water districts, and colonies. This transmission system was sized to provide the peak day flows summarized in Table 2-3 below. Each of these end users will have its own water system for storage and distribution of the treated water to its customers. Each end user will be responsible for operation, maintenance, customer billing, and overall financial responsibility to their water utility.

Table 2-3
Water Demand Summary

Location	Average Day Demand (gpd)[1]	Peak Day Demand (gpd)
Dutton	60,500	150,000
Hill CWD	262,500	470,000
N. Havre	35,000	75,000
Sage Creek	51,652	108,000
Sage Creek Col.[2]	14,875	40,000
Tiber	150,000	600,000
Big Sandy	200,000	750,000
Chester	300,000	1,000,000
Conrad	344,125	2,000,000
Devon	24,000	75,000
Eagle Cr. Col.[2]	14,875	40,000
Galata	150,000	220,000
Loma Rural	81,000	162,000
Loma Town	54,395	198,000
Oilmont Rural	80,000	216,000
Oilmont Town	10,000	25,000
Riverview Col.[2]	14,875	40,000
S. Chester	38,000	142,000
Shelby	450,000	1,800,000
Sunburst	110,000	420,000
Sweetgrass	32,500	150,000
Subtotal	***2,478,297***	***9,041,000***
Rocky Boy's[3]	1,920,000	4,880,000
Total	**4,398,297**	**13,921,000**

Source: HKM Engineering, Inc.

Notes: 1: All Average Day per Capita Use below 125 gpcpd are assumed to be 125 gpcpd
2: Colony population and water use was estimated by Montana Rural Water personnel
3: No historical data available for Rocky Boy's Reservation. Demands listed in table were generated by HKM Engineering.

The transmission system is shown on Figure 2-3 which illustrates the transmission pipeline, pumping stations, and storage tanks. The "core" system consists of the transmission mains from the water treatment plant to the Rocky Boy's Reservation. The transmission system was developed so that each pumping station pumps to a storage tank. These storage tanks will be the source of water for the next pumping station in series to lift the water to the next storage tank.

Storage facilities are necessary throughout the system to meet peak demands and maintain system pressures within a reasonable operating range. Storage is also important during power outages where booster pumps cannot operate for an extended period. Buried concrete storage tanks are preferable because minimal maintenance is required on a concrete tank over its lifetime. Buried tanks also prevent vandalism, preserve chlorine residual, and minimize taste and odor problems associated with temperature fluctuations.

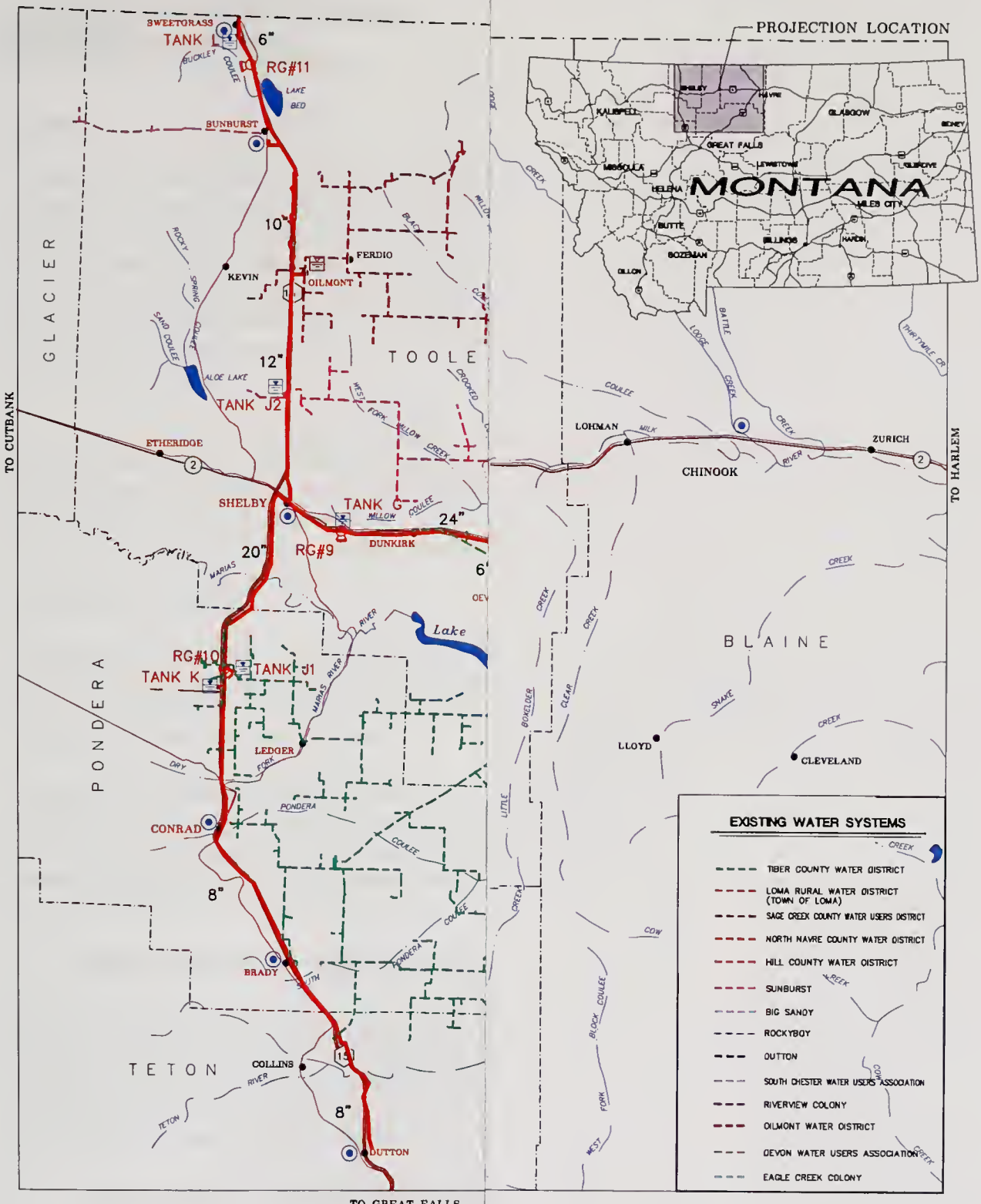
The storage facilities within the Rocky Boy's transmission system are sized to provide 75 percent of a peak day demand maintained for 24 hours, plus a two-hour fire event of the NFF (Needed Fire Flow). Therefore, at the end of a fire demand event, the storage facility should have 25 percent of its capacity remaining.

The Rocky Boy's water transmission system serves as the major transmission line between population centers on the Reservation, and provides for their fire flows. The water lines are sized to carry peak hour flows and peak day with a fire flow demand at the major population centers of Sangrey and Rocky Boy/Newtown. The design criteria for the pipelines on the Reservation is the same as the regional pipelines with the exception of the fire flow demands and related pressure criteria. The system was sized to deliver 1,000 gpm through the Reservation transmission system. Fire flow storage is provided through the same storage facilities located throughout the transmission system. The fire flow locations included Sangrey, Rocky Boy/Newtown, Laredo and at the highest point of Haystack Loop.

Route Selection

Pipeline routes were originally conceived to follow the most direct possible route to each community utilizing the major highway and county road rights-of-way. It was intended to minimize costs associated with land acquisition, simplify installation, and provide the best possible access to the pipeline, pump stations, and storage tanks for maintenance purposes. Subsequent communication with local and state government representatives resulted in a decision to obtain private right-of-right for the majority of the pipeline. This decision was based on the recognition that future relocation of a pipeline necessitated by a roadway widening or realignment project would likely be more costly and certainly more disruptive than locating the pipeline outside roadway right-of-way initially.

During Value Engineering exercises, substantial economic benefits were identified when locating some sections of the proposed pipeline route in areas other than established corridors. In these areas, right-of-way will need to be obtained and the cost of this right-of-way will need to be balanced with other considerations such as environmental constraints. Ultimately, it was considered a cost benefit to the project to route pipelines cross country in a few isolated areas.



NOTE: MOST CITY WATER SYSTEMS ARE NOT SHOWN ON THIS PLAN FOR CLARITY.

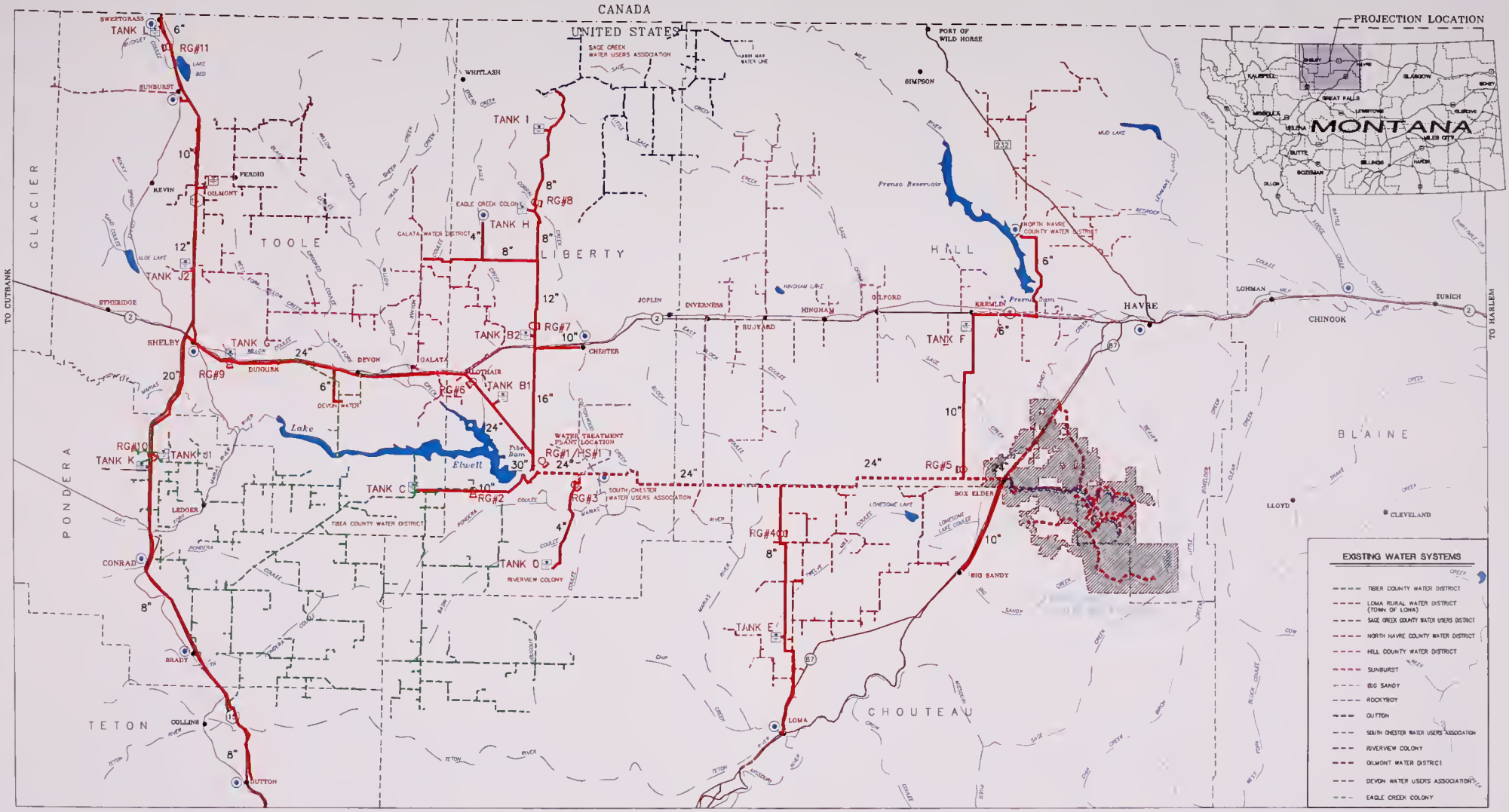
ANA
MPONENTS

FIGURE 2-3

HKM ENGINEERING

6M414.130 | SEPT. 2003

O:\06\M414130\DWG\MC-PIPE.dwg 2/13/2004 10:20:39 AM MST



NORTH CENTRAL MONTANA REGIONAL WATER SYSTEM COMPONENTS

FIGURE 2-3

HKM ENGINEERING

6M414.130 | SEPT. 2003

Q:\06\M414130\DWG\MC-PIPE.dgn 2/13/2004 10:20:39 AM MST

Telemetry

A telemetry system will be provided to operate valves and pumps throughout a large water system from a central location. The proposed system would use radio communications between the various components of the system. Remote Terminal Units (RTU's) would be installed at the tank and pump station locations. Certain of these RTU's would be programmed as "Master" RTU's and they would control other RTU's, referred to as "Slave" RTU's. There may be five Master RTU's, one for each zone. Each of the Master RTU's would report to a Central Terminal Unit (CTU) at the treatment plant. The CTU would gather all information from the remote Master and Slave RTU's.

The central unit would include the CTU, two personal computers (one off-line as a backup), a man-machine interface (MMI) software package, color printer, report/trending/graphics package, etc. The central unit would not include a duplicate backup control system, hot on line, at the same facility. The backup central unit would be a duplicate of the central unit at a different location. If the main CTU fails, the backup CTU would serve the same function.

Maintenance Equipment

Operation and maintenance (O&M) of the system will be a shared responsibility. The "core" system is to be owned in trust by the Federal government for the Chippewa Cree Tribe, and the Tribe has an O&M trust fund for this purpose. The NCMRWA will be responsible for O&M costs related to the "non-core" system.

Maintenance equipment is being included to provide the estimated amount of heavy equipment, machinery, and number of vehicles necessary for maintenance and repairs for the entire water system. The equipment would be used throughout the entire water system, including the on-Reservation portions. The maintenance facilities may be located at the water treatment or at some other location within the project area.

2.5 Alternatives Considered, But Eliminated

Seventeen alternatives (including No Action) were considered during project planning, 15 of which were rejected for various reasons (Table 2-4). Those alternatives that were considered but ultimately eliminated are briefly described below. The alpha identification of these alternatives was maintained from the *Appraisal Level Study*, but bears no significance with regard to the identification of other alternatives in this EA.

2.5.1 Alternative B – Tiber Reservoir – Reservation Only

This alternative is the same as the preferred plan, except that water would only be supplied to the Rocky Boy's Reservation. The intake, water treatment plant, and size and amount of pipe would be correspondingly reduced compared with the Proposed Action Alternative. This alternative was eliminated from further consideration due to the substantial interest expressed by the neighboring communities to hook into the core system, and because it fails to meet the purpose

Telemetry

A telemetry system will be provided to operate valves and pumps throughout a large water system from a central location. The proposed system would use radio communications between the various components of the system. Remote Terminal Units (RTU's) would be installed at the tank and pump station locations. Certain of these RTU's would be programmed as "Master" RTU's and they would control other RTU's, referred to as "Slave" RTU's. There may be five Master RTU's, one for each zone. Each of the Master RTU's would report to a Central Terminal Unit (CTU) at the treatment plant. The CTU would gather all information from the remote Master and Slave RTU's.

The central unit would include the CTU, two personal computers (one off-line as a backup), a man-machine interface (MMI) software package, color printer, report/trending/graphics package, etc. The central unit would not include a duplicate backup control system, hot on line, at the same facility. The backup central unit would be a duplicate of the central unit at a different location. If the main CTU fails, the backup CTU would serve the same function.

Maintenance Equipment

Operation and maintenance (O&M) of the system will be a shared responsibility. The "core" system is to be owned in trust by the Federal government for the Chippewa Cree Tribe, and the Tribe has an O&M trust fund for this purpose. The NCMRWA will be responsible for O&M costs related to the "non-core" system.

Maintenance equipment is being included to provide the estimated amount of heavy equipment, machinery, and number of vehicles necessary for maintenance and repairs for the entire water system. The equipment would be used throughout the entire water system, including the on-Reservation portions. The maintenance facilities may be located at the water treatment or at some other location within the project area.

2.5 Alternatives Considered, But Eliminated

Seventeen alternatives (including No Action) were considered during project planning, 15 of which were rejected for various reasons (Table 2-4). Those alternatives that were considered but ultimately eliminated are briefly described below. The alpha identification of these alternatives was maintained from the *Appraisal Level Study*, but bears no significance with regard to the identification of other alternatives in this EA.

2.5.1 Alternative B – Tiber Reservoir – Reservation Only

This alternative is the same as the preferred plan, except that water would only be supplied to the Rocky Boy's Reservation. The intake, water treatment plant, and size and amount of pipe would be correspondingly reduced compared with the Proposed Action Alternative. This alternative was eliminated from further consideration due to the substantial interest expressed by the neighboring communities to hook into the core system, and because it fails to meet the purpose

and need to assist specific communities outside the reservation in "developing safe and adequate [MR&I} water supplies" as established under PL 107-331.

Table 2-4
Reasons for Rejecting Alternatives

	Endangered Species Act	Transbasin Diversion of Arsenic	Native American Considerations	Inadequate Water Supply	Cost	Purpose & Need Not Met	Comments
Proposed Action Alternative							
No Action						X	
Alt B – Tiber Reservoir – Reservation Only						X	Reservation Only
Alt D – Missouri River – Conventional Treatment	X	X	X		X		Pallid Sturgeon Entrainment
Alt E – Missouri River – Special Treatment	X		X		X		Pallid Sturgeon Entrainment
Alt F – Tiber Reservoir & Missouri River – Conventional Treatment	X	X	X		X		Pallid Sturgeon Entrainment
Alt G – Tiber Reservoir & Missouri River – Special Treatment	X		X		X		Pallid Sturgeon Entrainment
Alt H – Tiber Reservoir, Missouri & Milk Rivers – Conventional	X	X	X				Pallid Sturgeon Entrainment
Alt I – Tiber Reservoir, Missouri & Milk Rivers – Special Treatment	X		X	X	X		Pallid Sturgeon Entrainment
Alt J – Tiber Reservoir & Milk River – Conventional Treatment			X	X			Water Shortages
Alt K – Missouri & Milk Rivers – Conventional Treatment	X	X	X	X	X		Pallid Sturgeon Entrainment
Alt L – Missouri & Milk Rivers – Special Treatment	X		X	X	X		Pallid Sturgeon Entrainment
Alt M – Missouri River – Reservation Only – Conventional Treatment	X	X	X			X	Reservation Only
Alt N – Missouri River – Reservation Only – Special Treatment	X		X		X	X	Reservation Only
Alt O – Bonneau Reservoir – Reservation Only – Conventional Treatment				X		X	Reservation Only
Alt P – All Individual Systems				X	X	X	
Alt Q – Water Conservation				X		X	

2.5.2 Alternative D - Missouri River - Conventional Treatment

Alternative D would supply the existing water systems with water from the Missouri River near Virgelle. A conventional water treatment plant at the Missouri River would meet the peak day

demand. This alternative would introduce arsenic laden water into the Milk River system. While conventional treatment could be expected to reduce arsenic (a known carcinogen) levels by approximately half, there would still be degradation of quality in the receiving streams in the Milk River basin. A transbasin diversion of a carcinogen would require a waiver from the State of Montana and this has not occurred in the past. This alternative was rejected because it would degrade the Milk River drainage with arsenic and because of its high project and life-cycle costs.

2.5.3 Alternative E - Missouri River - Special Treatment

Alternative E is the same as Alternative D, except that special water treatment (reverse osmosis) would be utilized to reduce arsenic levels to non-detectable levels. This alternative was rejected because of its high project and life-cycle costs.

2.5.4 Alternative F - Tiber Reservoir and Missouri River - Conventional Treatment

Alternative F uses Tiber Reservoir and Missouri River water to supply existing water systems. Conventional water treatment plants would be located at Tiber Dam and the Missouri River. This alternative was rejected because it would degrade the Milk River drainage with arsenic, which would require a waiver from the State of Montana, and because of its high life-cycle cost.

2.5.5 Alternative G - Tiber Reservoir and Missouri River - Special Treatment

Alternative G is the same as Alternative F, except that special water treatment (reverse osmosis) is utilized at the Missouri River to reduce arsenic levels to non-detectable levels. This alternative was rejected because of its high project and life-cycle costs.

2.5.6 Alternative H - Tiber Reservoir, Missouri & Milk Rivers - Conventional Treatment

Alternative H would use Tiber Reservoir, Missouri River, and Milk River water to serve existing water systems. Conventional water treatment plants would be located at Tiber Dam, the Missouri River, and the Milk River. This alternative was rejected because it would introduce arsenic into the Milk River system (which would require a waiver from the State of Montana), because of rapid sedimentation concerns in Fresno Reservoir (which supplies Milk River water to Havre and Chinook), and because of water supply concerns in the Milk River system due to unquantified Indian reserved rights and undeveloped Canadian treaty rights.

2.5.7 Alternative I - Tiber Reservoir, Missouri & Milk Rivers - Special Treatment

Alternative I is the same as Alternative H, except that special water treatment (reverse osmosis) would be utilized at the Missouri River to reduce arsenic levels to non-detectable levels. This alternative was rejected because of concerns about Fresno Reservoir capacity, unresolved Indian reserved and Canadian treaty water rights, and high life-cycle costs.

2.5.8 Alternative J - Tiber Reservoir & Milk River - Conventional Treatment

Alternative J would use Tiber Reservoir and Fresno Reservoir (Milk River) water to supply existing systems. Water treatment plants would be located at Tiber Dam and the Milk River. This alternative was rejected because of concerns about Fresno Reservoir capacity and unresolved Indian reserved and Canadian treaty water rights.

2.5.9 Alternative K - Missouri & Milk Rivers - Conventional Treatment

Alternative K would use Missouri River and Fresno Reservoir (Milk River) to serve existing water systems. Conventional water treatment plants would be located at the Missouri River and the Milk River. This alternative was rejected because of degradation of the Milk River drainage with arsenic (which would require a waiver from the State of Montana), concerns about long-term Fresno Reservoir capacity, unresolved Indian reserved and Canadian treaty water rights, and high project and life-cycle costs.

2.5.10 Alternative L - Missouri & Milk Rivers- Special Treatment

Alternative L is the same as Alternative K, except that special treatment (reverse osmosis) would be utilized at the Missouri River to reduce arsenic to non-detectable levels. This alternative was rejected due to concerns about Fresno Reservoir capacity, unresolved Indian reserved and Canadian treaty water rights, and high project and life-cycle costs.

2.5.11 Alternative M - Missouri River - Reservation Only - Conventional Treatment

Alternative M would supply Missouri River water to the Rocky Boy's Reservation. A conventional water treatment plant at the Missouri River having a capacity of 6.2 MGD would supply a peak day demand of 4.9 MGD. This alternative was rejected because it would degrade the Milk River drainage with arsenic, which would require a waiver from the State of Montana.

2.5.12 Alternative N - Missouri River - Reservation Only - Special Treatment

Alternative N is the same as Alternative M, except that special treatment (reverse osmosis) would be used to reduce arsenic to non-detectable levels. This alternative was rejected because of the high total life-cycle cost.

2.5.13 Alternative O - Bonneau Reservoir - Reservation Only - Conventional Treatment

Alternative O would use Bonneau Reservoir water to supply the Rocky Boy's Indian Reservation. Treatment capacity would be 6.2 MGD to supply a peak day demand of 4.9 MGD with 20-hour operation. This alternative was rejected because it would require the Chippewa-Cree Tribe to transfer their agricultural water supplies to MR&I purposes, and because it fails to meet the purpose and need to assist specific communities outside the reservation in "developing safe and adequate [MR&I] water supplies" as established under PL 107-331.

2.5.14 Alternative P – All Individual Systems

With this alternative, each participating system would be required to build a water system capable of meeting current/pending water regulations and supplying a sufficient quantity of water to meet projected year 2045 water demands. This alternative was rejected because the life-cycle cost exceeds those of the regional system.

2.5.15 Alternative Q – Water Conservation

Water conservation programs alone cannot satisfy the needs of this project. Many of the interested communities have water quality problems that cannot be addressed by water conservation.

Table 2-5
Summary Comparison of Impacts Resources Analyzed in Chapter 4

Resource	No Action	Proposed Action
Geology, Soils, Prime and Unique Farmlands	Efforts would continue to obtain potable water including the drilling of new wells, expansion of existing system components and construction of new facilities. The magnitude of this effort is unknown, but impacts to the resource would be similar to the proposed action.	Approximately 5 acres would be permanently lost to crop production. Impacts are expected to be short-term in nature with the environmental commitments outlined in Chapter 6.
Surface Water Quantity	Minimal impacts would continue as existing water supplies are supplemented and/or expanded. Highway projects and water service contracts out of Tiber would continue.	Approximately 8,000 acre-feet per year of water would be removed from the Marias River system, which is less than 2 percent of the rivers average annual flow of 611,000 acre-feet.
Ground Water Quantity	Groundwater pumping for domestic and livestock use would continue at or above the current rate. Levels would likely be depleted at a more rapid rate.	Groundwater pumping would be reduced as the 13 systems using groundwater would discontinue use or use only in a supplemental way. Groundwater levels would likely increase.
Surface Water Quality	Minimal impacts would continue as existing water supplies are supplemented and/or expanded. Impacts to water quality would be similar to the proposed action.	Effects on surface water would primarily result due to sediment loading at stream crossings. Impacts are expected to be short-term in nature with the implementation of the environmental commitments outlined in Chapter 6.
Drinking Water Quality	Towns and residents would continue to depend or their present supplies and there would be no improvement in domestic drinking water.	Substantial improvement would be realized by the users in the project area. The proposed action would resolve the compliance problems facing water users within the project area.
Vegetation	Efforts would continue to obtain potable water including the drilling of new wells, expansion of existing system components and construction of new facilities. The magnitude of this effort is unknown, but impacts to vegetation would be similar to the proposed action.	Approximately 2,500 acres of vegetation will be disturbed during construction. 5 acres of vegetation would be permanently destroyed. Impacts to disturbed areas will likely be short-term due to the implementation of the mitigation measures outlined in Chapter 6.
Wetlands	Efforts would continue to obtain potable water impacts to wetlands would be similar to the proposed action. Additionally, reduction in ground water levels through continued pumping would likely have an adverse affect upon wetlands recharged by aquifers.	It is unknown at this time the wetland acreage that may be impacted by the construction of the pipeline. Impacts are expected to be short-term in nature with the implementation of the environmental commitments outlined in Chapter 6.
Wildlife Resources	Efforts would continue to obtain potable water including the drilling of new wells, expansion of existing system components and construction	Effects of the proposed action on wildlife populations are associated with disturbance during construction and direct loss of habitat related to the

Resource	No Action	Proposed Action
	of new facilities. The magnitude of this effort is unknown, impacts to wildlife resources would be similar to the proposed action.	systems infrastructure. 5 acres of potential wildlife habitat would be permanently lost. Some mortality will be experienced by less mobile species. These impacts are expected to be minimal with the implementation of the environmental commitments outlined in Chapter 6.
Fishery Resources	Reduction in ground water levels through continued pumping would likely have an adverse affect upon surface water quality in areas recharged by aquifers. This could result in decreased flows and increased temperature and salt concentrations in streams throughout the project area.	Effects to fisheries would occur where pipelines cross water bodies and at the water intake at Tiber. These impacts are expected to be minimal with the implementation of the environmental commitment outlined in Chapter 6.
Threatened and Endangered Species	Efforts would continue to obtain potable water impacts to T&E species would be similar to the proposed action.	The proposed action would have no affect on designated or proposed critical habitat. With the implementation of the mitigation measures outlined in Chapter 6 impacts to these species will be avoided.
Socio-economics	Poor drinking water conditions will persist within the project area. The perception of poor quality drinking water may negatively affect the attractiveness of the area for residential and commercial growth.	Improved water quality would benefit public health and provide economic benefits to the region through an increased labor force and increased attractiveness to growth.
Cultural Resources	Efforts would continue to obtain potable water including the drilling of new wells, expansion of existing system components and construction of new facilities. The magnitude of this effort is unknown, but impacts to cultural resources would be similar to the proposed action.	A programmatic agreement is in place between Reclamation, BIA, Chippewa Cree Tribe, Chippewa Cree THPO, NCMRWA and the SHPO to minimize impacts to cultural resources. With the implementation of the mitigation measures outlined in Chapter 6 and the measures outlined in the programmatic agreement impacts to this resource will be minimized.
Land Use	Existing land uses would likely be maintained. Most of the project area's population would remain in areas where water can be obtained. Some residents may leave the area due to inadequate water supplies.	Pipeline construction would temporarily disrupt existing land uses. 5 acres of land would be permanently lost. These impacts are expected to be minimal with implementation of the environmental commitments outlined in Chapter 6.
Indian Trust Assets	Efforts would continue to obtain potable water on the reservation. The magnitude of this effort is unknown, but impacts to ITAs would be similar to the proposed action.	Impacts are expected to be minimal with implementation of the environmental commitments outlined in Chapter 6.

3.0 AFFECTED ENVIRONMENT

This Chapter provides a description of the existing conditions within the general project area. This information provides a baseline for comparison of the proposed project's impacts on the various areas of environmental concern. These impacts are compared to the results of the No Action alternative in Chapter 4 of this EA.

3.1 Geology and Soils

The landscape of the project area is typical of north-central Montana. The area consists of flat-to-rolling hills covered with croplands and grasslands. Farms and ranches, often surrounded by trees and visible for several miles, are located throughout the area.

3.1.1 Geology

The project area lies in the glaciated Missouri Plateau section of the Great Plains physiographic province. The geology of the area is characterized by flat to gently dipping sedimentary rocks. The rocks that form the surface are generally soft and have been eroded into open, rolling plains. The plains are punctuated by granitic stocks and ancient volcanic activity that has formed isolated mountain ranges such as the Sweet Grass Hills and the Bear Paw Mountains, respectively.

Sedimentary rocks of all geologic ages, from Precambrian to Quaternary, underlie the project area. The seas that repeatedly covered Montana in the geologic past were comparatively shallow, but gradual subsidence of the region allowed a great thickness of sediments to accumulate. The thickness of sedimentary rock over Precambrian crystalline basement ranges from 4,000 feet along the Sweetgrass area in west-central Montana to 15,000 feet in the Montana portion of the Williston Basin east of the project area.

The Precambrian sedimentary rocks are predominantly quartzite and argillite, belonging to the Belt Group. The Paleozoic sedimentary rocks are mainly limestone and dolomite, but shale is also abundant. Mesozoic sedimentary rocks are dominantly shale, but there are also several formations containing sandstone units that are significant aquifers in the project area including the Eagle and Judith River Formations.

The outcrop pattern of the bedrock formations reflects the influence of structural uplift of the Bear Paw Mountains and the Sweet Grass Arch to the west. In some instances, shallow faulting has brought bedrock aquifers closer to the surface in the northern portion of the project area.

During the Pleistocene Epoch of the Ceneozic Era, the northern two-thirds of the project area was mantled with glacial debris which covers the underlying bedrock. A significant consequence of glaciation was the disruption of the drainage pattern of major streams and their tributaries. Southerly advancing ice sheets covered all stream beds in their path diverting the Missouri River channel which previously flowed along the western and northern edges of the Bear Paw Mountains into its present course. Big Sandy Creek and a portion of the Milk River now occupy the pre-glacial Missouri River Valley. The pre-glacial Marias River was a major

west-to-east flowing stream that occupied a broad valley north of its present course. Sage Creek presently follows the course that formerly had been a south-east flowing stream prior to the advance of the glaciers. The Ceneozic formations of interest include the Pleistocene glacial deposits and recent and/or Pleistocene alluvium.

3.1.2 Soils

The study area extends from Chinook in the east, to Shelby in the west, in an area north of the Missouri River. Because of the large area covered by the project, any soils summary will be necessarily general.

The area consists of sandstone and shale formations largely overlain by a mantle of glacial till. Two major rivers, the Milk and Marias, have greatly influenced the soil morphology of the region. Three general soil regimes are discussed based on soil parent material; sandstone/shale upland soils, glacial till derived soils, and alluvial soils.

Sandstone/Shale Upland Soils

These areas are typically nearly level to strongly sloping, well drained silty clay loams to silty clays that form in material weathered from siltstone, interbedded shale and sandstone on uplands. Typical soil series include Abor, Cargill and Castner.

These soils are found on uplands throughout the area where the ground surface was not covered by glacial till or along alluvial valleys where overlying material has been eroded away.

Glacial Soils

Much of the soil in this region is derived from glacial till, glaciolacustrine material and glacial outwash. These soils have near level to rolling topography depending on their position in the landscape. The soil textures are typically gravelly loams and clay loams with some clays. Sandstone or shale lies at varying depths beneath the till mantle. This group of soils includes glacial lake deposits (glaciolacustrine) and outwash soils that occur on terraces. These terraces are often found along the major drainages that served as melt water channels for the receding glaciers. Soil series included in this group include Gerber, Acel, Scobey and Phillips. The soils are used for rangeland and dryfarmed crops.

Alluvial Soils

These deep nearly level to hilly, well drained soils are found mainly on floodplains, fans and terraces. The major deposits occur along the Milk and Marias Rivers, terraces along current or former river channels and alluvial fans. These are extremely variable lands ranging from nearly level clay soils in the Marias Valley to gravely terraces that stretch for miles along the rivers. Some of the soils are salt or sodium affected in varying degrees due to parent material and/or poor drainage. Creed, Absher, Marias and Milk soil series are found in the region. These soils are used for irrigated crops, dryland farming and rangeland.

These three broad soil morphological categories can be broken down into named soil units as shown in Appendix D. Figure 3-1 illustrates the general soil associations and complexes that were derived from the NRCS Soil Surveys.

3.1.3 Prime or Unique Farmlands

The majority of land in the study area is utilized for agricultural purposes. The 1981 Farmland Protection Policy Act (FPPA) requires examination of the effects of federally funded projects prior to the acquisition of farmlands classified by the Natural Resource Conservation Service (NRCS) as Prime, Prime if Irrigated, or Statewide/Locally Important Farmlands. Table 3-1 provides a summary of the acreage of Prime and Unique Farmlands designated within the general study area.

Table 3-1
Farmland Classification by County

County	Prime Farmland	Prime if Irrigated	Statewide Important
Chouteau	15,440 acres	790,100 acres	635,950 acres
Glacier	0	100,780 acres	257,640 acres
Hill	750 acres	757,880 acres	486,140 acres
Liberty	0	262,660 acres	318,140 acres
Pondera	0	331,660 acres	333,610 acres
Teton	0	180,200 acres	533,490 acres
Toole	0	269,620 acres	498,990 acres

Source: Natural Resources Conservation Service, 2004

3.2 Water Resources

3.2.1 Surface Water Quantity

The North Central System crosses seven hydrologic units or watersheds in north central Montana, identified in Table 3-2. These include the Teton River, Marias River, Big Sandy Creek, the Middle Milk River, Sage Creek, and Bullwhacker Dog hydrologic units. Within each of these, proposed pipelines would cross or encroach on 18 rivers or streams. Other surface water features in the project area are Lake Elwell, a reservoir on the Marias River, and Fresno Reservoir on the Milk River and an unknown number of wetlands.


Rocky B System
Glacier County
Toole County
Pondera County
Teton County
Hillside Colony
Sweetgrass
Sunburst
Kevin
Oilmont
Saint Johns
Santa Rita
Cut Bank
Ethridge
Shelby
Kremlin
Havre
Valier
Ledger
Box Elder
Rocky Boy
Conrad
Big Sandy
Pendroy
Brady
Bynum
Collins
Eagleton
Warrick
New Rockport Colony
Choteau
MT635
MT380
MT563
MT453
MT454
MT277
MT526
MT381
MT423
MT564
MT128
MT206
MT370
MT442
MT098
MT085
MT191
MT059
MT162
MT296
MT502
MT262
MT583
MT524
MT186
MT257
MT189
MT223
MT685
MT600
MT036
MT010
MT420
MT656
MTW
37N 6W
37N 5W
37N 4W
37N 3W
37N 2W
36N 6W
36N 5W
36N 4W
36N 3W
36N 2W
35N 6W
35N 5W
35N 4W
35N 3W
35N 2W
34N 6W
34N 5W
34N 4W
34N 3W
34N 2W
33N 6W
33N 5W
33N 4W
33N 3W
33N 2W
32N 6W
32N 5W
32N 4W
32N 3W
32N 2W
31N 6W
31N 5W
31N 4W
31N 3W
31N 2W
30N 6W
30N 5W
30N 4W
30N 3W
30N 2W
29N 6W
29N 5W
29N 4W
29N 3W
29N 2W
28N 6W
28N 5W
28N 4W
28N 3W
28N 2W
27N 6W
27N 5W
27N 4W
27N 3W
27N 2W
26N 6W
26N 5W
26N 4W
26N 3W
26N 2W
25N 5W
25N 4W
25N 3W
25N 2W
24N 5W
24N 3W
24N 2W
37N12E
37N13E
37N14E
37N15E
37N16E
37N17E
36N12E
36N13E
36N14E
36N15E
36N16E
36N17E
35N13E
35N14E
35N15E
35N16E
35N17E
34N12E
34N13E
34N14E
34N15E
34N16E
34N17E
33N12E
33N13E
33N14E
33N15E
33N16E
33N17E
32N12E
32N13E
32N14E
32N15E
32N16E
32N17E
31N12E
31N13E
31N14E
31N15E
31N16E
31N17E
30N12E
30N13E
30N14E
30N15E
30N16E
30N17E
29N12E
29N13E
29N14E
29N15E
29N16E
29N17E
28N12E
28N13E
28N14E
28N15E
28N16E
28N17E
27N12E
27N13E
27N14E
27N15E
27N16E
27N17E
26N12E
26N13E
26N14E
26N15E
26N16E
26N17E
MT381
MT417
MT420
MT423
MT424
MT425
MT429
MT442
MT453
MT454
MT502
MT503
MT524
MT525
MT526
MT527
MT558
MT563
MT564
MT583
MT595
MT600
MT635
MT642
MT656
MT671
MT672
MT685
MTW
N
S
E
W
6
3
0
6
12

Rocky Boy's/North Central Montana Regional Water System with STATSGO Soils

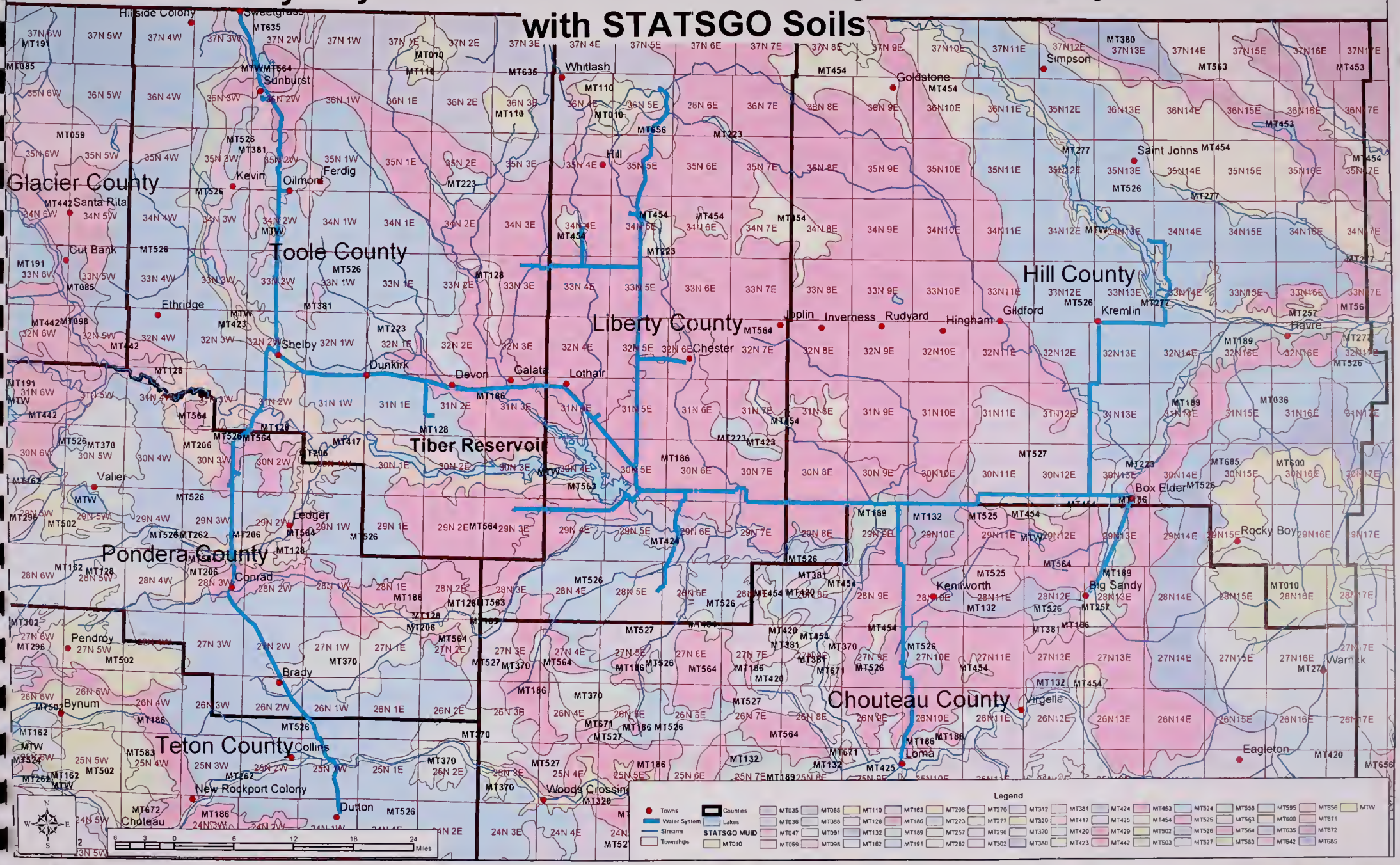


Table 3-2
Hydrologic Units and Surface Waters Occurring in the Project Area

Hydrologic Unit Code	Name	Waters Near Pipelines
10030205	Teton River	Teton River
10030203	Marias River	Dry Fork of Marias Marias River North Fork Pondera Coulee South Fork Pondera Coulee Corral Creek Cottonwood Creek Block Coulee Twelve Mile Coulee Eagle Creek Lake Elwell (Tiber Reservoir)
10050005	Big Sandy Creek	Big Sandy Creek Lonesome Lake Coulee
10050004	Middle Milk	Milk River Sandy Creek Fresno Reservoir
10050006	Sage Creek	Sage Creek
10030204	Willow Creek	Willow Creek West Fork Willow Creek
10040101	Bullwhacker Dog	Missouri River

Source: USGS

3.2.2 Groundwater

Groundwater is presently used by thirteen of the public water supply systems in the project area. Five of these systems rely on groundwater from recent alluvium deposits and two systems obtain water from aquifers within pre-glacial buried channels. The Eagle Formation is a source of water supply for five public water systems. One system depends on groundwater from a combination of the recent alluvium and the Eagle Formation.

3.3 Water Quality

3.3.1 Surface Waters

Surface water quality within the project area is typical of prairie regions of Montana. Streams in this region are typically low gradient, warm-water streams with relatively high, natural loading of sediment and salts. The exceptions are tailwaters below dams, which typically have cooler, clearer flows, and headwater portions of streams within foothills or montane environments.

The Administrative Rules of Montana require the classification of waters in the state according to beneficial uses each body of water should support, as outlined in Table 3-3. Variations in water use classifications for waters in the project area reflect the relative potential to support cold-water or warm-water fisheries. In addition, these rules define water quality standards for

Table 3-2
Hydrologic Units and Surface Waters Occurring in the Project Area

Hydrologic Unit Code	Name	Waters Near Pipelines
10030205	Teton River	Teton River
10030203	Marias River	Dry Fork of Marias Marias River North Fork Pondera Coulee South Fork Pondera Coulee Corral Creek Cottonwood Creek Block Coulee Twelve Mile Coulee Eagle Creek Lake Elwell (Tiber Reservoir)
10050005	Big Sandy Creek	Big Sandy Creek Lonesome Lake Coulee
10050004	Middle Milk	Milk River Sandy Creek Fresno Reservoir
10050006	Sage Creek	Sage Creek
10030204	Willow Creek	Willow Creek West Fork Willow Creek
10040101	Bullwhacker Dog	Missouri River

Source: USGS

3.2.2 Groundwater

Groundwater is presently used by thirteen of the public water supply systems in the project area. Five of these systems rely on groundwater from recent alluvium deposits and two systems obtain water from aquifers within pre-glacial buried channels. The Eagle Formation is a source of water supply for five public water systems. One system depends on groundwater from a combination of the recent alluvium and the Eagle Formation.

3.3 Water Quality

3.3.1 Surface Waters

Surface water quality within the project area is typical of prairie regions of Montana. Streams in this region are typically low gradient, warm-water streams with relatively high, natural loading of sediment and salts. The exceptions are tailwaters below dams, which typically have cooler, clearer flows, and headwater portions of streams within foothills or montane environments.

The Administrative Rules of Montana require the classification of waters in the state according to beneficial uses each body of water should support, as outlined in Table 3-3. Variations in water use classifications for waters in the project area reflect the relative potential to support cold-water or warm-water fisheries. In addition, these rules define water quality standards for

waters throughout the state. Numeric standards as described in the WQB-7 apply to all waters throughout the state. In contrast, narrative standards exist for some pollutants or related types of pollution. Narrative standards typically limit loading of pollutants above natural levels or preclude levels that are harmful to any of the beneficial uses.

Table 3-3
Classifications and Designated Beneficial Uses for Streams, Rivers, and Reservoirs

Rule	Classification	Beneficial Uses
17.30.623	B-1	Waters classified B-1 are suitable for drinking, culinary and food processing purposes, after conventional treatment; bathing, swimming and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply.
17.30.624	B-2	Waters classified B-2 are suitable for drinking, culinary and food processing purposes, after conventional treatment; bathing, swimming and recreation; growth an d marginal propagation of salmonid fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply.
17.30.625	B-3	Waters classified B-3 are suitable for drinking, culinary and food processing purposes, after conventional treatment; bathing, swimming and recreation; growth and propagation of non-salmonid fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply.

Source: Administrative Rules of Montana

As noted in Table 3-4 below, several waters in the project area do not meet state standards for water quality. Section 303(d) of the Federal Clean Water Act requires states to identify those waters within its boundaries that do not meet water quality standards and develop plans to restore water quality. These plans are known as total maximum daily loads (TMDLs), which refer to the amount of pollution a body of water can assimilate and still support its beneficial uses. TMDL planning is underway across Montana and development near these waters must be compatible with plans to restore water quality.

Table 3-4
Water Quality Summary

Body of Water	Use Classification	Probable Causes of Impairment	Probable Sources of Impairment
Teton River	B-3	Flow alteration, Other habitat alteration, Riparian degradation, Salinity/TDS/sulfates, Thermal modification	Municipal point sources, Agriculture, Cropland, Grazing, Hydromodification
Marias River (County road crossing in Section 17, T29N, R6E) to mouth	B-2	Flow alteration, Mercury, Metals, Thermal modifications	Hydromodification, Flow Regulation/Modification
Marias River (Tiber Dam to county road crossing in Section 17	B-1	Flow Alteration, Mercury, Metals, Other habitat alterations	Agriculture, Grazing, Hydromodification, Flow regulation/modification, Habitat modifications, Removal of riparian vegetation
Pondera Coulee	B-2	Bank erosion, Other habitat alterations, Riparian degradation, Salinity/TDS/sulfates	Agriculture, Crop-related sources, Grazing related sources
Corral Creek	B-2	Nutrients	Agriculture, Crop-related sources
Eagle Creek	B-2	Bank erosion, Nutrients, Other habitat alterations, Riparian degradation	Agriculture, Crop-related sources, Grazing-related sources
Big Sandy Creek	B-3	Mercury, Metals, Salinity/TDS/sulfates	Agriculture, Crop-related sources, Atmospheric deposition, Groundwater loading
Milk River	B-3	Mercury, Metals	Agriculture, Crop-related Sources, Grazing-related Sources, Hydromodification
Sage Creek	B-3	Other habitat alterations, Riparian degradation, Salinity/TDS/ sulfates	Agriculture, Crop-related Sources, Grazing related Sources, Intensive Animal Feeding Operations
Missouri River	B-3	Arsenic, Copper, Metals, Other habitat alterations, Riparian degradation	Agriculture, Grazing related Sources, Resource Extraction, Abandoned mining, Hydromodification, Flow Regulation/Modification

Source: Montana Department of Environmental Quality
Note: This table synthesizes information from both the 1996 and 2002 303(d) lists

3.3.2 Drinking Water

As noted in Chapter 1 of this EA, drinking water systems within the project area face a variety of water quality and quantity problems that make it difficult to supply adequate safe drinking water for their users. Specific water quality concerns for the water systems within the project area include the following:

- Disinfection by-products (DBP)
- Enhanced surface water treatment rule (ESWTR)
- Groundwater rule (GWR)

- Groundwater under the direct influence of surface water (GWUI)
- Surface water treatment rule (SWTR)
- Total coliform rule (TCR)

The EPA must develop National Primary Drinking Water Regulations requiring disinfection for all public water systems, including criteria used to determine whether disinfection and/or filtration should be required as a technique for groundwater systems. Many water systems in the study area obtain water from alluvium adjacent to streams and rivers. It is possible that many water sources that are currently considered groundwater, may in the future be considered surface water, necessitating additional treatment.

3.4 Vegetation

Plant community types within the area of the proposed project are typical of mid and higher elevation areas of the Northern Plains ecoregion. The most detailed watershed wide assessment of vegetation types available for the proposed project area is from the USGS GAP vegetation project, illustrated in Figure 3-2.

Irrigated and dryland agricultural areas interspersed with mixed, mesic shrubs, and low to moderate cover grasslands typify the area. Broadleaf riparian communities comprised of cottonwoods and the introduced Russian olive occurs along major river corridors. Thin riparian corridors of graminoids, forbs, and riparian shrubs occur along smaller streams.

3.4.1 Noxious and Exotic Weeds

Noxious weeds are species of weeds that, if allowed to spread, decrease the value of land or have other undesirable characteristics that impede the general vegetative welfare. These species require special measures to control their spread and infestation.

Efforts to control noxious weeds are governed by the Montana Weed Law (80-7-701) and the county Noxious Weed Control Act (Title 7, Chapter 22, Sections 7-22-2101-2153).

Table 3-5 presents the species of noxious weeds that occur in the study area. Noxious weeds are invasive, non-native plant species that have supplanted native vegetation throughout Montana, often rendering land unfit for livestock grazing, wildlife, agriculture, and other beneficial uses. Of particular concern is the tendency for noxious weeds to dominate areas of disturbed soil. Each of the counties encompassing the project area have developed noxious weed management plans through their respective County Weed districts. These plans are designed to comply with the Montana County Noxious Weed Control Act.


Rocky B System
Hillside Colony
Sweetgrass
Sunburst
Glacier County
Kevin
Oilmont
Santa Rita
Gut Bank
Toole County
Ethridge
Shelby
Saint Johns
Kremlin
Havre
Valier
Box Elder
Rocky Boy
Ledger
Pondera County
Conrad
Blaine County
Pendroy
Brady
Bynum
Warrick
Eagleton
Teton County
New Rockport Colony
Miles

Rocky Boy's/North Central Montana Regional Water System with Land Cover Classification

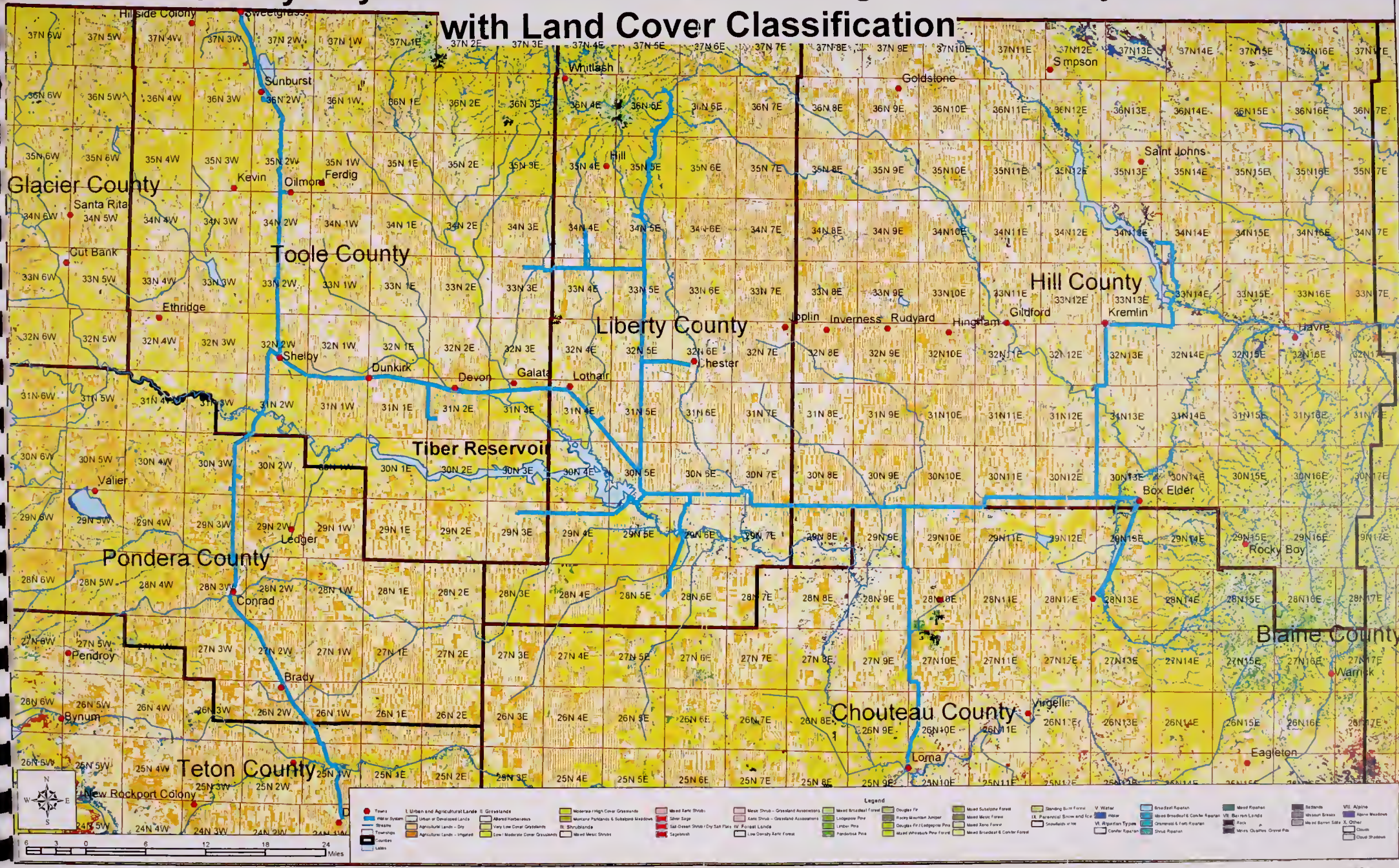


Table 3-5
Noxious Weed Species Present in the Study Area

Category 1 noxious weeds are weeds that are currently established and generally widespread in many counties of the state. Management criteria include awareness and education, containment, and suppression of existing infestations and prevention of new infestations. These weeds are capable of rapid spread and render land unfit or greatly limit beneficial uses.	Canada Thistle (*Cirsium arvense*) Whitetop or Hoary Cress (*Cardaria draba*) Leafy Spurge (*Euphorbia esula*) Russian Knapweed (*Centaurea repens*) Spotted Knapweed (*Centaurea maculosa*) Diffuse Knapweed (*Centaurea diffusa*) Dalmation Toadflax (*Linaria dalmatica*) Sulfur (Erect) Cinquefoil (*Potentilla recta*) Ox-eye Daisy (*Chrysanthemum leucanthemum* L.) Houndstongue (*Cynoglossum officinale* L.) Yellow Toadflax *(Linaria vulgaris)*
Category 2 noxious weeds have recently been introduced into the state or are rapidly spreading from their current infestation sites. These weeds are capable of rapid spread and invasion of lands, rendering lands unfit for beneficial uses. Management criteria includes awareness and education, monitoring and containment of known infestations and eradication where possible.	Purple Loosestrife or Lythrum (*Lythrum salicaria, L. virgatum*, and any hybrid crosses thereof) Tamarisk [Saltcedar] (*Tamarix* spp.)
Category 3 noxious weeds have not been detected in the state or may be found only in small, scattered, localized infestations. Management criteria include awareness and education, early detection and immediate action to eradicate infestations. These weeds are known pests in nearby states and are capable of rapid spread and render land unfit for beneficial uses.	None present.

Source: Sheeley and Petroff, 1999

3.4.2 Plant Species of Concern

The Montana Natural Heritage Program (MNHP) serves as a principle source of information on species of concern in Montana. These species, which may not be listed as threatened or endangered under the Endangered Species Act of 1973, are considered by the MNHP to be threatened with extirpation within their range or within the State. Primary factors in these listings include habitat loss or disturbance, sensitivity to human caused mortality, or rarity. A query of the MNHP database found no plant species of concern within the path of the proposed pipeline and a surrounding one mile-wide buffer area.

3.4.3 Ethnobotony

The Rocky Boy's Reservation is home to members of the Chippewa-Cree tribe who use a variety of native plants for food, health care, and religious purposes (Johnston 1987; Hart and Moore 1976; and Gilmore 1977). Plants of known ethnobotanical importance likely to occur in the area of the proposed pipeline include:

sweet grass	blue camas	pasque flower
cattail	willow	saskatoon (service berry)
field mint	red-osier dogwood	bitterroot
cow parsnip	wolf willow (silver berry)	spring beauty

Table 3-5
Noxious Weed Species Present in the Study Area

Category 1 noxious weeds are weeds that are currently established and generally widespread in many counties of the state. Management criteria include awareness and education, containment, and suppression of existing infestations and prevention of new infestations. These weeds are capable of rapid spread and render land unfit or greatly limit beneficial uses.	Canada Thistle (*Cirsium arvense*) Whitetop or Hoary Cress (*Cardaria draba*) Leafy Spurge (*Euphorbia esula*) Russian Knapweed (*Centaurea repens*) Spotted Knapweed (*Centaurea maculosa*) Diffuse Knapweed (*Centaurea diffusa*) Dalmation Toadflax (*Linaria dalmatica*) Sulfur (Erect) Cinquefoil (*Potentilla recta*) Ox-eye Daisy (*Chrysanthemum leucanthemum* L.) Houndstongue (*Cynoglossum officinale* L.) Yellow Toadflax *(Linaria vulgaris)*
Category 2 noxious weeds have recently been introduced into the state or are rapidly spreading from their current infestation sites. These weeds are capable of rapid spread and invasion of lands, rendering lands unfit for beneficial uses. Management criteria includes awareness and education, monitoring and containment of known infestations and eradication where possible.	Purple Loosestrife or Lythrum (*Lythrum salicaria, L. virgatum*, and any hybrid crosses thereof) Tamarisk [Saltcedar] (*Tamarix* spp.)
Category 3 noxious weeds have not been detected in the state or may be found only in small, scattered, localized infestations. Management criteria include awareness and education, early detection and immediate action to eradicate infestations. These weeds are known pests in nearby states and are capable of rapid spread and render land unfit for beneficial uses.	None present.

Source: Sheeley and Petroff, 1999

3.4.2 Plant Species of Concern

The Montana Natural Heritage Program (MNHP) serves as a principle source of information on species of concern in Montana. These species, which may not be listed as threatened or endangered under the Endangered Species Act of 1973, are considered by the MNHP to be threatened with extirpation within their range or within the State. Primary factors in these listings include habitat loss or disturbance, sensitivity to human caused mortality, or rarity. A query of the MNHP database found no plant species of concern within the path of the proposed pipeline and a surrounding one mile-wide buffer area.

3.4.3 Ethnobotony

The Rocky Boy's Reservation is home to members of the Chippewa-Cree tribe who use a variety of native plants for food, health care, and religious purposes (Johnston 1987; Hart and Moore 1976; and Gilmore 1977). Plants of known ethnobotanical importance likely to occur in the area of the proposed pipeline include:

sweet grass	blue camas	pasque flower
cattail	willow	saskatoon (service berry)
field mint	red-osier dogwood	bitterroot
cow parsnip	wolf willow (silver berry)	spring beauty

stinging nettle	water hemlock	winter fat
horsetail	creeping juniper	fringed sage
arrow-grass	blue grama grass	man sage
arrow-head	wild onion	silver sage
Baltic rush	needle-and-thread	wild strawberry
cottonwood	Indian ricegrass	breadroot (Indian turnip)
chokecherry	sedges, yellow bells	Seneca-root
thorny buffalo-berry	sego lily	buffalo bean
golden currant	wild rose	prairie clover
baneberry	avens	prairie coneflower
reed grass	shrubby cinquefoil	puccoon
hawthorn	wild licorice	scarlet globe mallow

Scientific names for these species are provided in Appendix A.

3.5 Wetlands

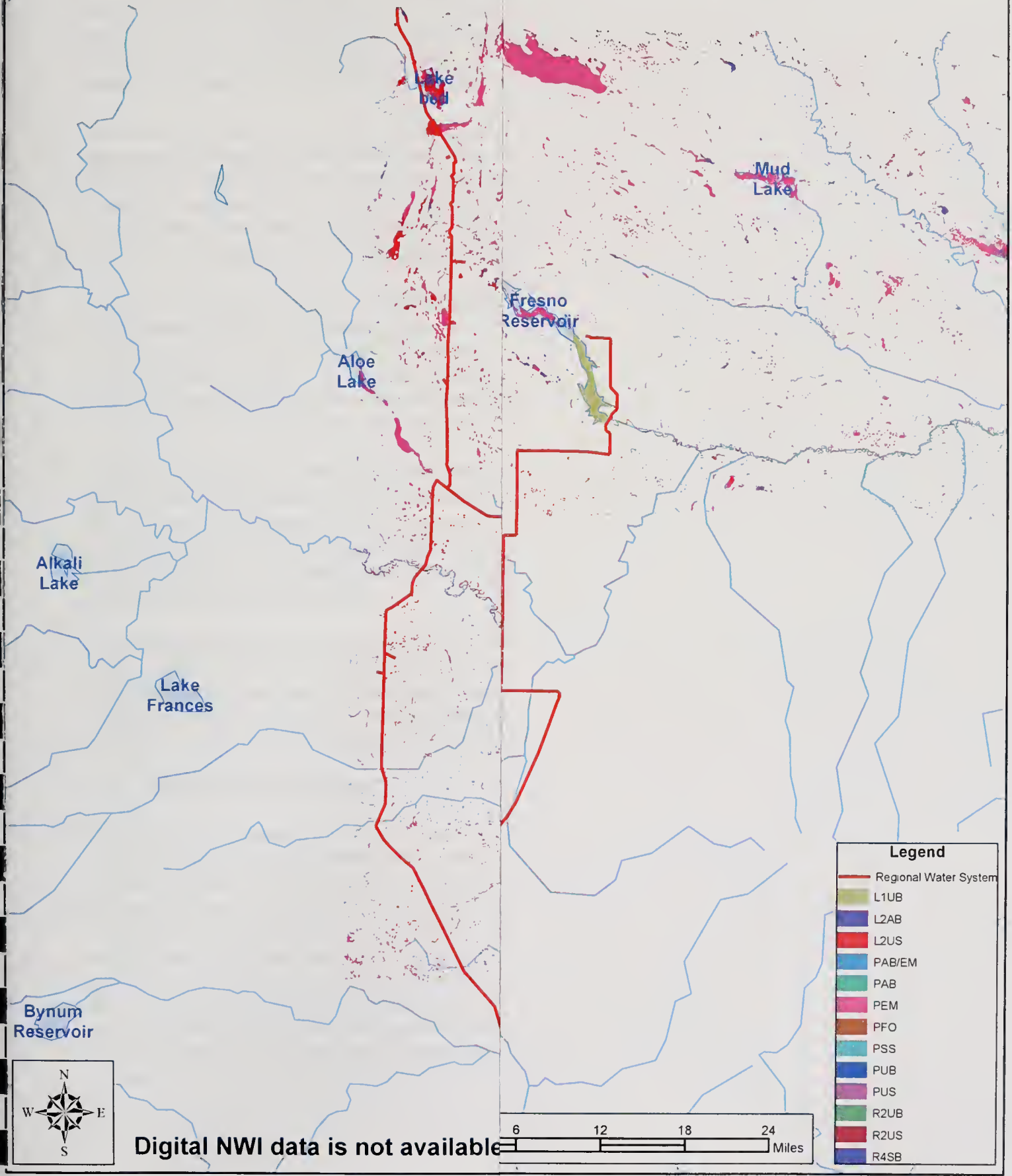
Wetlands fall under the jurisdiction of the U.S. Army Corps of Engineers (COE) under Section 404 of the Clean Water Act. The regulatory definition of wetlands is: areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. According to regulations of the COE, (33 CFR 320.4), wetlands constitute a productive and valuable resource. Unnecessary alteration or disruption is contrary to the public interest and therefore discouraged.

Jurisdictional (waters of the US) and non-jurisdictional wetlands will be treated in similar fashion. The COE will be involved through the 404 permitting process for all jurisdictional wetlands; however, non-jurisdictional wetlands in the area are accorded consideration under Executive Order 11990 and the Fish and Wildlife Coordination Act (FWCA). Thus every wetland in the footprint of the proposed pipeline will delineated and assessed for functional capacity prior to construction. Appropriate mitigation and monitoring will the follow to ensure wetlands have been restored. See Chapter 4 for wetland avoidance, minimization and compensation measures to be implemented for each wetland.

According to the National Wetland Inventory (NWI) maps developed by the USFWS, wetlands intersperse the project area (Figure 3-3). This database, while not of sufficient resolution for wetland permitting or design criteria, provides information on potential wetland types and classes the wetlands using a hierarchical system based on hydrologic, geomorphic, chemical, or biological factors (Cowardin et al. 1979). The NWI maps for the project area identify riverine, palustrine and lacustrine types within the project area.

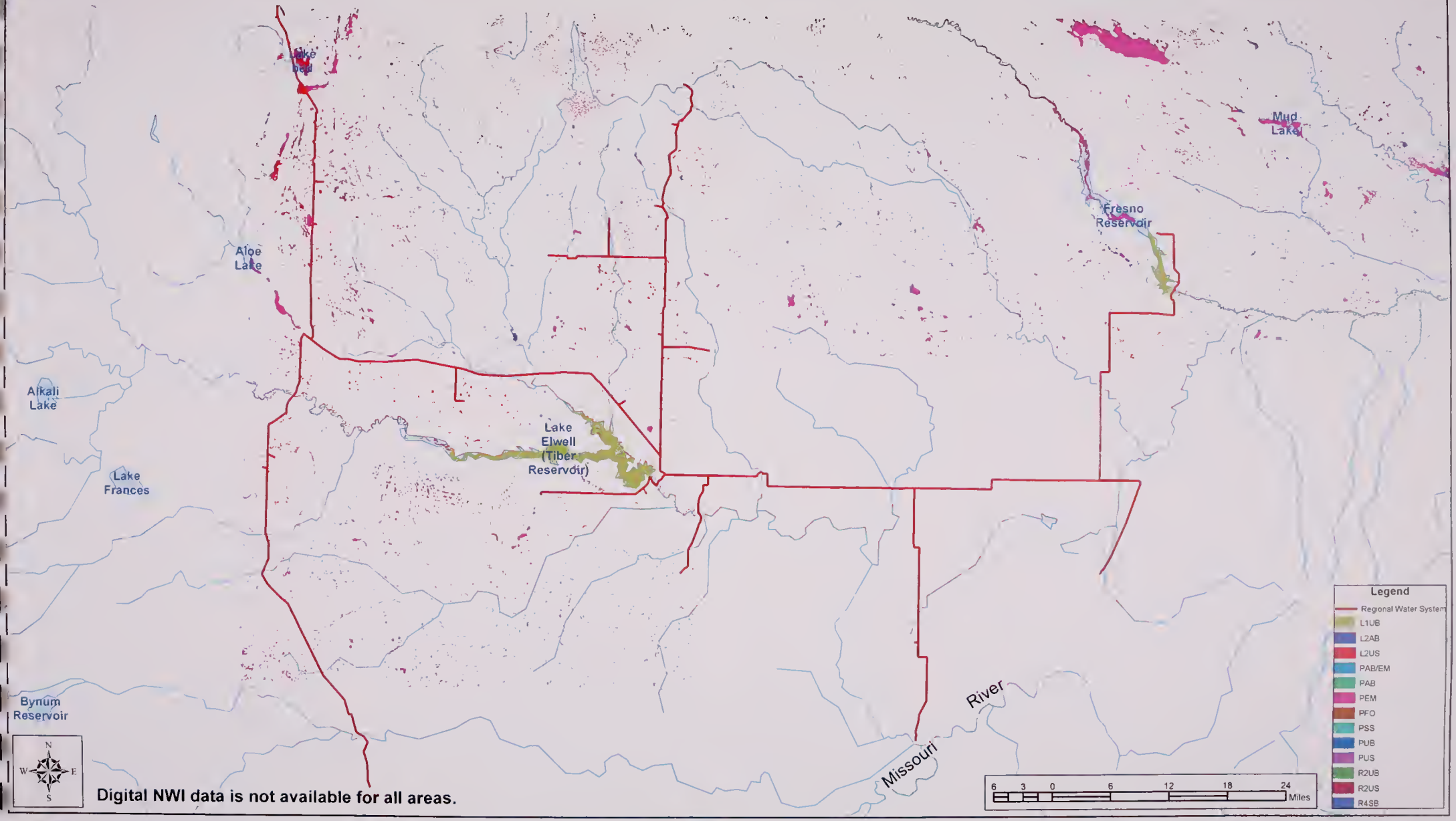
Riverine wetlands are those associated with a stream channel or conduit that at least periodically conveys running water. These do not include the adjacent areas dominated by trees, shrubs persistent emergents or mosses. These wetlands occupy stream channels throughout the area.

Rocky Boyiter System with Nation and Rivers



Digital NWI data is not available

Rocky Boy's/North Central Montana Regional Water System with National Wetland Inventory and Major Lakes and Rivers



Palustrine wetlands are the vegetated wetlands frequently referred to as marsh, swamp, fen, bog and prairie pothole. The classifications can also include ponds, lakeshores and stream adjacent areas. Palustrine wetlands are the most widespread wetland type in the project area. These include areas with unconsolidated or aquatic bed bottoms, scrub-shrub dominated wetlands, and forested wetlands such as the cottonwood galleries found along the major river corridors.

Lacustrine wetlands are those wetlands with deepwater habitats and shorelines associated with a topographic depression or dammed river channel. The larger reservoirs such as Lake Elwell and Fresno Reservoir support two classes of lacustrine wetland. Lacustrine, limnetic wetlands are generally deep water with an unconsolidated bottom. Lacustrine, littoral wetlands generally occur in waters less than 2 m in depth. The wetlands are often associated with the shorelines and generally have unconsolidated bottom materials or aquatic vegetation.

At this time it is not possible to quantify the acreage that would be impacted by construction of the proposed pipeline. However, prior to construction, all areas exhibiting general wetland characteristics and falling within the pipeline route will be delineated and assessed using the following criteria. Studies to delineate, classify and assess function of wetlands within the path of the proposed pipeline will be completed beginning the field season of 2004 and continuing on an annual basis for the duration of the project.

A qualified wetland scientist certified by the Wetland Training Institute will delineate and map all areas exhibiting general wetland characteristics in accordance with criteria established in the 1987 Corps of Engineers (COE) Wetland Delineation Manual (1987 COE Manual) using protocols detailed in *The Field Guide for Wetland Delineation 1987 Corps of Engineers Manual* (WTI 91-2, 1991). Wetland boundaries will be determined based upon plant communities, hydrology and soil characteristics.

All areas identified as wetlands through the above process will also be assessed using the methods and forms in accordance with the criteria established in the Montana Department of Transportation's *Montana Wetland Assessment Method*, 1999. This process categorizes all wetlands assessed and provides functional capacity in a numeric value. This numeric value in turn is used to guide mitigation and as a reference for monitoring after a disturbance.

3.6 Wildlife Resources

The project area supports a variety of native grassland, agricultural lands, open ponderosa pine forest, riparian forest and shrub areas, and wetlands. Accordingly, project activities have potential to affect a wide diversity of native wildlife, including both game and nongame species. The spatial resolution of the available distribution data does not allow for an accounting of animal species in the footprint of the project. Records are typically available by county in the case of mammals (Foresman 2001) or quarter latilongs of 800 square miles for birds (Bergeron et al 1992). In contrast, point data exist for reptiles and amphibians (Maxwell et al. 2003); however, the survey efforts for these taxa have been limited. As a result, the available data probably vastly under represents the actual distribution of these animals. In addition, it is easier to record presence of species than to prove absence. To address the limitations in the available information in predicting distribution of animals in the footprint of the project, this discussion

Palustrine wetlands are the vegetated wetlands frequently referred to as marsh, swamp, fen, bog and prairie pothole. The classifications can also include ponds, lakeshores and stream adjacent areas. Palustrine wetlands are the most widespread wetland type in the project area. These include areas with unconsolidated or aquatic bed bottoms, scrub-shrub dominated wetlands, and forested wetlands such as the cottonwood galleries found along the major river corridors.

Lacustrine wetlands are those wetlands with deepwater habitats and shorelines associated with a topographic depression or dammed river channel. The larger reservoirs such as Lake Elwell and Fresno Reservoir support two classes of lacustrine wetland. Lacustrine, limnetic wetlands are generally deep water with an unconsolidated bottom. Lacustrine, littoral wetlands generally occur in waters less than 2 m in depth. The wetlands are often associated with the shorelines and generally have unconsolidated bottom materials or aquatic vegetation.

At this time it is not possible to quantify the acreage that would be impacted by construction of the proposed pipeline. However, prior to construction, all areas exhibiting general wetland characteristics and falling within the pipeline route will be delineated and assessed using the following criteria. Studies to delineate, classify and assess function of wetlands within the path of the proposed pipeline will be completed beginning the field season of 2004 and continuing on an annual basis for the duration of the project.

A qualified wetland scientist certified by the Wetland Training Institute will delineate and map all areas exhibiting general wetland characteristics in accordance with criteria established in the 1987 Corps of Engineers (COE) Wetland Delineation Manual (1987 COE Manual) using protocols detailed in *The Field Guide for Wetland Delineation 1987 Corps of Engineers Manual* (WTI 91-2, 1991). Wetland boundaries will be determined based upon plant communities, hydrology and soil characteristics.

All areas identified as wetlands through the above process will also be assessed using the methods and forms in accordance with the criteria established in the Montana Department of Transportation's *Montana Wetland Assessment Method*, 1999. This process categorizes all wetlands assessed and provides functional capacity in a numeric value. This numeric value in turn is used to guide mitigation and as a reference for monitoring after a disturbance.

3.6 Wildlife Resources

The project area supports a variety of native grassland, agricultural lands, open ponderosa pine forest, riparian forest and shrub areas, and wetlands. Accordingly, project activities have potential to affect a wide diversity of native wildlife, including both game and nongame species. The spatial resolution of the available distribution data does not allow for an accounting of animal species in the footprint of the project. Records are typically available by county in the case of mammals (Foresman 2001) or quarter latilongs of 800 square miles for birds (Bergeron et al 1992). In contrast, point data exist for reptiles and amphibians (Maxwell et al. 2003); however, the survey efforts for these taxa have been limited. As a result, the available data probably vastly under represents the actual distribution of these animals. In addition, it is easier to record presence of species than to prove absence. To address the limitations in the available information in predicting distribution of animals in the footprint of the project, this discussion

examines the documented presence of animals in the larger region and the probability of encountering these species in the project area. Scientific names for animal species present in the project area are presented in Appendix A.

3.6.1 Mammals

Montana is home to six orders and 20 families of mammals with many of these occurring in the study area. These include ungulates, carnivores, rodents, hares and rabbits, bats, and shrews. A large percentage of mammals occurring within the state are likely to be present within the project area.

A variety of habitats supports big game species in the project area. White-tailed deer are common throughout the project area and utilize river bottoms, grasslands, and agricultural lands. Similarly, mule deer occur throughout the project area in grasslands, sagebrush steppe, agricultural areas, and breaks. Pronghorn are also abundant and prefer grasslands and sagebrush steppe. Elk and moose are present in several counties in the project area and occur mostly at higher elevations in forested environments.

Counties in the project area provide habitat to a diverse array of carnivores. Three species of the dog family are present including the coyote, red fox, and the rare swift fox. There are records for three species of the cat family, mountain lion, lynx, and bobcat; however, both the mountain lion and lynx are unlikely to be found at the low elevations where the pipeline will be constructed. Members of the weasel family likely to occur within the project area include river otter, short-tailed weasel, long-tailed weasel, least weasel, mink, and badger. Raccoons and skunks occupy a wide range of habitats including grasslands, agricultural lands, coulees, and riparian areas. Black bears reside mostly in coniferous forests at higher elevations.

Approximately 15 species of rodent occur within the counties in the study area. Beavers are abundant along waterways. Porcupines occur in mixed coniferous and deciduous stands, particularly where brushy understory vegetation provides protective cover. Members of the Murid family of rodents include six species of vole, the northern grasshopper mouse, the bushy-tailed woodrat, the white-footed mouse, deer mouse, and the introduced house mouse. Seven members of the squirrel family occur in counties in the project area including the black-tailed prairie dog, Richardson's ground squirrel, thirteen-lined ground squirrel, yellow-bellied marmot, red squirrel, and two species of chipmunk. The western jumping mouse is the only member of its family likely to occur in the project area.

Other small mammals in the project area include shrews, bats, and lagomorphs. Five species of shrew are present with habitat preferences varying from riparian areas to montane environs among these species. Ten species of bat have been recorded in counties within the region. Lagomorphs include the snowshoe hare, which prefers Douglas fir stands, the white-tailed jackrabbit preferring open grasslands, the desert cottontail, which prefers arid conditions, and the mountain cottontail, which occurs in a variety of habitats from sagebrush slopes to cropland.

3.6.2 Reptiles and Amphibians

Numerous species of amphibians and reptiles occur in the project area (Maxwell et al 2003). Amphibians are typically associated with streams, rivers, ponds, or wetlands for at least part of their life cycle. Amphibians include the tiger salamanders; several species of toad such as plains spadefoot, Great Plains toad, and Woodhouse's toad; and two species of frog, the boreal chorus frog and northern leopard frog. Among these species, several are classified as species of special concern including the plains spadefoot, Great Plains toad, and the northern leopard frog.

Reptiles present in the project area include species requiring streams, ponds, or wetlands, and those adapted to drier sites. The painted turtle occurs associated with aquatic habitats in the project area. Few records exist for this species (Maxwell et al 2003); however, more recent survey efforts suggest that painted turtles may be relatively abundant in the project area (Dr. Robert Bramblett, Montana State University, personal communication). The spiny softshell is another turtle present in the project area. This species prefers more riverine habitats and is present in the Missouri River, Marias River, and potentially the Teton River.

Snakes and lizards present in the study area are less reliant on aquatic habitats than the turtles. The greater short-horned lizard is the only species of lizard and occupies a variety of habitats, including dry, open forests, sagebrush steppe, and grasslands with loose, sandy soil (Reichel and Flath 1995). Snakes include the western hognose snake, eastern racer, gophersnake, terrestrial garter snake, plains garter snake, and western rattlesnake.

3.6.3 Birds

Birds in the project area include a diverse assortment of waterfowl, wading birds, raptors, owls, woodpeckers, songbirds, and others. Observers have recorded sightings of over 275 species in the geographic area encompassing the North Central System (Bergeron et al 1992). Birds varied in the use of the area with some occurring as transients or migrants, while others reside here during breeding season and/or throughout the winter.

Wetlands, rivers, and streams provide habitat to waterfowl and shorebirds or wading birds. Common species of waterfowl include Canada goose, mallard, northern pintail, gadwall, green-winged teal, blue-winged teal, northern shoveler, canvasback, and American coot. Other species often associated with water include gulls and terns with five species either breeding or overwintering in the region. American white pelicans are probably present as foraging adults as there are no known rookeries present in the region (Elizabeth Madden, USWFS, personal communication). Common wading birds include killdeer, sora, American avocet, spotted sandpiper, willet, upland sandpiper, Wilson's phalarope, and long-billed curlew.

A number of hawks, eagles, and falcons occur in the project area. Bald eagles and osprey occur chiefly along waterways associated with cottonwood gallery forests. Golden eagles both breed and overwinter in the region. Northern harriers are summer residents that forage over wetlands and open fields. Two species of accipiter, the sharp-shinned and Cooper's hawks reside in woodlands such as woody draws or cottonwood galleries. Red-tailed hawks and Swainson's hawks are common summer residents of the area and are replaced in winter by the rough-legged

hawk. Ferruginous hawks are also known to breed on rocky outcrops in the region. Four species of falcon, American kestrel, merlin, prairie falcon, and peregrine falcon breed and possibly overwinter in the region. The gyrfalcon is an occasional winter visitor.

The project area supports several species of upland game bird. The native sharp-tailed grouse breed and overwinter in the area. Wild turkeys have been introduced to the area and inhabit ponderosa pine forests and cottonwood gallery forests. Ring-necked pheasant and gray partridge are other common, introduced game species that rely on grasslands and agricultural lands.

A number of species of owl occur in the region of the North Central System. The great horned owl is among the most common and both breeds and overwinters in the area. Burrowing owls are known to breed in the region and are associated with prairie dog colonies. The short-eared owl also breeds and overwinters in the region. Snowy owls are occasional winter visitors or migrants.

A diverse array of songbirds breeds in the region of the North Central System. This includes members of the flycatcher, lark, swallow, crow, wren, thrush, sparrow, finch, and warbler families. Some of the most common species include western meadowlark, eastern and western kingbirds, American goldfinch, black-billed magpie, savannah sparrow, brown-headed cowbird, lark bunting, and western wood peewee. Other common species not classified as songbirds include northern flicker, mourning dove, belted kingfisher, and common snipe.

Numerous species of bird are present as migratory or transient bird as the project area lies within the eastern portion of the Pacific flyway. A complication in evaluating potential impacts on migrating birds is the variability in timing of migration among species. For example, many species of shorebirds move through the area in March and begin their return to overwintering areas in mid-July. In contrast, snow geese move through Montana during the fall migration in November. The whooping crane may be among the migrants with sightings documented to the east of Lake Elwell (Bergeron et al 1992).

Special consideration of ground nesting birds is warranted due to the ground disturbing activities associated with pipeline construction. Many species of bird that breed in the region are ground nesters. These include waterfowl and shorebirds. In addition, many species of passerine or perching birds nest on the ground. For example, most species of sparrow in the area, including clay-colored sparrow, Brewer's sparrow, vesper sparrow, lark sparrow, and Baird's sparrow are ground nesters. Other species that nest on the ground include burrowing owls, sage thrashers, Sprague's pipits, bobolinks, and western meadowlarks. Of the ground nesting species, several are Montana species of concern including Baird's sparrow, burrowing owls, and Sprague's pipits.

Native prairie grasslands in the project area are used for breeding by Baird's sparrows, Sprague's pipets, upland sandpipers, bobolinks, burrowing owls, clay-colored sparrows, and long-billed curlews. Much of the remaining native grasslands in the project area is in relatively small, discontinuous blocks surrounded by cultivated land. Due to the loss of native prairie, resource agencies and conservation groups are concerned for the viability of these species.

3.6.4 Animal Species of Concern

The Montana Natural Heritage Program (MNHP) documents species considered to be threatened with extirpation within their range or within Montana due to habitat loss or disturbance, sensitivity to human caused mortality, or rarity. Table 3-6 provides a summary of these terrestrial species. Aquatic species of concern are outlined in the following section.

3.7 Fishery Resources

Rivers, streams, and reservoirs in the project area support aquatic communities comprised of native species and popular, introduced sport fisheries. The majority of the waters in the project area are warm-water systems supporting species adapted to relatively warm temperatures and high turbidity. The exceptions occur in tailwaters and reservoirs, which provide habitat for a mixture of cold-water and warm-water species. Taxa lists for each stream, where data were available, are provided in Appendix B.

3.7.1 Lake Elwell (Tiber Reservoir)

Lake Elwell is also a mesotrophic water supporting a fishery comprised mostly of introduced species with several native species. The reservoir supports a popular recreational fishery that regularly ranks within the top ten waters in the MFWP's Region 4, which encompasses the Rocky Mountain Front to Fort Peck Reservoir. Walleye, northern pike, yellow perch, and rainbow trout are common, introduced game species. Cisco and spottail shiners are introduced forage species. Common carp, a Eurasian species, is also abundant in Lake Elwell. Common native species include burbot, white sucker, and several minnow species.

Several species rely on littoral or shoreline areas for one or more stage of their life history. Northern pike spawn in spring over vegetation in shallow, marginal waters. Similarly, yellow perch often spawn on submerged vegetation and adults make daily movements inshore in the late afternoon or evening to feed. Cisco spawn in the early fall and require that the reservoir level drop no more than two feet from December through March. Walleye spawn on gravel substrates and are not as dependent on specific water levels provided that they are either stable or increasing during the spawning period of April through mid-June.

3.7.2 Fresno Reservoir

Fresno Reservoir is formed by impoundment of the Milk River upstream of Havre, Montana. Fresno Reservoir is a mesotrophic body of water supporting mostly introduced game and forage species. These include black crappie, lake whitefish, northern pike, walleye, and yellow perch. In addition, MFWP stocked the rainbow trout, kokanee, and yellow perch into Fresno Reservoir in the 1990s. Native species include burbot, flathead chub, and members of the sucker family.

Table 3-6
Terrestrial Species of Concern

Common Name	Scientific Name	Occurrence in Project Area
Birds		
American White Pelican	*Pelecanus erythrorhynchos*	Forages in the region
Baird's Sparrow	*Ammodramus bairdii*	Breeds in the region
Black Tern	*Chlidonias niger*	Breeds in the region
Black-crowned Night Heron	*Nycticorax nycticorax*	Breeds in the region
Burrowing Owl	*Athene cunicularia*	Evidence of breeding in the region
Canvasback	*Aythya valisineria*	Evidence of breeding in the region
Columbian sharp-tailed grouse	*Tympanuchus phasianellus*	Breeds and overwinters in the region
Common loon	*Gavia immer*	Migrant through region
Common Tern	*Strena hirundo*	Breeds in the region
Ferruginous Hawk	*Buteo regalis*	Near town of Galata, and west of I-15, 8-14 miles south of the Canadian border
Forster's Tern	*Strerna forsteri*	Breeds in the region
Franklin's Gull	*Larus pipixcan*	Breeds in the region
Hairy Woodpecker	*Picoides villosus*	Breeds and overwinters in region
Loggerhead shrike	*Lanius ludovicianus*	Breeds in region
Long-billed curlew	*Numenius americanus*	Breeds in region
Northern Goshawk	*Accipiter gentilis*	Observed in region, no evidence of breeding
Peregrine Falcon	*Falco peregrinus*	Overwinters and potentially breeds in the region
Sage grouse	*Centrocercus urophasianus*	Potentially breeds in region
Swainson's hawk	*Buteo swainsonii*	Breeds in region
White-faced ibis	*Plegadis chihi*	Breeds in region
Mammals		
Merriam's shrew	*Sorex merriami*	Occurs in the region
Preble's Shrew	*Sorex preblei*	Occurs in the region
Townsend's big-eared bat	*Corynorhinus townsendii*	Documented in all counties in the project area, roosts in cottonwoods
Reptiles		
Spiny Softshell	*Trionyx spiniferus*	The Missouri River from Fort Benton to the Musselshell, the bottom 20 miles of the Marias, and the Musselshell between Shamut and Harlowton
Western Hognose Snake	*Heterodon nasicus*	South side of Marias River 10 miles south of Galata

Sources: Montana Fisheries Information System; Bergeron et.al., 1992; Foresman, 2001; Maxwell et.al., 2003; Reichel and Flath, 1995

3.7.3 Marias River

The ecology of the Marias River varies along its length with Lake Elwell providing a significant influence on factors that shape the ecology, specifically thermal regime and sediment transport. Above Lake Elwell, the Marias River transitions from a cold-water stream to a warmer, prairie river although fisheries data for this reach are lacking. An exhaustive fish eradication effort in the 1950s eliminated virtually all the native species in the watershed above Lake Elwell. The purpose of this effort was to maintain a recreational, nonnative fishery in the reservoir. Release of cooler, clear waters from Tiber Dam provides the environment for a cold-water, tailwater fishery in the Marias River. Mountain whitefish are the dominant species with rainbow trout and brown trout also being present. These are highly productive waters resulting in exceptional growth of these salmonids. As stream trout fishing is scarce in this area of the state, MFWP considers this cold-water fishery to be an especially valuable resource.

The Marias River transitions back to a warm water system below Pondera Coulee where channel catfish, flathead chub, sauger, and several species of sucker are abundant. The lower Marias River provides substantial spawning habitat for the middle Missouri fishery. Fluvial species that migrate from the Missouri River to the Marias to spawn include sauger, blue sucker, and shovelnose sturgeon.

3.7.4 Teton River

The Teton River is the next drainage to the south of the Marias River. Similar to the Marias River, the Teton begins as a cold-water trout fishery and transitions to a warm, turbid prairie river as it flows across the plains. Unlike the Marias, the Teton River lacks a main stem dam. As a result, modifications to thermal and sediment transport regimes do not disrupt the river continuum. However, dewatering is a significant constraint on fish and aquatic life in the Teton River.

In the project area, the Teton River supports primarily a warm-water fishery. Species present include native game species such as channel catfish, sauger, burbot, and goldeye. Nongame species include a diverse assemblage of members of the minnow family including emerald shiner, flathead chub, sand shiner, and longnose dace. Members of the sucker family include shorthead redhorse, mountain sucker, longnose sucker, white sucker, river carpsucker, and blue sucker. In addition to the resident fishery, the Teton River provides spawning and rearing areas for fluvial fish from the Missouri River. Gardner and Berg (1982) reported spawning runs of blue sucker and sauger in to the Teton River.

3.7.5 Milk River

The portion of the Milk River in the project area consists of a small portion just below Fresno Dam. This portion of the Milk River supports a warm-water fishery comprised of both introduced game species and native species. Burbot, goldeye, flathead chub, northern red-belly dace, and lake chub are common native species. Introduced species include northern pike, walleye, and lake whitefish.

3.7.6 Missouri River

The North Central System encroaches near the Missouri River by Loma, Montana. This portion of the Missouri River is primarily a warm-water fishery supporting mostly native species. This includes several species of special concern such as sauger, blue sucker, sturgeon chub, and the endangered pallid sturgeon. While proposed non-core portions of the North Central System will serve Loma, Montana located about 0.5 miles from the Missouri River, the system will not encroach close enough to the river to have an effect on the fishery or water quality.

The North Central System encroaches on or crosses a number of tributary streams in the Marias and Milk River watersheds. Fish survey efforts in tributary streams in the prairie have been limited; however, data are available for most streams in the project area (see Appendix B). These tributaries are typically warm-water systems supporting mostly non-game fisheries although the introduced northern pike has become established in small streams in the prairie region of Montana. Common species occurring in these streams include the white sucker, longnose sucker, common carp, lake chub, longnose dace, and fathead minnow.

3.8 Fish Species of Concern

The Montana Natural Heritage Program (MNHP) documents species considered to be threatened with extirpation within their range or within Montana due to habitat loss or disturbance, sensitivity to human caused mortality, or rarity. Table 3-7 provides a summary of these aquatic species.

Table 3-7
Aquatic Species of Concern

Common Name	Scientific Name	Occurrence in Project Area
Blue Sucker	*Cycleptus elongatus*	Missouri River, Marias River, Teton River
Northern Redbelly Dace ×Finescale Dace hybrid	*Phoxinus eos ×P. neogaeus*	Teton River
Paddlefish	*Polyodon spathula*	Fort Peck Reservoir and the Missouri River up to Loma
Pearl Dace	*Margariscus margarita*	Milk River
Sauger	*Sanders canadense*	Teton, Marias, Milk, and Missouri rivers
Sicklefin Chub	*Macrohybopsis meeki*	Missouri River
Sturgeon Chub	*Macrhybopsis gelida*	Missouri, Marias, and Teton rivers

Sources: Montana Fisheries Information System; Bergeron et.al., 1992; Foresman, 2001; Maxwell et.al., 2003; Reichel and Flath, 1995

3.9 Threatened and Endangered Species

The Endangered Species Act (ESA) of 1973 requires federal agencies to examine the effects to threatened and endangered species before taking federal actions. Six federally listed threatened and endangered (T&E) species and two candidate species may occur in the project area. These species and their current status are outlined in Table 3-8.

Table 3-8
Threatened, Endangered, and Candidate Species in the Project Area

Species	Scientific Name	Status	Description
Bald eagle	*Haliaeetus leucocephalus*	Threatened	The USFWS is not aware of bald eagles near the proposed pipeline routes. Bald eagles may occur as migrants or winter residents.
Piping plover	*Charadrius melodus*	Threatened	Potentially breeds in the region
Whooping crane	*Grus americana*	Endangered	Possible migrant through region
Pallid sturgeon	*Scaphirhynchus albus*	Endangered	Occupies the upper Missouri River, which is close to but not within the project area
Black-footed ferret	*Mustela nigripes*	Endangered	Black-footed ferrets were released into the wild in southern Phillips County during the fall of 1994, 1995 and 1996. Although none are known at this time, other black-footed ferrets may potentially be found in Montana in conjunction with prairie dog (Cynomys spp.) colonies.
Black-tailed prairie dog	*Cynomys ludovicianus*	Candidate	Present in all counties in the project area
Swift fox	*Vuples velox*	Candidate	Occurs in the region
Gray wolf	*Canus lupus*	Endangered	Experimental population

Source: Montana Natural Heritage Program and MFWP 2003

Many federal agencies have policies to protect candidate species from further population declines. Candidate species are those taxa for which the U.S. Fish and Wildlife Service (USFWS) has sufficient information on biological status and threats to propose to list them as threatened or endangered. USFWS encourages their consideration in environmental planning and partnerships; however, none of the substantive or procedural provisions of the Endangered Species Act (ESA) apply to candidate species.

3.10 Social and Economic Conditions

3.10.1 Demographics

Table 3-9 presents population data for 1920 – 2000.

Table 3-9
Population Summary

Year	Chouteau	Glacier	Hill	Liberty	Pondera	Teton	Toole	Total	Percent Change
1920	11,051	4,178	13,958	2,416	5,471	5,870	3,724	**48,588**	
1930	8,635	5,297	13,775	2,198	6,964	6,068	6,714	**51,581**	**6.16%**
1940	7,316	9,034	13,304	2,209	6,716	6,922	6,769	**54,210**	**5.10%**
1950	6,974	9,645	14,285	2,180	6,392	7,232	6,867	**55,525**	**2.43%**
1960	7,348	11,565	18,653	2,624	7,653	7,295	7,904	**65,002**	**17.07%**
1970	6,473	10,783	17,358	2,359	6,611	6,116	5,839	**57,509**	**-11.53%**
1980	6,092	10,628	17,985	2,329	6,731	6,491	5,559	**57,795**	**0.50%**
1990	5,452	12,121	17,654	2,295	6,433	6,271	5,046	**57,262**	**-0.92%**
2000	5,970	13,247	16,673	2,158	6,424	6,445	5,267	**58,184**	**1.61%**
Overall Total									**19.75%**

Source: U.S. Census Bureau, 2000

Table 3-10 provides an overview of the major areas of employment within the study area. As with the overall state, education is the largest area of employment within the study area. Educational employment at Rocky Boy's is nearly twice the statewide average, compared to the remainder of the study area which lies at approximately 20 percent. With the exception of the Rocky Boy's Reservation, agriculture related employment makes up another 20 percent of the industry within the study area, which is substantially higher than the remainder of the state.

Table 3-10
Area Industry Summary (in percentages)

	Ag.	Const.	Mfg.	Wholesale/ Retail	Transp.	Finance	Prof.	Ed.	Arts	Public
Rocky Boy's	3.5	6.9	1.0	4.0	1.2	2.2	2.5	40.0	11.1	23.2
Chouteau	32.7	4.8	3.1	10.2	2.8	4.8	2.3	22.0	6.0	5.4
Hill	9.5	5.0	1.3	14.6	10.0	4.3	3.2	27.0	9.5	5.8
Liberty	33.7	4.7	5.0	10.5	2.6	4.3	2.9	19.8	5.5	5.6
Pondera	20.2	4.4	2.0	16.7	4.8	2.8	4.5	24.4	6.7	6.4
Teton	20.6	5.1	2.9	13.0	6.1	4.5	3.9	23.4	6.1	4.1
Toole	15.4	4.6	1.5	13.4	7.5	5.4	4.0	22.0	10.4	9.6
Montana	***7.9***	***7.4***	***6.0***	***15.8***	***5.4***	***5.5***	***6.5***	***21.7***	***10.4***	***5.9***

Source: U.S. Census Bureau, 2000

The Rocky Boy's Reservation has notably higher unemployment and poverty levels, and lower median household income than the remainder of the study area and the state in general. The remaining counties in the study area are less remarkably different than the state averages, with lower unemployment, but this area is still less prosperous than the state in general. Table 3-11 provides an economic summary of the study area.

Table 3-11
Economic Summary

	Unemployment	Median Household Income	Families Below Poverty Level
Rocky Boy's	17.6 %	$ 22,470	38 %
Chouteau	3.5 %	$ 29,150	17 %
Hill	6.5 %	$ 30,780	15 %
Liberty	1.9 %	$ 30,280	19 %
Pondera	4.2 %	$ 30,460	15 %
Teton	2.1 %	$ 30,200	12 %
Toole	2.5 %	$ 30,170	10 %
Montana	***4.1 %***	***$ 33,024***	***11 %***

Source: U.S. Census Bureau, 2000

Implications from this overview are discussed further in the Environmental Justice section.

3.10.2 Community Services

Law enforcement in the project area is provided by BIA, BLM, MFWP wardens, city police and county sheriff departments. Emergency services are provided by EMT/rural fire departments. Fire protection is provided by city and rural fire departments.

3.10.3 Temporary Housing

Existing housing stocks can be very important for large scale, but relatively short term, construction projects. Table 3-12 provides a summary of the existing short and long term housing options.

Table 3-12
Housing Summary

	Occupied	Vacant	Seasonal	Homeowner Vacancy Rate	Rental Vacancy Rate	Median Rental Rate
Rocky Boy's	644	54	2	-	1.9	$ 197
Chouteau	2,226	550	128	3.8	8.3	$ 287
Hill	6,457	996	273	2.8	8.9	$ 364
Liberty	833	237	76	6.3	10.2	$ 340
Pondera	2,410	424	46	4.8	12.8	$ 367
Teton	2,538	372	145	2.2	7.3	$ 362
Toole	1,962	338	46	4.6	11.0	$ 372
Montana	-	-	-	*2.2*	*7.6*	*$ 447*

Source: U.S. Census Bureau, 2000

Both homeowner and rental vacancy rates in the study area are higher than the statewide average, with average rents being substantially lower than the statewide average. Rocky Boy's has fewer rental opportunities, but offers very affordable rental rates.

According to 2000 Census data, the rental vacancy rate on the Reservation was 1.9 percent. In the six-county project area, the homeowner vacancy rate ranged from a high of 6.3 percent in

Liberty County to a low of 2.2 in Teton County; and the rental vacancy rate ranged from a high of 12.8 in Pondera County to a low of 7.3 in Teton County. While Teton County presents the largest challenge for temporary housing, very little of the overall project is located in this area; and with the exception of the Reservation, the remainder of the study area has higher than state-wide average vacancy rates and lower rental rates which would be conducive to temporary, project employment housing.

Additional short-term food and housing options include local restaurants, hotels, motels, and trailer courts. These facilities are summarized in Table 3-13.

Table 3-13
Other Public Accommodations

	Hotels/Motels	Trailer Parks	Pools/Spas	Restaurants
Chouteau	7	4	-	44
Hill	13	23	6	98
Liberty	2	4	-	15
Pondera	6	4	2	46
Teton	7	7	4	59
Toole	11	13	3	50
Total	***46***	***55***	***15***	***312***

Source: Montana Dept. of Public Health and Human Services, Food and Consumer Safety Section, 2003

3.10.4 Highway Traffic

Two U.S. Routes (US 2 and US 87), provide the main connections within the study area. US Highway 2 is an east/west route connecting Shelby and Havre, and US Highway 87 is a north/south route connecting Fort Benton and Havre through Rocky Boy's. Two major County Roads provide north/south connections between Fort Benton and Chester (Route 223), and between Havre and the Canadian border (Route 232). Several other paved and unpaved County Roads provide non-contiguous routes throughout the project area.

The largest traffic volumes in the study area occur on US 2 and US 87. Traffic counts from 2002 on these routes document average daily traffic volumes of 2,803 on US 2 east of Havre, and 1,424 west of Havre; and 2,407 on US 87 north of Fort Benton.

3.11 Cultural Resources

The first white settlers came to Montana with the fur trade in 1830's. In 1845, the Pierre Choteau Jr., and Company (aka: American Fur Company) built Fort Lewis along the Missouri River. This was renamed Fort Benton, which became the first town in Montana. By 1863, several towns had been established in Southwestern Montana as a result of gold discoveries. Montana Territory was created in 1864 during the mining boom of the 1860's.

Following the battle of Little Big Horn, many Indian bands fled north to Canada, prompting the Army to build Fort Assiniboine, located near the northwestern edge of the Bear Paw Mountains. In 1915, the Secretary on the Interior was authorized by Congress to open the military reservation lands for settlement. During 1916 Congress withdrew approximately 55,000 acres of

the previous Fort Assiniboine Reservation from settlement for occupation by the Rocky Boy's band of Chippewa's and other homeless Indians within the state of Montana. Subsequent to the 1916 withdrawal, a number of other congressional acts added to the Rocky Boy's land base. A more detailed historical discussion of the Chippewa-Cree Tribe and the Rocky Boy's Reservation is found in the Tribal Needs Assessment (MSE-HKM, 1997a).

The Union Pacific, St. Paul, Minneapolis & Manitoba Railroad was expanding to the Pacific coast, and by 1887 extended west to "Bull Hook Bottoms," which was renamed Havre, near Fort Assinniboine. Havre and Fort Benton were the only fully developed towns at the beginning of the twentieth century. In 1912, Congress passed the Three-Year Homestead Act, which resulted in almost 32,000,000 acres of Montana land converted from public to private ownership. By 1910 the state population grew to 376,053 and new towns such as Chester, Big Sandy, and Rudyard appeared. The boom ended with the drought years of 1917-1919. Montana has experienced wet and dry cycles since then, and the scarcity of water has severely limited growth in the area.

3.11.1 Section 106 Compliance Process

Because the construction of the North Central System would involve federal funds, the proposed project would have to comply with federal legislation concerning cultural resources. Cultural resources include material remains, buildings, structures, sites, objects, districts, and properties of traditional religious and cultural importance that reflect our history and cultural heritage. A variety of federal laws, regulations, and guidelines provide protection for these resources. These laws specify how a federal agency shall consider such resources on lands it manages or when evaluating the impacts of its construction or permitting activities.

The National Historic Preservation Act (NHPA) of 1966 as amended through 1992, and its implementing regulations 36 CFR Part 800 are the most encompassing of these regulations. NHPA stipulates that a federal agency must consider the effects of an undertaking (project) on any district, site, building, structure, object or properties of traditional and cultural importance included in or potentially eligible to the National Register of Historic Places (NRHP). 36 CFR Part 60.4 lists the criteria for inclusion in the NRHP. The agency must consult with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP) to provide them an opportunity to comment on the effects. Further, the 1992 amendments to NHPA strongly urge that the federal agency also include appropriate tribes in this consultation process, and the Chippewa Cree Tribal Historic Preservation Office (THPO) has been included in the consultation for this proposed project. With respect to the mandates of NHPA, the following discussion can be viewed as applicable to the initial stages of the compliance process.

As lead federal agency for this undertaking, Reclamation is responsible for compliance with Section 106 of the NHPA and 36 CFR Part 800. Consultations will be conducted in accordance with the Programmatic Agreement (Draft contained in Appendix C) as stipulated in 36 CFR 800.14. Reclamation, NCMRWA, SHPO, ACHP, and for Indian and trust lands, the BIA and the Chippewa-Cree Tribe will be parties to the Programmatic Agreement.

3.11.2 Ongoing Cultural Resource Inventories

A Class I literature and file search of the known cultural resources in the project area has been completed by Ethos Consultants, Inc. (1997). Cultural resource potential of the project area is summarized below:

- The 452.5 miles of right-of-way collectively comprising the proposed 24 legs of the project pass through or immediately adjoin portions of 516 USGS (topographical map) Sections.

- In only 209 (40%) of these 516 sections have one or more previous cultural resource studies been conducted.

- Within the quarter sections the proposed lines pass through or immediately adjoin, a total of 150 previously documented cultural resource properties are present.

- 101 (67%) of these 150 sites relate to Euro-American settlement in the region; and

- 49 (33%) reflect prehistoric Native American use of the region.

- Of these 150 sites, 16 (11%) have been determined or recommended as eligible for listing on the NRHP; 21 (14%) have been determined or recommended as ineligible for listing on the NRHP, and the NRHP eligibility for the remaining 113 properties (75%) is indeterminate.

- The actual number of sites presently recorded is of limited value, since they still may not be located within the proposed right-of-way. However, they provide a general basis for determining the kinds and relative proportion of the various kinds of sites relating the region's historic and prehistoric past which may be encountered in the course of actual inventory work.

- For the 101 sites relating to the historic period, the most common historic property type are historic buildings, both residential and commercial, and residential sites where the original buildings no longer exist (84). Railroad properties are second in frequency, with a total of 5 (5%) represented. The remaining 12 historic properties consist of historic bridges (5), dumps (3), dams or canals (3), and a public park (1).

- For prehistoric sites, those sites representing habitation or campsites are reflected by those site categories listed as containing: stone circles with or without other features, "lithic scatter and/or campsite," and in part the single bison kill and campsite. Collectively, these habitation or campsite localities total 40 sites representing 82 percent of the entire sample of prehistoric properties. The site category of cairns-either associated or unassociated with lithic scatters-are the second largest site category, consisting of seven properties (14%) of the total prehistoric site sample. Cairns can represent a number of functions and activities. The two stone alignment sites and the one

site containing bison kill deposits reflect communal bison hunting activities, known to have been employed by cultural groups throughout the area over the last 11,000 years.

- Previous research within north central Montana and adjoining areas of the plains indicates both historic and prehistoric cultural properties are concentrated in the vicinity of locally prominent land forms. The proposed right-of-way routes collectively traverse or come in proximity to:

    - 4 major river valleys;
    - 20 creek valleys;
    - 184 prominent named and unnamed coulee systems;
    - 4 prominent buttes or ridges;
    - 47 permanent or seasonal lake basins; and
    - 12 springs

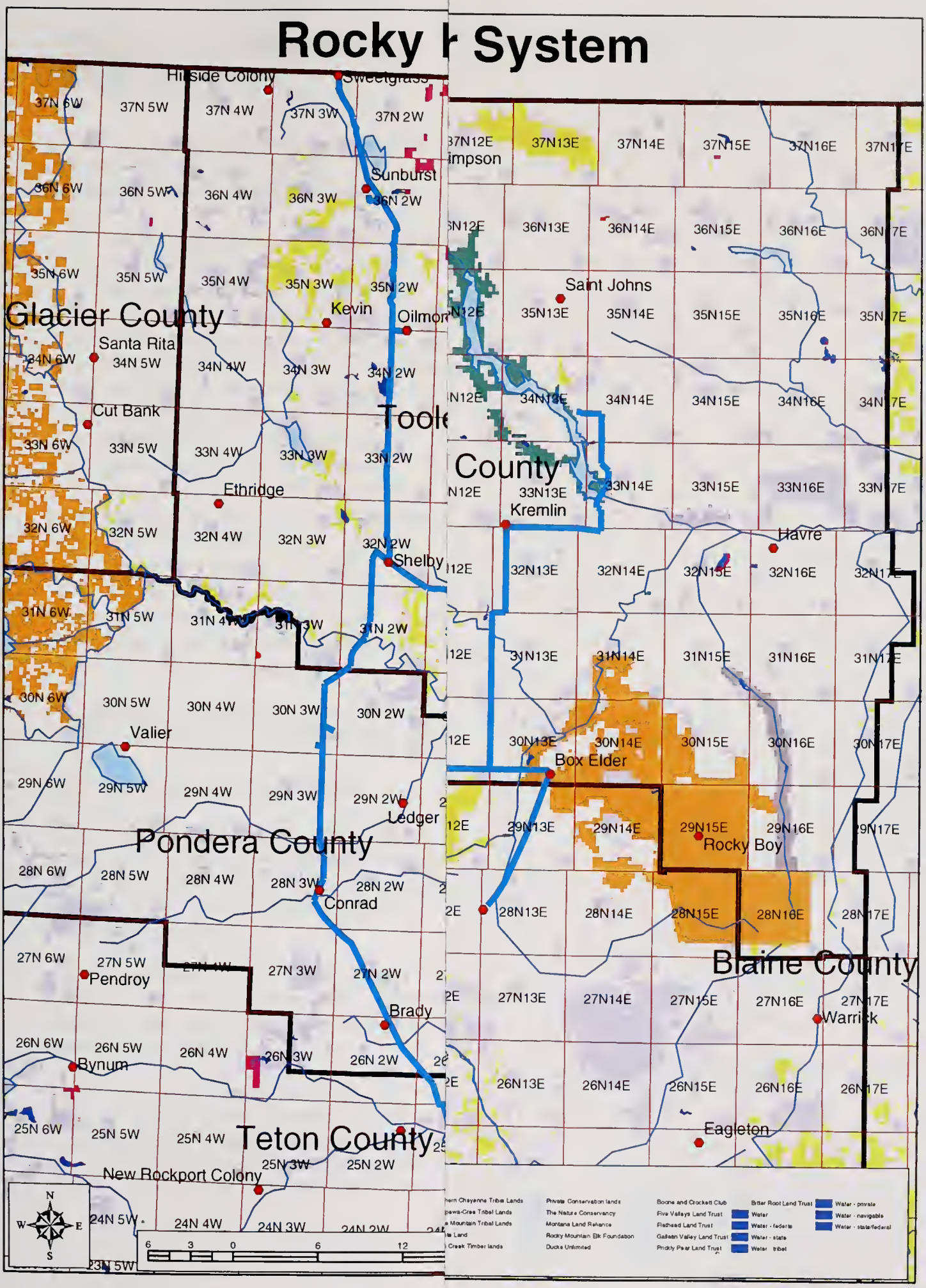
Based on the above characterization, cultural resources will be an important concern in final planning and construction of the proposed project. It is also certain that a number of cultural resource properties will be identified within proposed right-of-way during the course of a complete cultural resources inventory that will have to be evaluated, and if found to be eligible for listing on the NRHP, the proposed right-of-way will either have to be relocated to avoid them, or the sites mitigated prior to pipeline construction.

3.12 Land Use

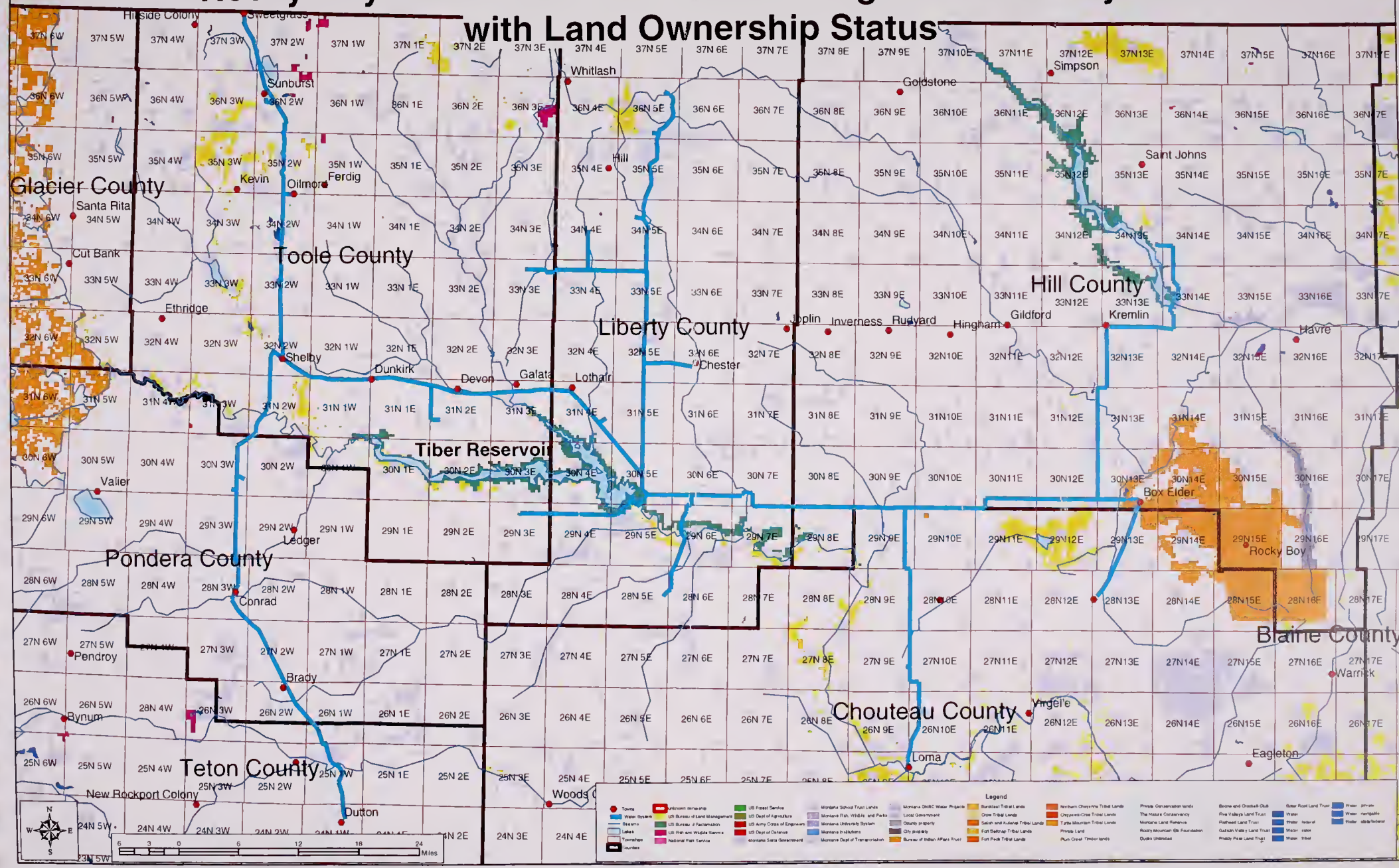
Land use in the project area is primarily agricultural (both dryland and irrigated crop and livestock production), with small communities and individual homes and farms interspersed. Most residents in the project area live in communities, while some individual families occupy more isolated residences on farms and ranches. Water availability is often a determinant on where residents choose to live.

Figure 3-4 illustrates the general land use and ownership status throughout the study area.

Croplands primarily produce small grains and hay or are idle in the Conservation Reserve Program (CRP). Native rangeland and planted pastures provide forage for livestock. Currently, livestock obtain water from dugouts, wells, and surface waters. At some locations, livestock use of rangeland is reduced due to lack of water. Adequate distribution of water allows rangelands to be grazed more uniformly and often increases forage.


Rocky I System
Hillside Colony
Sweetgrass
Sunburst
Glacier County
Kevin
Oilmon
Saint Johns
Santa Rita
Cut Bank
Toole
County
Ethridge
Kremlin
Havre
Shelby
Valier
Box Elder
Ledger
Pondera County
Rocky Boy
Conrad
Blaine County
Pendroy
Brady
Warrick
Bynum
Eagleton
Teton County
New Rockport Colony
Private Conservation lands
The Nature Conservancy
Montana Land Reliance
Rocky Mountain Elk Foundation
Ducks Unlimited
Boone and Crockett Club
Five Valleys Land Trust
Flathead Land Trust
Gallatin Valley Land Trust
Prickly Pear Land Trust
Bitter Root Land Trust
Water
Water - federal
Water - state
Water - tribal
Water - private
Water - navigable
Water - state/federal

Rocky Boy's/North Central Montana Regional Water System with Land Ownership Status



A field review of the proposed water system corridor was performed during July 1997. In addition, the following entities were contacted for information including right-of-way requirements, possible obstructions, and mitigation alternatives:

- Montana Department of Transportation - Wetland Replacement
- Pike Construction Co., Chinook, MT - Materials, Crossings, and Obstructions
- Baltrusch Construction Co., Havre, MT - Materials, Crossings, and Obstructions
- Falls Construction Co., Great Falls, MT - Directional Drilling
- Patrick Construction Co., Havre, MT - Materials, Crossings, and Obstructions
- Hill County Roads - Materials, Crossings, and Obstructions
- Burlington Northern Railroad - Railroad Crossings and Rights-of-Way
- Morris River Electric Co. - Utility Crossings
- Montana Power - Utility Crossings
- Cenex Pipeline - Utility Crossings
- Havre Pipeline Co. - Utility Crossings
- Express Pipeline Co. - Utility Crossings and Rights-of-Way
- Three Rivers Telephone Co. - Utility Crossings and Rights-of-Way
- Triangle Telephone Co. - Utility Crossings and Rights-of-Way
- Air Force - Utility Crossings and Rights-of-Way
- Terracon Engineers, Billings, MT - Rights-of-Way
- County Commissioners - Rights-of-Way
- Brown Oil Company, Havre, MT - Rights-of-Way

The results of this coordination effort were utilized to estimate the costs associated with pipeline related crossings and the acquisition of land for project facilities.

3.13 Environmental Justice

Executive Order 12898 directs federal agencies to identify and address disproportionately high adverse human health or environmental effects of its programs, policies, and activities on low-income and minority populations. Concerns over impacts to these populations throughout the project area, but particularly on the Rocky Boy's Reservation, were identified through public involvement and scoping.

2000 Census data for the study area reveals socioeconomic characteristics of the Reservation to be different from the state as a whole. Unlike the state at large, where the majority of population consists of non-Indians (over 92 percent), Indians make up approximately 97 percent of the Reservation population.

As noted in the socioeconomic discussion earlier in this Chapter, the percentage of families below the poverty level is substantially higher on the Reservation (nearly 40 percent) compared to the statewide average of approximately 11 percent. A contributing factor to the poverty level on the Reservation could be the high unemployment rate of nearly 18 percent, compared to a statewide average unemployment rate of four percent.

A field review of the proposed water system corridor was performed during July 1997. In addition, the following entities were contacted for information including right-of-way requirements, possible obstructions, and mitigation alternatives:

- Montana Department of Transportation - Wetland Replacement
- Pike Construction Co., Chinook, MT - Materials, Crossings, and Obstructions
- Baltrusch Construction Co., Havre, MT - Materials, Crossings, and Obstructions
- Falls Construction Co., Great Falls, MT - Directional Drilling
- Patrick Construction Co., Havre, MT - Materials, Crossings, and Obstructions
- Hill County Roads - Materials, Crossings, and Obstructions
- Burlington Northern Railroad - Railroad Crossings and Rights-of-Way
- Morris River Electric Co. - Utility Crossings
- Montana Power - Utility Crossings
- Cenex Pipeline - Utility Crossings
- Havre Pipeline Co. - Utility Crossings
- Express Pipeline Co. - Utility Crossings and Rights-of-Way
- Three Rivers Telephone Co. - Utility Crossings and Rights-of-Way
- Triangle Telephone Co. - Utility Crossings and Rights-of-Way
- Air Force - Utility Crossings and Rights-of-Way
- Terracon Engineers, Billings, MT - Rights-of-Way
- County Commissioners - Rights-of-Way
- Brown Oil Company, Havre, MT - Rights-of-Way

The results of this coordination effort were utilized to estimate the costs associated with pipeline related crossings and the acquisition of land for project facilities.

3.13 Environmental Justice

Executive Order 12898 directs federal agencies to identify and address disproportionately high adverse human health or environmental effects of its programs, policies, and activities on low-income and minority populations. Concerns over impacts to these populations throughout the project area, but particularly on the Rocky Boy's Reservation, were identified through public involvement and scoping.

2000 Census data for the study area reveals socioeconomic characteristics of the Reservation to be different from the state as a whole. Unlike the state at large, where the majority of population consists of non-Indians (over 92 percent), Indians make up approximately 97 percent of the Reservation population.

As noted in the socioeconomic discussion earlier in this Chapter, the percentage of families below the poverty level is substantially higher on the Reservation (nearly 40 percent) compared to the statewide average of approximately 11 percent. A contributing factor to the poverty level on the Reservation could be the high unemployment rate of nearly 18 percent, compared to a statewide average unemployment rate of four percent.

While the unemployment rate for the six counties in the study area is similar to the statewide average, the median household income is slightly lower than the average, and the percentage of families below the poverty line is higher than the statewide average.

3.14 Indian Trust Assets

3.14.1 Description and Process

Indian Trust Assets (ITAs) are "legal interests in property or resources held in trust by the United States for Indian tribes or individual Indians." The Secretary of the Interior is the trustee for the United States on behalf of Indian Tribes. ITAs include land, minerals, timber, ethnobotanical resources, hunting and fishing rights, water rights, and in-stream flows and they may be found on or off-reservation lands. During the NEPA process, the Reclamation, as a representative of the Secretary of the Interior, must evaluate whether the proposed action may affect ITAs (Indian Trust Policy issued July 2, 1993). This policy reaffirms the legal trust relationship and the government-to-government relationship between the Secretary of the Interior and Indian tribes.

The North Central water system includes approximately 200 square miles of the Rocky Boy's Indian Reservation. Approximately 60 miles of transmission lines would be located on the Reservation to serve 2,100 households. Categories of ITAs potentially affected within this 200 square mile area were identified as trust, and fee-owned lands, agricultural land, wildlife habitat including wetlands, water quantity and quality, transportation facilities, cultural resources, and esthetics to assure minimal conflicts with ITAs.

Section 106 consultation with the Chippewa Cree THPO will take place as provided for in the Programmatic Agreement for management of Cultural Resources. If cultural resources are located off Chippewa Cree Lands that are important to other tribes, they will be consulted with as well. As of this date, the only other tribe with lands in the area with a recognized THPO are the Turtle Mountain Band of Chippewa, and they will be consulted in the event that their lands are impacted by the proposed project.

4.0 ENVIRONMENTAL CONSEQUENCES

This Chapter provides a description of the short-term (within a year) and long-term (beyond a year) effects of the No Action alternative and Proposed Action Alternative on the social, economic, and environmental resources outlined in Chapter 3. Impacts identified in this Chapter are related to the construction, maintenance, and operation of the intake structure and waste treatment plant, which will be permanent impacts, and the pipeline, which will involve temporary impacts during construction. Typical disturbance from the pipeline construction would involve an area 50 feet wide along the entire length of pipeline, or approximately 2,500 total acres of disturbance.

4.1 Geology and Soils Impacts

4.1.1 No Action Alternative

There would be continued impacts on geology and soils in the area if the proposed action did not occur because individual private wells and water projects would continue to be developed. These impacts would include disturbance of rangeland soils, farmland soils, and prime and unique agricultural lands and soils.

4.1.2 Proposed Action Alternative

The soil types identified in the project area should be suitable for the proposed pipeline project and conducive to conventional trenching methods. Some soils within the study area may be corrosive to the proposed pipeline. It is assumed that all buried pipes and tanks would require some form of protection against corrosive soils.

Prime farmlands or farmlands of statewide importance are found in all the counties that would be served by this system. Construction-related ground surface disturbance along pipelines would be for only a few months or one growing season at most. Pipeline installation on prime farmland soils may cause short-term soil disturbance through erosion and compaction. Any effects would be offset by cultivation and natural freeze-thaw cycles. Following placement of the pipeline, these soils would continue to be farmed and there would be no effect on their designation as prime farmlands. According to NRCS, "since this project does not involve the conversion of farmland to non-agricultural use, the NRCS would not have any concerns associated with the project and the farmland protection program."

Approximately three acres would be disturbed during construction of the intake and water treatment plant, two acres would be disturbed during construction of system reservoirs, and one acre would be disturbed during construction of booster pump stations, all permanently lost to crop production.

In areas of wide trenching or excavation, topsoils would be stockpiled. Along narrow "corridor" type projects such as pipeline operations topsoil may be mixed with subsoil during backfilling. Backfill would be compacted or left slightly mounded to allow for settling.

Construction would be completed quickly to limit impacts. Reseeding, mulching, and other noxious weed prevention measures would take place in areas with soil types highly susceptible to erosion. Diversion ditches, terracing, and holding ponds would be used where necessary to control erosion on steep slopes. Silt fences would be used where pipelines cross streams, wetlands, and other water bodies, or are in close proximity to same.

There are no sand and gravel pits currently identified for use in the construction of the project. Sand and gravel pits will be identified as the construction progresses. Typical impacts to soils and vegetation are anticipated to occur; however, long term impacts will be minimized with the implementation and requirements of a Mined Land Reclamation Permit, including a mining and reclamation plan required by Montana Dept. of Environmental Quality. In addition to the Mined Land Reclamation Permit, the interdisciplinary team will evaluate the impacts of the pits and make recommendations to the contractor to minimize impacts. Cultural resource compliance will be conducted in accordance with Section VI and Section VIII in the Programmatic Agreement contained in Appendix C of this EA. All cultural resource surveys on trust and Indian lands would have to satisfy BIA tribal requirements and standards, as well as the conditions outlined in the Programmatic Agreement discussed previously.

Long-term impacts to soils would be negligible with required rehabilitation and revegetation.

Interested agencies such as municipalities, counties, MDT, Reclamation, BIA, and NRCS would be asked to review the completed design.

4.2 Water Resource Impacts

4.2.1 Surface Water Quantity

No Action Alternative

Towns and rural residents would continue to depend on their present water supplies and currently there are no proposed plans for additional municipal water supplies. Additional projects, such as; highway projects, the current hydropower project at Tiber Reservoir, and multiple individual water service contracts from Tiber Reservoir that are not associated with the proposed action will all have potential to impact surface water.

Proposed Action Alternative

The Proposed Action Alternative would ultimately use approximately 8,000 acre-feet per year of Marias River water out of the Tiber Reservoir, which is less than two percent of the river's average annual flow of 611,100 acre-feet (water years 1921-1995). This would have no substantive effect on Marias River flows. A joint study with Reclamation staff identified that this level of water supply was available with sufficient water remaining to meet estimated Tribal, recreational, and fishery requirements.

The town of Chester, the Tiber Water District, and Devon Water Incorporated currently obtain water from Tiber Reservoir. The Hill County Water District and North Havre County Water District obtain Milk River water from Fresno Reservoir. These Districts would no longer obtain water from Fresno Reservoir if the project is constructed. Based on the design average demand for these systems, the project would leave nearly 400,000 gallons of additional water available per day in the Milk River basin.

Stream crossings in the project area would conform with state and federal requirements. A list of state and federal requirements that may apply is provided in Section 5.4.

4.2.2 Groundwater

No Action Alternative

Groundwater pumping for domestic and livestock use would continue. Local groundwater levels under the No Action Alternative would likely be depleted at a more rapid rate without the rural water system being developed.

Proposed Action Alternative

With the Proposed Action Alternative, all water systems would utilize Marias River water from Tiber Reservoir. The thirteen water systems that currently use groundwater would discontinue groundwater use or use groundwater as a supplemental, but not interconnected supply, for selected purposes. Therefore local groundwater levels under the Proposed Action Alternative would remain stable or likely increase.

4.3 Water Quality Impacts

4.3.1 Surface Waters

No Action Alternative

Selection of the No Action Alternative would not resolve water shortage issues on the Rocky Boy's Reservation. Accordingly, there would likely be continued efforts to obtain potable water including the drilling of new wells, the expansion of existing water treatment and distribution facilities, or the construction of new facilities. These activities would have impacts to surface water quality by increasing traffic on area roads, increasing runoff, increasing erosion, and disturbing more land. In addition, reduction in ground water levels through wells may have an adverse affect on water quality by decreasing water quantity. This may result in concentration of salts and increased water temperatures, both of which have the potential to negatively affect fisheries and aquatic life beneficial uses.

Proposed Action Alternative

Effects on surface water quality would relate to contributions of sediment related to construction at stream crossings. The increase in sediment loading would be short term in nature and would

not result in long-term additions of sediment to streams or other waters in the area as long as stabilization efforts are successful. If stabilization efforts are not successful stream crossing sites could contribute to bank instability and sediment loading. Implementation of erosion control practices would attenuate contributions of sediment from construction. Reclamation of disturbed areas with native, riparian vegetation would restore the filtering, bank stabilization, and shading functions of riparian communities. Note that none of the streams in the project area is listed as impaired due to sediment.

4.3.2 Drinking Water

No Action Alternative

Towns and rural residents would continue to depend on their present water supplies and there would likely be no improvement in domestic drinking water.

Proposed Action Alternative

The North Central water project would result in a substantial improvement in the quality of water available to users in the project area. Completion of the project would resolve the compliance problems facing water users within the project area.

4.4 Vegetation Impacts

4.4.1 No Action Alternative

Selection of the No Action Alternative would not resolve water shortage issues on the Rocky Boy's Reservation. Accordingly, there would likely be continued efforts to obtain potable water including the drilling of new wells, the expansion of existing water treatment and distribution facilities, or the construction of new facilities. These activities would have normal impacts associated with construction projects, such as disturbance to native prairies, croplands, and riparian areas. These impacts are similar to the Proposed Action.

4.4.2 Proposed Action Alternative

Vegetation would be removed or disturbed during installation of pipelines and construction of support facilities. The project involves placement of approximately 410 miles of pipeline. Assuming an average right-of-way width of approximately 50 feet, pipeline construction would result in disturbance of approximately 2,500 acres of vegetation. The majority of this disturbance would occur in open rangeland dominated by native grasses and herbaceous species, and agricultural lands planted with grain crops. Accordingly, little disturbance to forested land would occur, eliminating the need for large-scale, post-construction tree planting. Rangeland areas in the pipeline right-of-way with post-construction disturbance would be broadcast seeded with a native species seed mix. This seed mix would include grasses and forbs with rapidly establishing, soil binding root systems to stabilize soil and prevent invasion by noxious weeds. Permanent support facilities, such as treatment plants, pumping stations, and reservoirs, would remain in an un-vegetated state for the duration of the water system's useful life.

In riparian and wetland areas, construction may disturb bottomland forests with cottonwoods, alder and willow species as well as riparian/wetland grasses and forbs. Disturbance will be mitigated by stockpiling sod and replacing it on disturbed areas following construction. Woody species, such as cottonwoods, alders and willows, will be obtained from local nurseries if available, and planted in disturbed areas without the use of heavy equipment. Transplanted sod and woody species will establish quickly, thereby stabilizing soils and preventing the invasion of noxious weeds. In areas where transplanting of sod and woody species is impractical a native wetland/riparian seed mix will be broadcast seeded. These compensation measures, combined with avoidance and monitoring, as required by the COE wetland permitting process, will minimize impacts to riparian vegetation.

Federal agencies are required by Executive Order 13112 to prevent and control the spread of invasive species (noxious weeds). Under this EO, all reasonable measures to minimize the risk of noxious weed spread must be analyzed and incorporated where appropriate. Of concern with this project is the ability of noxious weeds to rapidly colonize disturbed areas if vigorous native vegetation is not re-established. In addition, weed plant parts may be transported to the site on heavy equipment, highway vehicles, and worker's clothing. Accordingly, measures will be taken to assure equipment, vehicles, and visitors to the site are free of weed plant parts as specified in the appropriate county weed management plans.

4.5 Wetland Impacts

4.5.1 No Action Alternative

Selection of the No Action Alternative would not resolve water shortage issues on the Rocky Boy's Reservation. Accordingly, there would likely be continued efforts to obtain potable water including the drilling of new wells, the expansion of existing water treatment and distribution facilities, or the construction of new facilities. These activities would have impacts to those wetland and riparian areas fed by groundwater by reducing recharge of these areas.

4.5.2 Proposed Action Alternative

In addition to the protections provided by the 404 permitting process, all wetland impacts are required to be considered by Executive Order 11990 (Protection of Wetlands, 1977) and Fish and Wildlife Coordination Act (FWCA). To meet the requirements of these, potential impacts to wetlands will be handled in the following order: avoidance, minimization, compensation.

Avoidance

Where practicable, avoid wetlands during the planning and construction phases.

Minimization

Where wetlands cannot be avoided, implementation of the following minimization efforts will be employed:

- Delineate all wetlands (1987 COE Manual) and assess their functional capacity prior to construction (MDT)
- Construction will not proceed until after July 15 to minimize impacts to brooding birds
- Use temporary supporting platforms when working in wetlands to prevent equipment from damaging wetlands
- Place silt barriers to control sediment on disturbed slopes in excess of five percent

Compensation

Where wetlands cannot be avoided, and minimization efforts have been fully employed, the following compensation measures will be used to ensure no net loss of wetland and associated habitat:

- Stockpile hydric soils excavated from within the wetland boundary and replace upon completion of construction
- Install bentonite plugs around the pipe on both sides of wetlands if pipeline profiles indicate possible draining of the wetland
- Restore original wetland contours
- Develop a monitoring plan for annual sampling to assess the functional capacity of disturbed wetlands for a period of 3 years, or until functional capacity has been restored
- Compensate at a 1:1 ratio for all wetlands which do not return to a functional capacity similar to the condition found prior to construction

An interdisciplinary team (ID team) with members from cooperating government agencies, the USFWS and the project sponsors will be formed to provide technical assistance and project oversight. Reclamation will initiate the formation of this group prior to any ground disturbance related to the proposed action. The purpose of the ID Team is to ensure that the environmental commitments contained within this EA are implemented and effective. The ID Team will also provide alternatives to the contractor prior to and during construction to minimize impacts to cultural resources, fish and wildlife resources, wetlands, and water resource and to ensure there are no effects to Endangered Species. The ID Team will also be instrumental in monitoring the project following construction to ensure mitigation measures implemented during the construction phase were effective and to determine if additional mitigation or compensation actions need to be taken.

The ID team will develop a wetlands monitoring plan prior to the initiation of construction with input from the COE and USFWS. This plan will outline the procedures to be followed in monitoring all disturbed wetlands and establish compensation guidelines for wetlands identified as degraded through the monitoring program. Monitoring will occur as deemed necessary by the ID team. If monitoring shows the wetland has been degraded after the 3-year monitoring period, the ID team will coordinate the necessary measures to return the degraded wetland to functional capacity.

At this time, it is assumed that some impacts to wetlands are unavoidable. Pipelines would most commonly cross wetland areas associated with ephemeral or intermittent drainages, depressional areas, and stock ponds. Excavation of a trench (approximately six feet in depth), placement of pipe, and backfilling of the trench with stockpiled soils would disturb vegetation and temporarily increase sedimentation and turbidity in wetland areas. However, this impact would be short term because topsoil would be replaced or capped with bentonite and salvaged wetland sod following construction. This approach typically provides restoration of many wetland functions and values within one to two years after construction.

It is not possible at this time to quantify acreage of wetland impacts that would result from construction of the proposed pipeline. Precise wetland locations and acreages would be delineated and mapped as presented in the Wetlands discussion in Chapter 3 following staking of the proposed right-of-way. Following these wetlands studies, the exact path of the right-of-way will be adjusted by the ID Team as necessary to reduce the total acreage of wetland impacts, particularly to those considered to be of higher quality.

To reduce further potential impacts in riparian and wetland areas, construction would be timed during the drier months of the year (July-September) when both ground and surface water levels are relatively low. Furthermore, construction will be delayed in wetlands and surrounding buffer areas until after July 15 to protect avian nests and broods. Note that this timing is also consistent with measures to limit impacts on wildlife species. In addition, bentonite breakers or hard plugs would be installed in the pipeline trench to prevent un-wanted transport of ground or surface waters away from wetland areas. These measures, in combination with required avoidance, compensation for wetland losses, and monitoring requirements associated with COE 404 permitting, would likely result in minimal impacts to wetland areas. All wetland impacts, whether jurisdictional or not, will be offset through restoration and/or creation, possibly through a wetland bank.

Jurisdictional and non-jurisdictional wetlands will be treated in a similar fashion. The COE will be involved in all jurisdictional wetlands; however, non-jurisdictional wetlands in the area will be considered under Executive Order 11990 and the Fish and Wildlife Coordination Act. Thus, every wetland that will be disturbed will be delineated and assessed for functional capacity prior to construction. Appropriate mitigation and monitoring will then follow to ensure wetlands have been restored.

4.6 Wildlife Resource Impacts

4.6.1 No Action Alternative

The No Action Alternative would result in continued efforts to obtain potable water. These efforts include drilling of new wells, expansion or construction of water treatment and distribution systems. These actions would disrupt wildlife habitat and displace wildlife from construction sites.

4.6.2 Proposed Action Alternative

Effects of proposed project on wildlife populations are associated with disturbance during construction and direct loss of habitat related to pipeline infrastructure. Alterations to habitat from pipelines, pumping stations, and other facilities include loss of breeding sites, nesting cover, and thermal cover. Wildlife species dependent on lost habitat would die or be displaced. The effects of displacement would depend on a variety of variables such as species, behavior, and density of animals in adjacent populations. Potential effects include increased mortality, decreased reproductive rates, or other compensatory or additive responses.

Species-specific responses to habitat loss and disturbance depend on the relative mobility of a species. Animals with limited mobility such as small mammals, reptiles, amphibians, and juvenile species would likely experience mortality directly from these activities. In addition, an unquantifiable number of un-hatched eggs of ground nesting birds will also experience mortality. More mobile animals such as big game, coyotes, and adult birds would move to adjacent habitat. Mortality associated with the project will not have a significant population level effect on migratory birds.

The loss of migratory birds and their nests from the Proposed Action Alternative would result from construction through native prairie and CRP fields, pastures, and riparian areas. According to Executive Order 13186 (Protection of Migratory Birds), adverse effects on migratory birds must be minimized to the extent practicable and should include restoration and enhancement of habitat, development and implementation of conservation plans, and other measures to minimize losses to migratory birds. These activities will not have a population level effect on migratory birds in the region. This is due largely to the nature of the footprint of the project, the thin line of disturbance over the project area will result in localized disturbance of bird populations; however, this should not result in population level effects.

Increased traffic associated with construction activities will have a short-term effect on wildlife in the area. Increased risk of vehicle-wildlife collisions would result in direct mortality. In addition, increased traffic in this sparsely populated area would increase disturbance and stress on wildlife.

Breeding birds would be particularly vulnerable to construction activities. Measures will be undertaken to lessen impacts on species of concern. Sharp-tailed grouse are sensitive to disturbance when occupying breeding grounds or leks. These occur in grasslands and upland coulees. Timing construction activities after mid-May near known leks will minimize impacts on courtship activities of this species. During the design phase, MFWP will be consulted regarding locations of leks in the project area. Similarly, raptors may abandon nests when subjected to disturbance by humans. Timing construction activities following sensitive incubation and fledging periods in July would minimize impacts on raptors. Meanwhile, construction may continue in areas without the presence of these sensitive species. Construction or modification of power lines will take into account the criteria and techniques outlined in "Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996".

Construction in and near wetlands could have negative impacts on breeding waterfowl and shorebirds. Timing construction activities after June would minimize impacts to breeding birds. Avoidance of wetlands and compensation of disturbed wetlands would minimize impacts to breeding birds associated with wetlands and riparian areas.

Prairie dog colonies provide important habitat for several listed Montana species of concern. These include black-tailed prairie dogs, black-footed ferret, burrowing owls, and mountain plovers. Avoidance of prairie dog colonies is preferred. If these areas are unavoidable, construction timing near these areas after mid-July will minimize impacts on these species.

4.7 Fishery Resource Impacts

4.7.1 No Action Alternative

The No Action Alternative would result in continued efforts to obtain potable water. Drilling of new wells and expansion of existing or construction of new water treatment or distribution systems could affect fisheries if sediment from drilling or construction enters surface waters. In addition, reduction in ground water levels through wells may have an adverse affect on water quality and ultimately fisheries by decreasing water quantity. This may result in concentration of salts and increased water temperatures, both of which have the potential to negatively affect fisheries and aquatic life beneficial uses.

4.7.2 Proposed Action Alternative

Effects on fisheries would occur where pipelines cross rivers, streams, and lakes and at the water intake on Lake Elwell. Localized impacts from increased sedimentation could occur during and immediately following construction; however, these would be minor and of short duration. Most streams in the area have a naturally high sediment load to which fish species have adapted. The exception is the tailwater fishery below Tiber Dam on the Marias River, which supports growth and propagation of trout. However, the relatively short duration of disturbance combined with implementation of best management practices will limit the adverse impact on this fishery. Furthermore, activities associated with the Natural Streambed and Land Preservation permits involve incorporating comments from MFWP biologists and conservation district personnel to minimize impacts to fish and other aquatic life. Means to mitigate impacts on stream crossings includes construction when the streambed is dry on intermittent streams and boring under the stream when flowing if practicable. The ID Team will visit stream crossings in the years following construction to determine whether remedial action is required.

Diversion of water from Lake Elwell poses a potential risk to fish through entrainment. For most fish, this risk is negligible due to low intake velocities of half a foot per second and a screened intake. Entrainment of larval fish is more likely. Species with pelagic fry such as walleye and suckers face the greatest risk of entrainment into the intake. Habitat use by walleye fry reduces the risk of entrainment. Following hatching, walleye fry spend their first few weeks associated with rocky crevices on the bottom of lakes or reservoirs (Stickney 1993). After absorption of their yolk sacks, young walleye enter a pelagic or open water phase but are closely associated

with the surface. By August, young walleye move to the shoreline areas, where they could potentially be exposed to the intake if reservoir levels were low enough for the intake to be within the habitat used. This habitat use pattern minimizes the potential for entrainment because the young walleye would typically be strong enough to avoid entrainment by the time they are exposed to the intake. Entrainment of eggs is very unlikely, as most species present lay adhesive as opposed to pelagic eggs. The combination of low intake velocities, screened intake, low probability of pelagic fry at the intake depth, and high natural mortality to fish eggs and larvae suggests that entrainment will not result in population level effects on fish in Lake Elwell.

Entrainment of zooplankton and phytoplankton is also not a substantive concern on the ecology of Lake Elwell. These organisms have high reproductive output and are not a limiting factor for fish production. Phytoplankton are also unlikely to be present at the depth of the intake as the combination of depth and turbidity would limit photosynthesis. Many species of zooplankton show diel (daily) variation in position in the water column, however, these will be most closely associated with phytoplankton, their primary food source.

Withdrawals from Tiber Reservoir have potential to affect water level elevation and therefore fish species relying on littoral zone environments for one or more life stages. Withdrawals will be constant and will therefore not result in widely fluctuating water level elevations. Therefore, fish relying on shoreline environments will not be adversely affected.

4.8 Threatened and Endangered Species Impacts

4.8.1 No Action Alternative

Efforts would continue to obtain potable water, including the drilling of new wells, the expansion of existing system components, and the construction of new facilities. The impacts to T&E species would be similar to the proposed action; however, these small water projects could potentially have greater cumulative impacts than the proposed action.

4.8.2 Proposed Action Alternative

The Proposed Action Alternative would have no effect on critical habitat (i.e. habitat specifically designated under the Endangered Species Act of 1973) for federally listed species because there is no designated or proposed critical habitat in the project area. However, habitat known to or suspected to harbor listed or candidate species is present in the project area. Planning timing of construction and implementation of best management practices will avoid impacts on these species.

Gray Wolf

Although documented evidence of wolves does not exist within the project area, male wolves in northwestern Montana can move an average of 70 miles from their natal territory, and females 48 miles to establish a new territory. This dispersal distance does not rule out the possibility of wolves moving into the area from their known range to the west. Wolves establishing new packs in Montana have demonstrated greater tolerance of human presence and disturbance than

previously thought characteristic of this species. Gary wolves pups are generally born in late April and vacate the den within three months. If gray wolf dens are identified during the construction phase these areas will be avoided until after August 1st to allow adequate time for offspring to leave the area. By following this plan of action, the project will have no effect on the gray wolf.

Black-footed Ferret

Black-footed ferrets are not documented within the project area; however, remnant populations may be associated with prairie dog colonies. The USFWS will be contacted prior to disturbance of all prairie dog towns regarding the appropriate black-footed ferret searches. If ferrets are present, the habitat will be avoided, therefore the Proposed Action Alternative is not likely to adversely affect this species.

Pallid Sturgeon

This Proposed Action Alternative will have no adverse effect on pallid sturgeon. The southernmost extent of the project encroaches near the Missouri River near Loma, which is a priority pallid sturgeon recovery area. However, there would not be any alterations to the banks of the Missouri River so the Proposed Action Alternative would have no effect on the pallid sturgeon.

Piping Plover

There is no documented evidence of piping plovers breeding near the North Central System. Furthermore, the USFWS has designated critical habitat for piping plovers and none occurs within the project area. However, there is some potential for breeding of piping plovers in the vicinity as there is evidence that piping plovers breed to the west of the project area.

In the event that piping plovers occur in the project area, construction activities may have some effect on breeding birds. However, avoidance of wetlands and delaying construction near wetlands past the breeding season will minimize chances for adverse effects. During the wetland delineation phase of this project, the delineator will be alert to the presence of piping plover. In the event that piping plovers are observed during delineation, avoidance, compensation, and monitoring activities would follow, and no construction activities would be permitted within piping plover habitat during breeding season. To prevent disruption of nesting and brood rearing because of noise and associated human activities, construction within 0.5 miles of piping plover habitat would take place after September 1. By this time, plovers would have left the area for overwintering grounds. As a result, the proposed project would have no effect on piping plovers, nor modify or destroy their critical habitat.

Bald Eagle

Migrant, breeding, and wintering bald eagles may be present primarily in cottonwood gallery forests near river crossings. However, there are no known bald eagle nests within the project area, and no effects to nesting eagles are anticipated. Construction activities near stream

crossings may result in temporary disturbance to roosting birds. Buried pipelines, pumping stations, water intakes, or other facilities would not affect bald eagles. This project may result in temporary displacement of roosting birds, but is not likely to adversely affect this species. Design of new power lines or lines that would need to be modified or reconstructed as a result of the project would comply with the criteria and techniques outlined in "Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996," (SPLIC, 1996).

Whooping Crane

Bergeron et al (1992) cite evidence of whooping crane migrating through the project region. Pipelines and power lines may cross habitat used by migrating whooping cranes. Where practicable and as identified by the ID Team power lines will be buried. Because the pipeline system for the project generally parallels roads and highways, it is unlikely that disturbances from the project would differ from those currently posed by use of existing roads and power lines. Wetland and aquatic habitat would be affected only for the construction period with reclamation quickly restoring affected habitat. The proposed project would have no effect on whooping cranes.

4.9 Social and Economic Impacts

4.9.1 No Action Alternative

Social and economic conditions are anticipated to remain as they are under the No Action Alternative; however, the perception of unreliable or poor drinking water can have a substantive effect on the attractiveness of an area for residential development and commercial growth.

4.9.2 Proposed Action Alternative

Social Impacts

The proposed project would improve quality of life and provide economic benefits to the region. Appliances using water would last longer with better quality water, livestock management and grazing potential would improve, and good quality water would be available for residential use and industrial purposes. Improved water quality would benefit public health.

During the construction phase of the project, there would be increased employment opportunities, earnings, and local spending in the economy of the project area. This would be a positive impact on the residents and businesses of the project area.

Economic Impacts

Towns along the pipeline route would experience a temporary population increase during construction, increasing the demand for housing and public services. The housing and service summary in Chapter 3 does not indicate that this will be a substantive concern; however, if housing is unavailable, workers may have to commute long distances. Federal statutes can be

invoked that require contractors to mitigate impacts on the local environment. For example, the contractor may have to provide temporary housing for workers.

Worker payrolls would benefit the project area. There would be an increase in economic activity which could temporarily increase service related employment. Over the long term, jobs would be created to operate, manage, and maintain project facilities.

Good quality water discourages people from leaving the project area and encourages healthier livestock. A reliable supply of good quality water can play a substantive role in the development of rural agricultural communities and in the production of healthier livestock and related goods and services. Overall, economic impacts on the project area would be positive in both the short- and long-term.

Impacts on Highways and Traffic Flow

Most counties have requested that pipelines be located outside of highway ROW's. In any case where location in the highway ROW is required, the pipeline would be located as close to the outside of the ROW as possible. Subsequent relocation costs for the pipeline in public ROW would be at the expense of the North Central System. Table 4-1 summarizes the types of crossings of highways and roads would occur where required.

Table 4-1
Road Crossings

Description	Approximate Quantity
Gravel (35 feet)	293 crossings
Gravel (60 feet)	103 crossings
Highway Asphalt Boring	3,840 feet
County Road Boring	720 feet

Source: HKM Engineering, Inc.

Traffic safety and maintenance of traffic flow would be a high priority during any construction within highway ROW. Disruptions in traffic would be kept to a minimum. All crossings and construction in highway ROW would require permission of the appropriate federal, State or county agency and compliance with applicable regulations. Construction work would be coordinated with other projects planned within the project area.

Pipeline breaks would pose little danger to highways and roads. Crossings beneath major state and county paved roads would normally be bored and jacked. Pipelines located within and parallel to highway ROW would be located as far as possible from the road bed to reduce the chance of erosion damage resulting from a pipeline break. The North Central Water Authority would develop a contingency plan to minimize property damage and public hazard. During the prescribed warranty period, the contractor would be responsible for any leaks or resultant damage. After the warranty period, the North Central Water Authority would be responsible.

Tribal Employment Rights Office (TERO) Fees

The TERO office would be responsible for hiring project employees on the Reservation. TERO fees would be charged by the Tribes at a rate of two percent of the project cost for construction activities within the boundaries of the Reservation.

4.10 Cultural Resource Impacts

4.10.1 No Action Alternative

Under the no action alternative, development of additional drinking water sources, such as drilling new wells and new water treatment facilities would continue. Multiple new facilities could potentially have greater unmitigated impacts on cultural resources than the proposed action alternative.

4.10.2 Proposed Action Alternative

The North Central water system is a large, extensive project that would take approximately 10 years to construct, if funding levels came in as necessary. Avoidance of historic property is the preferred policy. If avoidance is not possible, some mitigation (archeological excavation) may be required. Cultural resource surveys on trust and Indian lands would have to satisfy BIA and tribal requirements and standards, and the conditions outlined in the Programmatic Agreement contained in Appendix C of this EA.

The Programmatic Agreement between Reclamation, BIA, Chippewa Cree Tribe, Chippewa Cree THPO, NCMRWA, and SHPO contains numerous stipulations regarding the coordination efforts required during final design and construction of the proposed project.

4.11 Land Use Impacts

4.11.1 No Action Alternative

The No Action Alternative would likely maintain existing land uses. Most of the project area's population would remain in areas where water can be obtained. Some residents may leave the project area because of inadequate water supplies.

4.11.2 Proposed Action Alternative

Pipeline construction through croplands and pastures could disrupt agricultural activities and temporarily reduce production of crops and livestock forage. Direct loss of crops on pipeline right-of-way would likely occur only during one season (during construction); however, reductions in livestock forage could be experienced for longer periods (estimated at three to five years) until the disturbed areas are fully reclaimed.

Increased supplies of water for livestock as a result of the project could affect use of rangeland and pasture and distribution of livestock. Some land not currently being used for livestock grazing may become suitable for grazing with the completion of the proposed project. Increased

availability of stock water could also allow better management and distribution of livestock within grazing units. Because livestock need water daily, they often do not graze areas distant from a water source; consequently, some areas of rangeland are over-utilized and some are not grazed to their capacity.

Increased availability of water in parts of the service areas that currently do not have adequate supplies of potable water may alter patterns of residential and commercial development. New construction of homes and businesses outside of existing communities would probably increase. Given the current population and employment trends throughout the study area, this potential increase in development is unlikely to translate into any substantive increase in demands for services such as fire protection, road maintenance, and electricity.

4.12 Environmental Justice Impacts

4.12.1 No Action Alternative

The purpose of the proposed action is to provide adequate drinking water to rural areas with some of those areas being low income and minority populations. Under the No Action Alternative, the use of existing municipal and private water systems would continue to disproportionately impact the low income and minority populations.

4.12.2 Proposed Action Alternative

The Rocky Boy's Reservation largely consists of a minority population of greatest economic disadvantage in the study area; however, large expanses of the entire study area could be considered "low income." The proposed project would benefit Tribal members and rural water system users by providing good quality water for municipal, industrial, and rural uses. Good quality water would improve the quality of life by reducing inconvenience and costs associated with high concentrations of dissolved solids (e.g., discoloration of laundry, unpleasant taste and odor, and shortened useful lives of hot water heaters, dishwashers, and other appliances using water).

Minority and low-income populations are present throughout the study area – particularly on the Rocky Boy's Reservation; however, the Proposed Action Alternative and alternatives would not disproportionately impact the existing population or otherwise negatively affect the socioeconomic or cultural status of the Reservation population or other minority or low income populations within the study area.

4.13 Indian Trust Assets Impacts

4.13.1 No Action Alternative

Since there would be no construction, the No Action Alternative would not affect ITAs, with the exception of impacts related to the continued drilling of private wells on the Reservation.

4.13.2 Impacts of the Proposed Action Alternative

Trust, Allotted and Fee-Owned Lands

Permits or authorization would be needed for pipelines to cross these lands.

Agricultural Land

Cropland would be crossed on the Reservation using the same methods as the rest of the project. The pipeline would be constructed after crops have been harvested to reduce or avoid impacts. If crop damage occurs, compensation would be provided to the owner. Reseeding with native species would be done immediately after construction. These measures would prevent long term damage to agricultural lands.

Wildlife

The previously described general wildlife species and Threatened and Endangered species and associated habitat areas are likely to occur on affected areas of the Reservation. Avoidance and other mitigative measures stipulated for other areas of the project would apply equally to the Reservation.

Water Quality and Quantity

Crossings of perennial and intermittent drainages would use the same methods and other mitigation measures required for other areas of the project. The Tribal water right will not be used for supplying non-Tribal MR&I water demands unless acquisition by the non-Tribal MR&I users is arranged with the Tribe.

Transportation

Several roads and highways on the Reservation would be crossed by project pipelines. Crossings would be done in the same manner as described for the rest of the project. Work would be coordinated with federal, State and Tribal/County road departments.

Cultural Resources

The Chippewa-Cree Tribe will be consulted relative to all construction activities on the Reservation. Consultation on potential impacts to cultural resources, including traditional religious and culturally important properties that qualify for consideration under the *American Indian Religious Freedom Act* and Section 3 of the *Native American Graves Protection and Repatriation Act*, will follow all requirements of the Programmatic Agreement under Section 106. All inventories within the Reservation will conform with tribal requirements and, for trust lands, BIA requirements.

Aesthetics

Open spaces and vistas are characteristic visual resources on the Reservation. Surface disturbances due to pipeline construction would be restored through prompt re-seeding, thus these impacts are anticipated to be short-term in duration.

Conclusion

Based on the above information, it is concluded that no significant long-term affects to ITAs would result from the North Central project as planned.

4.14 Cumulative Impacts

Cumulative impacts are those that would result from the Proposed Action Alternative when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively substantial actions taking place over a period of time.

4.14.1 Hydropower at Tiber

This project is currently under construction. This is a run of the river facility and will not impact the Marias River flows. Therefore, there are no cumulative impacts.

4.14.2 Highway projects

The Montana Department of Transportation has designated three construction phase highway projects during the years 2004-2006 in the North Central Water System area. These include a bridge rehabilitation project at Shelby (2006), an I-15 surface rehabilitation project at Dutton (2005), and an I-15 reconstruction project at Conrad (2005) (MDT, 2003). Proposed pipelines generally follow roadways. If highway and water project construction take place at the same time, construction related cumulative impacts would be reduced relative to separate construction activities.

4.14.3 Visitor overlook

Reclamation's proposed Lewis and Clark visitor overlook will result in minor adverse affects to grasslands.

5.0 CONSULTATION AND COORDINATION

The Ad Hoc Coordinating Committee of the North Central Montana Regional Water Supply System was formed during the summer of 1995 to coordinate efforts to promote the development of the proposed water system. Since that time, members of Coordinating Committee and MSE-HKM engineers involved in studying the feasibility of the proposed water system have met extensively with interested community members.

5.1 Agency Coordination

5.1.1 Federal and State Agency Consultation

Nine federal and state agencies provided assistance in preparing the information contained in this EA.

U.S. Bureau of Reclamation

The Bureau of Reclamation (Reclamation) is the lead agency for the NEPA process on this proposed project, and will be the signatory agency on any potential Finding of No Significant Impact. Reclamation participated in the environmental scoping meetings in 2003 and is currently in the process of developing a Programmatic Agreement to protect cultural resources in compliance with the National Historic Preservation Act. Reclamation participated in aspects of the feasibility study, the Final Engineering Report, and meetings with the Chippewa Cree Tribe and the consultant engineer for this proposed project - HKM Engineering, Inc.

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency does not currently comment on Draft EA's.

U.S. Fish and Wildlife Service

The USFWS August 7, 1997 letter identified issues including potential impacts to threatened and endangered species, wetlands, riparian, and aquatic habitats.

USFWS does not foresee any substantive issues with the proposed project with regard to listed species. Service recommendations include:

- Use of an infiltration gallery for water withdrawal.
- Boring under major water courses.
- Avoiding high runoff periods when crossing minor streams.
- Avoiding wetlands.

Informal consultation with the U.S. Fish and Wildlife Service (USFWS) was initiated on February 13, 2004 in compliance with Section 7 of the Endangered Species Act (ESA). Reclamation has requested concurrence on the following finding: The proposed project is not likely to adversely affect the bald eagle or black-footed ferret. No current or proposed critical

habitat will be destroyed or adversely modified. The concurrence letter will be included in the Final Environmental Assessment.

U.S. Army Corps of Engineers

Under the authority of Section 404 of the Clean Water Act, COE permits are required for placement of dredged or fill material below the ordinary high water mark of our nation's rivers, streams, lakes, or in wetlands as well as excavation in these areas. The COE letter of September 24, 1997 makes the following recommendations:

- Pipeline right-of-way be inventoried by a qualified wetland delineator.
- Cultural resources survey be done.
- The USFWS be consulted.

U.S. Bureau of Indian Affairs

The BIA identifies in their August 11, 1997 letter a variety of alternatives that need to be analyzed. These alternatives have been analyzed in the *Appraisal Level Study*. The BIA indicates that, in general, the environmental study must include consideration of, and compliance with, all archaeological, cultural, and historical preservation laws; the Clean Water Act; threatened and endangered species laws; erosion prevention; and the spread of noxious weeds.

Montana Fish, Wildlife and Parks

MFWP indicates in their letter of September 26, 1997 that they, in general, understand and have no problem with the idea of supplying twenty-four north central Montana communities with fresh water from Lake Elwell. MFWP would like information about:

- Water volumes
- Take-out structure
- Wetlands crossed
- Plan for noxious weed control
- Stream crossings
- Timing of construction
- Size and location of work camps

Montana Department of Natural Resources and Conservation

Personnel of the DNRC have provided input during preparation of the Environmental Assessment and Programmatic Agreement.

Montana Department of Environmental Quality

The DEQ Drinking Water State Revolving Fund (DWSRF) program will provide funding for a portion of the local match for this project. DEQ is a cooperator in this EA. Also, the regional water authority must submit engineering plans and specifications to DEQ for approval prior to

construction. DEQ will also conduct ongoing environmental review for each phase of the project as each is designed and submitted for plan review.

Two letters were received from the DEQ. The August 4, 1997 letter from the Remediation Division identifies 14 state Superfund sites that may potentially be of concern to the project. The August 18, 1997 letter from the Hazardous Waste Site Cleanup Bureau indicates the DEQ may require a variety of remedial actions for any encountered contamination, based on multiple site-specific conditions. DEQ recommends the following:

- Review of DEQ files of active and resolved released sites
- On-site walk through investigation to identify potential sources of soil contamination
- Subsurface investigation of high risk areas

State Historic Preservation Office, Montana Historical Society

SHPO coordination has been initiated and will be handled as provided for in the Programmatic Agreement to which SHPO is a signatory. The August 19, 1997 letter from the State Historic Preservation Office feels cultural resource inventories are necessary for any previously undisturbed land and for portions of the project that cross federal land under the *National Historic Preservation Act*.

5.1.2 Coordination with Chippewa-Cree Tribe on Indian Trust Assets

The Chippewa-Cree tribe has representatives on the North Central Coordinating Committee and has been involved throughout the planning process. All of the Cultural Resource laws and regulations have been or will be carried out as they pertain to Indian Trust Assets. The Tribe will participate in all consultations under Section 106 of NHPA. Provisions of the *American Indian Religious Freedom Act of 1978* will be followed. Requirements of the *Native American Graves Protection and Repatriation Act* of 1990 will be followed should Native American remains be inadvertently unearthed during construction.

5.2 Public Involvement

5.2.1 Public Meetings

Several public meetings have been held to discuss planning of the North Central Water System.

"Scoping", a process identified in Council on Environmental Quality (CEQ) regulations, is an iterative process involving preparers of NEPA documents, the public, Indian tribes, government agencies, and other parties with an interest in the proposed project. The purpose of scoping is to identify public and agency concerns, to facilitate preparation of the EA, and to define issues and alternatives to be addressed in the EA. Scoping has a large component of public/agency involvement and is also a means by which the analysis process in the EA is streamlined and coordinated.

The Chippewa-Cree Tribe, the North Central Montana Regional Water Authority, Bureau of Reclamation, and State of Montana (Department of Natural Resources and Conservation, the lead State agency) sponsored public scoping meetings at Conrad, Chester, and Rocky Boy during the period July 14-16, 2003. A scoping meeting with state and federal agencies was held in Helena on November 19, 2003. A description of the project and map showing the locations of major project facilities was presented at scoping meetings and mailed to individuals and agencies.

The public was informed of scoping meetings through advertisements in local papers and over local radio stations serving the five communities. The following newspapers published notices of the scoping meetings:

Shelby Promoter	(Shelby)
Great Falls Tribune	(Great Falls)
Havre Daily News	(Havre)
Independent Observer	(Conrad)
Liberty County Times	(Liberty County)
Big Sandy Mountaineer	(Big Sandy)
Acartha	(Chouteau)
Fairfield Sun Times	(Fairfield)

The following radio stations broadcast notices of scoping meetings:

KOJM	(Havre)
KPQX	(Havre)
KXEI	(Havre)
KSEN	(Shelby)
KMON	(Great Falls)

The following TV stations broadcast notices of scoping meetings:

KRTV	(Great Falls)
KTGF	(Great Falls)
KFBB	(Great Falls)

In addition to announcements over the radio and in newspapers, letters describing the project were sent to state and federal agencies, individuals, conservation districts, and project participants for the Chippewa-Cree Tribe and North Central Montana Regional Water Authority. Approximately 131 people attended the scoping meetings.

5.3 Distribution List

A distribution list is provided in Appendix E.

5.4 Regulations, Authorizations, and Approvals

The proposed project will comply with the following state and federal statutes and orders as well as county and city ordinances. All required permits and necessary authorizations will be obtained prior to construction. Construction of the project also will require that easements and ROW permits be obtained for crossings of private, municipal, county, state, federal, and Indian lands.

5.4.1 Federal

- **American Indian Religious Freedom Act (P.L. 95-341):** Consult with Native Americans to protect and preserve Native American cultural and religious practices.

- **Archaeological Resources Protection Act of 1979 (P.L. 96-95):** Specifies the permitting procedure required to excavate or remove archaeological resources from Federal and Indian lands. Permits may be issued to educational or scientific institutions only if the removal will increase knowledge about archaeological resources. **43 CFR Part 7—Protection of Archaeological Resources** are the federal Regulations which implement the Archaeological Resources Protection Act.

- **Archaeological and Historic Preservation Act of 1974 (P.L. 93-291):** Authorizes federal agencies to protect cultural resources on federal construction projects and specifies the percentage of the construction budget that can be spent on cultural resource management.

- **Archeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines** (Federal Register, Vol. 48, No. 190, 1983, pp. 44716 to 44740): The National Historic Preservation Act specifies that these standards and guidelines should be followed in conducting cultural resource investigations.

- **Clean Air Act (42 U.S.C. 7401) and Amendments of 1970:** Authorizes establishment and enforcement of primary and secondary air emission standards.

- **Clean Water Act (33 U.S.C. 1251 et seq.):** Regulates the discharge of pollutants or fill into waters of the United States including wetlands. National Pollutant Discharge Elimination System (NPDES) permit required for point-source discharges (Section 402). A Department of the Army permit under Section 404 is required for placement of dredged or fill material in waters of the United States including jurisdictional wetlands. DEQ will be consulted to determine if a section 401 Water Quality Certification permit is needed.

- **Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (P.L. 96-510):** Authorizes the identification, assessment, and cleanup of hazardous waste sites.

- **Endangered Species Act of 1973 (P.L. 93-205):** Requires federal agencies to ensure that federally authorized activities do no have adverse impacts on threatened or endangered species.

- **Executive Order 11593, 1971 (Protection and Enhancement of the Cultural Environment) (16 USC 470):** Requires federal agencies to avoid inadvertently destroying cultural properties.

- **Executive Order 11988 (Floodplain Management, 1977):** Requires federal agencies to avoid developments on floodplains when practicable alternative exist. If a facility is located on a floodplain, action shall be taken to minimize potential harm to or within the floodplain. This project would not place material in any perennial or intermittent stream crossings. Crossings would not interfere with the movement of floodwater. This project is not anticipated to increase flood hazards that would harm property or endanger lives, and it would conform with state and local floodplain and wetland protection standards. The project is not anticipated to support development or contribute to the development of other projects in floodplains or wetlands.

- **Executive Order 11990 (Protection of Wetlands, 1977):** Requires federal agencies to avoid suiting facilities in wetlands wherever there is a practicable alternative.

- **Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds, 2001):** The migratory bird act was designed to protect migratory birds in the United States by limiting practices that are detrimental to migratory bird well being and habitat.

- **Federal Water Protection Recreation Act of 1965 (P.L. 89-72):** Requires federal agencies to consider potential outdoor recreation and fish and wildlife enhancement benefits that water resource projects may provide.

- **Fish and Wildlife Coordination Act (FWCA) of 1958 (P.L. 85-624):** Mandates that fish and wildlife receive equal consideration with water resources development programs throughout planning, development, operation, and maintenance requires development of a FWCA report. USFWS and MFWP will be consulted to prevent loss or damage to fish and wildlife resources.

- **National Historic Preservation Act of 1966, as amended through 1992 (P.L. 89-665 and P.L. 96-515):** Section 106 of this act, requires federal agencies to consider the impacts of projects on historic properties. Consideration must be done in consultation with SHPO. The SHPO must be offered the opportunity to comment on whether any cultural resources in the undertaking areas of effect qualify as historic properties and, if so, how the undertaking may affect these properties. The 1992 amendments also specify that federal agencies must invite

tribes to participate in the Section 106 consultation projects. **36 CFR Part 800** are the federal regulations which implement Section 106 of the National Historic Preservation Act.

- **Native American Graves Protection and Repatriation Act:** Affords protection to Native American burials, graves, funerary objects, and objects of cultural patrimony on public lands or on lands under the control of the federal government. **43 CFR Part 10—Native American Graves Protection and Repatriation Act Regulations** are the draft regulations which implement the Native American Graves Protection and Repatriation Act.

- **Rivers and Harbors Act of 1890, Section 10 Permit:** A permit is required from the COE for the placement of any structure that could affect navigation in navigable waters of the United States.

- **36 CFR 60.4—National Register Criteria:** Defines which sites are eligible for inclusion the National Register of Historic Places.

- **36 CFR 79—Curation of Federally Owned and Administered Archeological Collections:** Establishes criteria for the curation of federal archeological collections.

5.4.2 State

- **Public Water Supplies, Distribution, and Treatment (75-6-101, et.seq., M.C.A.):** Public water supplies must submit maps, plans, and specifications to DEQ for review, and must have DEQ approval for those maps, plans, and specifications before commencing construction.

- **Certification of Water Facility Operators:** Water plant operators must pass an examination and meet minimum experience and education requirements. Water treatment plants serving a population of 500 or more must be operated under the supervision of someone certified by the Department of Environmental Quality.

- **Cultural Resources:** Reclamation must consult with SHPO regarding effects of the project on Historic Properties.

- **Right-of-Way Permits:** MDT issues Utility Permits to occupy a state ROW and to cross a state highway.

- **Montana Stream Protection Act (SPA 124) or Montana Natural Streambed and Land Preservation Act (318 Authorization).**

- **Montana Floodplain and Floodway Management Act.**

- **Short-term exemption from Montana's Surface Water Quality Standards (3A permit).**
- **Montana Land-Use License or Easement on Navigable Waters.**
- **Montana Water Use Act (change of use).**

5.4.3 County

- **Right-of-Way Permits:** County highway departments issue permits to occupy ROW or cross county roads.
- **Zoning:** Zoning clearances may be needed for system facilities.

5.4.4 Other

- **Municipalities:** Easement agreements and building permits may be required.
- **Utilities:** Easements or agreements must be obtained for construction in rights-of-way for railroads, pipelines, and other facilities.
- **Private:** Easement agreements will be negotiated with private landowners.
- **Indian Tribes:** Will be consulted as specified in the National Historic Preservation Act and the American Indian Religious Freedom Act.

6.0 ENVIRONMENTAL COMMITMENTS

All environmental commitments will be included in and made a part of contracts associated with this project.

6.1 Prime and Unique Farmlands, Geology and Soils

The following mitigation measures will be followed where feasible:

- Construct pipelines next to existing roads to eliminate or reduce the need for new maintenance or access roads.
- Return topography to pre-construction contours and mound soil over pipeline to allow for settling.
- Control erosion by reseeding areas disturbed by pipeline placement as soon as possible following construction.
- Strip and stockpile topsoil from trenches of pipelines larger than 12-inches in diameter to a depth of 12-inches or the depth that the topsoil extends to in more shallow soils.
- Replace the topsoil as the last step in the backfilling process, so the productive soils will be returned to the surface soil horizon.
- Install sediment barriers to reduce water erosion on slopes greater than 5 percent.
- Leave undisturbed buffer strips of natural vegetation on waterway banks and bottoms and at road crossings until construction is ready to proceed.
- Where necessary scarify topsoil to reduce compaction or crusting before seeding.
- Leave topsoil in a roughened condition until it is seeded to prevent wind erosion.
- Hydromulch slopes steeper than 15 percent
- Install water bars to divert run-off from disturbed areas.
- Backfill immediately after pipe is placed in trenches.
- Consult with members of the ID team for technical assistance in avoiding, minimizing and monitoring for lost or degraded water resource values.

6.2 Water Resources and Water Quality

The following mitigation measures will be followed as feasible and necessary.

- Stream crossing in the project area would conform to state and federal standards
- Place silt barriers to control sediment on slopes in excess of 5 percent at stream crossings and adjacent to wetlands.
- Stockpile soil from trenches out of the water and waterway crossings and replace after pipeline construction.
- Stockpile spoil material at larger stream crossings on the downstream side of the trench, leaving gaps for flowing water.
- Select stream crossing sites where the channel is relatively stable and not sidecutting.
- Construct stream crossings perpendicular to the axis of the stream channel.
- Restore original stream bank contours.

- Service and refuel construction equipment at least 250 feet from all water bodies and wetlands.
- Consult with members of the ID team for technical assistance in avoiding, minimizing and monitoring for lost or degraded water resource values.

6.3 Vegetation

The following mitigation measures will be followed as feasible and necessary.

- Reseed native rangeland with native plant species at rates to ensure rapid vegetation. Seed mix and rates will be determined in cooperation with the ID team.
- Broadcast seed where appropriate to minimize visual impacts
- Drill seeds in areas adjacent to noxious weed infestations and areas prone to wind erosion.
- Identify and treat noxious weed infestations prior to construction.
- Prepare and submit a noxious weed control plan to each county weed control district.
- Equip construction equipment with mufflers and spark arresters to reduce fire risk.
- Consult with members of the ID team for technical assistance in avoiding, minimizing and monitoring for lost or degraded vegetation values.

6.4 Wetlands

In addition to the protections provided by the 404 permitting process, all wetlands are considered for protection under Executive Order 11990 (Protection of Wetlands, 1977) and Fish and Wildlife Coordination Act (FWCA). To meet the requirements of these, potential impacts to wetlands will be handled in the following order: avoidance, minimization, compensation.

6.4.1 Avoidance

Where practicable, avoid wetlands during the planning and construction phases.

6.4.2 Minimization

Where wetlands cannot be avoided, implementation of the following minimization efforts will be employed:

- Route pipelines to wetland edges where practicable
- Delineate wetlands (1987 COE Manual) and assess their functional capacity prior to construction (MDT)
- Construction will not proceed until after July 15 to minimize impacts to brooding birds
- Use temporary supporting platforms when working in wetlands to prevent equipment from damaging wetlands
- Place silt barriers to control sediment on disturbed slopes in excess of five percent

6.4.3 Compensation

Where wetlands cannot be avoided, and minimization efforts have been fully employed, the following compensation measures will be used to ensure no net loss of wetland and associated habitat:

- Stockpile hydric soils excavated from within the wetland boundary and replace upon completion of construction
- Install bentonite plugs around the pipe on both sides of wetlands if pipeline profiles indicate possible draining of the wetland
- Restore original wetland contours
- Develop a monitoring plan for annual sampling to assess the functional capacity of disturbed wetlands for a period of 10 years, or until functional capacity has been restored
- Mitigate at a 1:1 ratio for all wetlands which do not return to a functional capacity similar to the condition found prior to construction

An interdisciplinary team will be established for completing wetland identification, cultural resources issues, and potential wildlife/ESA related issues.

6.5 Fish and Wildlife Resources

The following mitigation measures will be followed as feasible and necessary.

- Time construction to minimize disturbing grouse leks, nesting raptors and waterfowl.
- Minimize electrocution of raptors on new and modified power lines by applying the criteria and techniques outlined in "Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996".
- Time construction to minimize impacts to spawning fish
- Maintain flows in stream during construction of stream crossings.
- Directionally bore under streams or time construction to coincide with times of lowest water levels.
- The effectiveness of the intake screen will be monitored for effectiveness in preventing the uptake of larval fish and eggs.
- Design the water intake so that the water velocity does not exceed 0.5 feet per second.
- Consult with members of the ID team for technical assistance in avoiding, minimizing and monitoring for lost or degraded fish and wildlife resource values.

6.6 Threatened and Endangered Species

Consult with members of the ID team for technical assistance in avoiding, minimizing and monitoring take of threatened and endangered species. The following mitigation measures will be followed as feasible and necessary.

6.6.1 Black-footed Ferret

The USFWS will be contacted prior to the disturbance of any prairie dog towns to determine the necessity and appropriate level of black-footed ferret searches. If ferrets are identified during these searches the habitat will be avoided.

6.6.2 Piping Plover

During the wetland delineation phases of the project, the delineator will be alert to the possibility of plover presence. In the event that piping plovers are observed, avoidance, compensation and monitoring activities would follow. To prevent disruption of nesting and brood rearing no construction would take place within ½ mile of occupied plover habitat during the breeding and brood rearing season, of April 15th - September 1st.

6.6.3 Bald Eagle

Design of new power lines or lines that would need to be modified or reconstructed as a result of the project would take into consideration the criteria and techniques outlined in "Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996," (SPLIC, 1996).

6.7 Social and Economic Considerations

Traffic safety and maintenance of traffic flow would be a high priority during any construction within highway ROW. Disruptions in traffic would be kept to a minimum. All crossings and construction in highway ROW would require permission of the appropriate federal, State or county agency and compliance with applicable regulations. Construction work would be coordinated with other projects planned within the project area.

Pipeline breaks would pose little danger to highways and roads. Crossings beneath major state and county paved roads would normally be bored and jacked. Pipelines located within and parallel to highway ROW would be located as far as possible from the road bed to reduce the chance of erosion damage resulting from a pipeline break. The North Central Water Authority would develop a contingency plan to minimize property damage and public hazard. During the prescribed warranty period, the contractor would be responsible for any leaks or resultant damage. After the warranty period, the North Central Water Authority would be responsible.

6.8 Cultural Resources

The Programmatic Agreement between Reclamation, BIA, Chippewa Cree Tribe, Chippewa Cree THPO, NCMRWA, and SHPO will contain numerous stipulations regarding the coordination efforts required during final design and construction of the proposed project.

6.9 Indian Trust Assets

6.9.1 Agricultural Land

Cropland would be crossed on the Reservation using the same methods as the rest of the project. The pipeline would be constructed after crops have been harvested to reduce or avoid impacts. If crop damage occurs, compensation would be provided to the owner. Reseeding with native species would be done immediately after construction. These measures would prevent long term damage to agricultural lands.

6.9.2 Wildlife

The previously described general wildlife species and Threatened and Endangered species and associated habitat areas are likely to occur on affected areas of the Reservation. Avoidance and other mitigative measures stipulated for other areas of the project would apply equally to the Reservation.

6.9.3 Water Quality and Quantity

Crossings of perennial and intermittent drainages would use the same methods and other mitigation measures required for other areas of the project. The Tribal water right will not be used for supplying non-Tribal MR&I water demands unless acquisition by the non-Tribal MR&I users is arranged with the Tribe.

6.9.4 Transportation

Several roads and highways on the Reservation would be crossed by project pipelines. Crossings would be done in the same manner as described for the rest of the project. Work would be coordinated with federal, State and Tribal/County road departments.

6.9.5 Cultural Resources

The Chippewa-Cree Tribe will be consulted relative to all construction activities on the Reservation. Consultation on potential impacts to cultural resources, including traditional religious and culturally important properties that qualify for consideration under the *American Indian Religious Freedom Act* and Section 3 of the *Native American Graves Protection and Repatriation Act*, will follow all requirements under Section 106. All inventories within the Reservation will conform with tribal requirements and, for trust lands, BIA requirements.

6.9.6 Aesthetics

Open spaces and vistas are characteristic visual resources on the Reservation. Surface disturbances due to pipeline construction would be restored through prompt re-seeding, thus these impacts are anticipated to be short-term in duration.

7.0 LIST OF PREPARERS

The responsibilities and qualifications of the consultant team that prepared the Rocky Boy's / North Central Montana Regional Water System Environmental Assessment are listed below:

Preparer/Affiliation	Role	Education and Experience
Doug Oellermann, P.E. Bureau of Reclamation	Lead Agency	B.S. Agricultural Engineering. Over twenty years in consulting engineering, Bureau of Reclamation and Bureau of Indian Affairs.
Marc Golz, P.E. DEQ	Cooperating Agency	Senior civil engineer in the drinking water state revolving fund program. Over 13 years experience with DEQ. B.S., Civil Engineering, water resources emphasis.
Rick Duncan DNRC	Cooperating Agency	B.A., Environmental Biology. Over 24 years experience in environmental and related fields, with emphasis on technical analysis and review, as well as report writing and editing.
Gary Elwell, P.E. HKM Engineering, Inc.	Project Manager	B.S. Civil Engineer. Twenty-seven years in consulting engineering in water resources and environmental projects.
Darryl L. James, AICP HKM Engineering, Inc.	Public Participation, NEPA/MEPA Compliance and Documentation	M.P.A., with an Environmental Concentration; B.A., Public Affairs and Political Science. Senior consultant with over ten years experience in transportation planning, environmental analysis, and technical report writing.
Jennifer Peterson HKM Engineering, Inc	Project Coordination, Document Preparation	B.S., Civil Engineering. Over four years experience in environmental technical documentation, public involvement, and traffic engineering.
Dan Keil NCMRWA	Chairman, North Central Montana Regional Water Authority	M.S. Soil Fertility. Board of Montana Rural Water since 1979. President 1979-1985.
Annmarie Robinson Bear Paw Development	Project Coordinator	B.S. Business. Over sixteen years in economic development field.
Carol Endicott Confluence	Biological Resources	M.S. Fish and Wildlife Management. Fourteen years fish and wildlife sciences.
Ron McCain Confluence	Wetlands	M.S. Reclamation Science. Six years performing reclamation studies.
John Brumley Ethos, Inc.	Cultural Resources	M.S. Archeology. Over twenty years directing archeological investigations.
Joan Mitchell	Acting Tribal Historic Preservation Officer	B.S. Environmental Studies, M.S. Candidate, Environmental Studies. 15 years natural resource planning and environmental protection.

8.0 BIBLIOGRAPHY

The following reports and documents were used in the preparation of this EA, and can be viewed at the Bureau of Reclamation Office in Billings.

Needs Assessment Report, MSE-HKM (October 30, 1997)

Appraisal Level Study, MSE-HKM (November 5, 1997)

Planning/Environmental Report, HKM Engineering, Inc. (May 16, 2000)

The following literature sources were used in the development of the technical information and analysis contained in the EA.

Bergeron, D.C., C. Jones, D.L. Genter, and D. Sullivan. 1992. P.D. Skaar's Montana Bird Distribution, Fourth Edition. Special Publication, No. 2. Montana Natural Heritage Program, Helena. 116 pp.

Berglund, Jeff, Montana Department of Transportation and Morrison-Maierle, Inc. May 5, 1999. MDT Montana Wetland Assessment Method.

Clean Water Act, Section 404. 1986. Federal Register – Regulatory Programs of the Corps of Engineers.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. US Army Engineer Waterways Experiment Station, Vicksburg, MS. Tech. Rpt. Y-87-1.

Foresman, K.R. 2001. The Wild Mammals of Montana. Special Publication No. 12. American Society of Mammalogists. Allen Press, Inc., Lawrence, Kansas. 278 pp.

Gilmore, M. 1977. Uses of Plants by the Indians of the Missouri Region. University of Nebraska Press. Lincoln and London.

Hart, J. and J. Moore. 1976. Montana-Native Plants and Early People. The Montana Historical Society and Montana Bicentennial Administration.

Holton, G.D. 1996. A Field Guide to Montana Fishes. Montana Fish, Wildlife & Parks, Helena, Montana

Johnston, A. 1987. Plants and the Blackfoot. Occasional Paper No. 15. Lethbridge Historical Society.

Maxwell, B.A., J.K. Werner, P. Hendricks, and D.L. Flath. 2003. Herpetology in Montana: A History, Status Summary, Checklists, Dichotomous Keys, Accounts for Native, Potentially Native, and Exotic Species, and Indexed Bibliography. Northwest Fauna 5. Society for Northwestern Vertebrate Biology, Olympia, Washington. 135 pp.

Montana Department of Transportation. 2003. Statewide Transportation Improvement Program 2004-2006. Helena, Montana.

Montana Natural Heritage Program. 1999. Elemental Occurrence Listings for Sensitive Plant and Animal Species of Concern. Helena, Montana.

Reichel, J. and D. Flath. 1995. Identification of Montana's amphibians and reptiles. Montana Outdoors, May/June. Helena, Montana.

Sheley, R.L., and Petroff, J.K. 1999. Biology and Management of Noxious Rangeland Weeds. Oregon State University Press, Corvallis, OR.

State Water Conservation Board, 1967; Noble, 1996

Stickney, R. R. 1993. Advances in Fisheries Science: Culture of Nonsalmonid Freshwater Fishes. Second Edition. CRC Press, Inc.

Wetland Training Institute, Inc. 1991. Field Guide for Wetland Delineation: 1987 Corps of Engineers Manual. WTI 91-2.

Woods, A.J,. J.M. Omernick, J.A. Nesser, J. Sheldon, and S.H. Azevedo. 1999. Ecoregions of Montana (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,500,000).

APPENDIX A

Scientific Names

APPENDIX A:
Scientific Names

Plants[1]

Common Name	Scientific Name
arrow-grass	*Triglochin sp.*
arrow-head	*Sagittaria cuneata*
avens	*Geum urbanum*
Baltic rush	*Juncus balticus*
baneberry	*Actaea spicata*
bitterroot	*Lewisia rediviva*
blue camas	*Camassia sp.*
blue grama grass	*Bouteloua gracilis*
breadroot (Indian turnip)	*Breadroot scurfpea*
buffalo bean	*Thermopsis rhombifolia*
Canada thistle	*Cirsium arvense*
cattail	*Typha latifolia*
chokecherry	*Prunus virginiana*
cottonwood	*Populus deltoides*
cow parsnip	*Heracleum sphondylium*
creeping juniper	*Juniperus horizontalis*
diffuse knapweed	*Centaurea diffusa*
field mint	*Mentha arvensis*
fringed sage	*Artemisia frigida*
golden currant	*Ribes aureum*
hawthorn	*Crataegus sp.*
horsetail	*Equisetum arvense*
Indian ricegrass	*Oryzopsis hymenoides*
leafy spurge	*Euphrbia esula*
man sage	*Salvia sp.*
needle-and-thread	*Stipa comata*
pasque flower	*Anemone pulsatilla*
prairie clover	*Dalea sp.*
prairie coneflower	*Ratibida columnifera*
puccoon	*Lithospermum sp.*
red-osier dogwood	*Cornus sericea*
reed grass	*Phragmites australis*
Russian knapweed	*Acroptilon repens*
Russian thistle	*Salsola kali*
saskatoon (serviceberry)	*Amelanchier alnifolia*
scarlet globe mallow	*Sphaeralcea coccinea*
sedge	*Carex sp.*
sego lily	*Calochortus nuttalli*
Seneca-root	*Polygala senega*
shrubby cinquefoil	*Potentilla fruticosa*
silver sage	*Salvia sp.*
spotted knapweed	*Centaurea maculosa*
spring beauty	*Claytonia lanceolata*
stinging nettle	*Urtica dioica*
sweet grass	*Hierochlöe odorata*
thorny buffalo-berry	*Shepherdia argentea*
water hemlock	*Cicuta douglasii*

Common Name	Scientific Name
wild licorice	*Glycyrrhiza lepidota*
wild onion	*Allium drummondii*
wild rose	*Rosa sp.*
wild strawberry	*Fragaria virginiana*
willow	*Salix sp.*
winter fat	*Ceratoides lanata*
wolf willow (silver berry)	*Elaeagnus commutata*
yellow bells	*Fritillaria pudica*

(1) Dorn, R. Vascular Plants of Montana. 1984. Mountain West Publishing, Cheyenne, Wyoming. 276 pp.

Mammals[2]

Common Name	Scientific Name
badger	*Taxidea taxus*
beaver	*Aplodontia rufa*
black bear	*Ursus americanus*
black-tailed prairie dog	*Cynomys ludovicianus*
bobcat	*Felis rufus*
bushy-tailed woodrat	*Neotoma cinerea*
chipmunk	*Tamias sp.*
coyote	*Canis latrans*
deer mouse	*Peromyscus maniculatus*
desert cottontail	*Sylvilagus auduboni*
elk	*Cervus elaphus*
grasshopper mouse	*Onychomys arenicola*
house mouse	*Mus musculus*
least weasel	*Mustela nivalis*
long-tailed weasel	*Mustela frenata*
lynx	*Felis lynx*
mink	*Mustela vison*
moose	*Alces alces*
mountain cottontail	*Sylvilagus nuttallii*
mountain lion	*Felis concolor*
mule deer	*Odocoileus hemionus*
porcupine	*Erethizon dorsatum*
pronghorn	*Antilocapra americana*
raccoon	*Procyon lotor*
red fox	*Vulpes vulpes*
red squirrel	*Tamiasciurus hudsonicus*
Richardson's ground squirrel	*Spermophilus richardsonii*
river otter	*Lutra canadensis*
short-tailed weasel	*Mustela erminea*
shrews	*Soricidae sp.*
snowshoe hare	*Lepus americanus*
striped skunk	*Mephitis mephitis*
swift fox	*vulpes velox*
thirteen-lined ground squirrel	*Spermophilus tridecemlineatus*
Townsend's big-eared bat	*Corynorhinus townsendii*
vole	*Microtus sp.*
western jumping mouse	*Zapus princeps*
white-footed mouse	*Peromyscus leucopus*
white-tailed deer	*Odocoileus virginianus*

Common Name	Scientific Name
white-tailed jackrabbit	*Lepus townsendii*
yellow-bellied marmot	*Marmota flaviventris*

[2]Chapman, J.A., and G.A. Feldhamer (eds). 1982) Wild Mammals of North America Biology Management Economics. The John Hopkins University Press, Baltimore, Maryland.

Fish[3]

Common Name	Scientific Name
Bigmouth Buffalo	*Ictiobus cyprinellus*
Black Bullhead	*Ameiurus melas*
Black Bullhead	*Ameiurus melas*
Black Crappie	*Pomoxis nigromaculatus*
Blue Sucker	*Cycleptus elongatus*
Brassy Minnow	*Hybognathus hankinsoni*
Brook Stickleback	*Culaea inconstans*
Brook Trout	*Salvelinus fontinalis*
Brown Trout	*Salmo trutta*
Burbot	*Lota lota*
Channel Catfish	*Ictalurus punctatus*
Cisco	*Coregonus artedi*
Common Carp	*Cyprinus carpio*
Creek Chub	*Semotilus atromaculatus*
Emerald Shiner	*Notropis atherinoides*
Fathead Minnow	*Pimephales promelas*
Flathead Chub	*Platygobio gracilis*
Freshwater Drum	*Aplodinotus grunniens*
Goldeye	*Hiodon alosoides*
Iowa Darter	*Etheostoma exile*
Lake Chub	*Couesius plumbeus*
Lake Trout	*Salvelinus namaycush*
Longnose Dace	*Rhinichthys cataractae*
Longnose Sucker	*Catostomus catostomus*
Mottled Sculpin	*Cottus bairdi*
Mountain Sucker	*Catostomus platyrhynchus*
Mountain Whitefish	*Prosopium williamsoni*
Northern Pike	*Esox lucius*
Northern Redbelly Dace	*Phoxinus eos*
Northern Redbelly/Finescale Dace	*Phoxinus eos x P. neogaeus*
Paddlefish	*Polyodon spathula*
Pallid Sturgeon	*Scaphirhynchus albus*
Pearl Dace	*Margariscus margarita*
Plains Minnow	*Hybognathus placitus*
Rainbow Trout	*Oncorhynchus mykiss*
River Carpsucker	*Carpiodes carpio*
Sand Shiner	*Notropis ludibundus*
Sauger	*Sanders canadense*
Saugeye	*Sanders canadense x S. vitreum*
Shorthead Redhorse	*Moxostoma macrolepidotum*
Shovelnose Sturgeon	*Scaphirhynchus platorynchus*
Sicklefin Chub	*Macrhybopsis meeki*
Smallmouth Bass	*Micropterus dolomieu*
Smallmouth Buffalo	*Ictiobus bubalus*

Common Name	Scientific Name
Spottail Shiner	*Notropis hudsonius*
Stonecat	*Noturus flavus*
Sturgeon Chub	*Macrhybopsis gelida*
Walleye	*Sanders vitreum*
Western Silvery Minnow	*Hybognathus argyritis*
Western Silvery/Plains Minnow	*Hybognathus argyritis x H. placitus*
Westslope Cutthroat Trout	*Oncorhynchus clarki lewisi*
White Crappie	*Pomoxis annularis*
White Sucker	*Catostomus commersoni*
Yellow Perch	*Perca flavescens*

[3]Holton, G.D., and H.E. Johnston. A Field Guide to Montana Fishes. 1996. Montana Fish, Wildlife and Parks, Helena, Montana. 103 pp.

Amphibians[4]

Common Name	Scientific Name
boreal chorus frog	*Pseudacris maculata*
Great Plains toad	*Bufo cognatus*
northern leopard frog	*Rana pipiens*
plains spadefoot	*Spea bombifrons*
tiger salamanders	*Ambystoma tigrinum*
Woodhouse's toad	*Bufo woodhousei*

[4]Maxwell, B.A., J.K. Werner, P. Hendricks, and D.L. Flath. 2003. Herpetology in Montana: A History, Status Summary, Checklists, Dichotomous Keys, Accounts for Native, Potentially Native, and Exotic Species, and Indexed Bibliography. Northwest Fauna 5. Society for Northwestern Vertebrate Biology, Olympia, Washington. 135 pp.

Reptiles[5]

Common Name	Scientific Name
Eastern racer	*Coluber constrictor*
Gophersnake	*Pituophis catenifer*
Painted turtle	*Chrysemys picta*
plains garter snake	*Thamnophis radix*
short-horned lizard	*Phrynosoma douglasi*
spiny softshell	*Apalone spinifera*
terrestrial garter snake	*Thamnophis elegans*
western hognose snake	*Heterodon nasicus*
western rattlesnake	*Crotalus viridis*

[5] Maxwell, B.A., J.K. Werner, P. Hendricks, and D.L. Flath. 2003. Herpetology in Montana: A History, Status Summary, Checklists, Dichotomous Keys, Accounts for Native, Potentially Native, and Exotic Species, and Indexed Bibliography. Northwest Fauna 5. Society for Northwestern Vertebrate Biology, Olympia, Washington. 135 pp.

Birds[6]

Common Name	Scientific Name
American avocet	*Recurvirostra americana*
American coot	*Fulica americana*
American goldfinch	*Carduelis tristis*
American kestrel	*Falco sparverius*
American white pelican	*Pelecanus erythrorhynchos*
Baird's sparrow	*Ammodramus bairdii*
bald eagle	*Haliaeetus leucocephalus*
belted kingfisher	*Ceryle alcyon*
black tern	*Chlidonias niger*

Common Name	Scientific Name
black-billed magpie	*Pica hudsonia*
black-crowned night heron	*Nycticorax nycticorax*
blue-winged teal	*Anas discors*
brown-headed cowbird	*Molothrus ater*
burrowing owl	*Speotyto cunicularia*
Canada goose	*Branta canadensis*
common snipe	*Gallinago gallinago*
Cooper's hawk	*Accipiter cooperii*
Eastern kingbird	*Tyrannus tyrannus*
ferruginous hawk	*Buteo regalis*
Forster's Tern	*Strerna forsteri*
Franklin's Gull	*Larus pipixcan*
gadwall	*Anas strepera*
Golden eagle	*Aquila chrysaetos*
gray partridge	*Perdix perdix*
great horned owl	*Bubo virginianus*
green-winged teal	*Anas crecca*
gyrfalcon	*Falco rusticolus*
Killdeer	*Charadrius vociferus*
lark bunting	*Calamospiza melanocorys*
long-billed curlew	*Numenius americanus*
Mallard	*Anas platyrhynchos*
Merlin	*Falco columbarius*
mountain plover	*Charadrius montanus*
mourning dove	*Zenaida macroura*
northern flicker	*Colaptes auratus*
northern harriers	*Circus cyaneus*
northern pintail	*Anas acuta*
northern shoveler	*Anas clypeata*
Osprey	*Pandion haliaetus*
peregrine falcon	*Falco peregrinus*
piping plover	*Charadrius melodus*
prairie falcon	*Falco mexicanus*
red-tailed hawk	*Buteo jamaicensis*
ring-necked pheasant	*Phasianus colchicus*
rough-legged hawk	*Buteo lagopus*
savannah sparrow	*Passerculus sandwichensis*
sharp-shinned	*Accipiter striatus*
sharp-tailed grouse	*Tympanuchus phasianellus*
short-eared owl	*Asio flammeus*
snow goose	*Chen caerulescens*
snowy owl	*Nyctea scandiaca*
Sora	*Porzana carolina*
Spotted sandpiper	*Actitis macularia*
Swainson's hawk	*Buteo swainsonii*
Upland sandpiper	*Bartramia longicauda*
western kingbird	*Tyrannus verticalis*
western meadowlark	*Sturnella neglecta*
western wood peewee	*Contopus sordidulus*
whooping crane	*Grus americana*
wild turkey	*Meleagris gallopavo*

Common Name	Scientific Name
Willet	*Catoptrophorus semipalmatus*
Wilson's phalarope	*Phalaropus tricolor*

[6]Bergerson, D.C., C. Jones, D.L. Genter, and D. Sullivan. 1992. P.D. Skaar's Montana Bird Distribution, Fourth Edition. Special Publication, No. 2. Montana Natural Heritage Program, Helena, Montana. 116 pp.

APPENDIX B

Biological Resources Information

APPENDIX B:
Biological Resources Information

Animal species of special concern potentially occurring in the North Central System project area. Endangered, threatened, and candidate species are presented in bold.

Common Name	Scientific Name	Occurrence in Project Area	Global Rank	2000 State Rank	USFWS	USFS	BLM
BIRDS[1]							
American White Pelican	*Pelecanus erythrorhynchos*	Forages in the region	G3	S3B, SZN			
Baird's Sparrow	*Ammodramus bairdii*	Breeds in the region	G4	S3S4B, SZN		S	S
Bald Eagle	*Haliaeetus leucocephalus*	Throughout the project area near waterways	G4	S3B, S3N	T		
Black Tern	*Chlidonias niger*	Breeds in the region	G4	S3B, SZN			S
Black-crowned Night Heron	*Nycticorax nycticorax*	Breeds in the region	G5	S3B?, SZN			
Burrowing Owl	*Athene cunicularia*	Evidence of breeding in the region	G4	S3B, SZN		S	S
Canvasback	*Aythya valisineria*	Evidence of breeding in the region					S
Columbian sharp-tailed grouse	*Tympanuchus phasianellus*	Breeds and overwinters in the region	G4T3	S1		S	S
Common loon	*Gavia immer*	Migrant through region	G5	S2B		S	S
Common Tern	*Strena hirundo*	Breeds in the region	G5	S3B, SZN			S
Ferruginous Hawk	*Buteo regalis*	Near town of Galata, and west of I-15, 8-14 miles south of the Canadian border	G4	S3B, SZN			
Forster's Tern	*Strerna forsteri*	Breeds in the region	G5	S2B, SZN			
Franklin's Gull	*Larus pipixcan*	Breeds in the region	G4 G5	S3B, SZN			
Hairy Woodpecker	*Picoides villosus*	Breeds and overwinters in region					S
Loggerhead shrike	*Lanius ludovicianus*	Breeds in region					S
Mountain Plover	*Charadrius montanus*	Indirect or circumstantial evidence of breeding in the region	G2	S2B, SZN	PT		
Long-billed curlew	*Numenius americanus*	Breeds in region					S

[1] Distribution data obtained from Bergeron et al (1992)

Common Name	Scientific Name	Occurrence in Project Area	Global Rank	2000 State Rank	USFWS	USFS	BLM
Northern Goshawk	*Accipiter gentilis*	Observed in region, no evidence of breeding	G5	S3S4		S	S
Peregrine Falcon	*Falco peregrinus*	Overwinters and potentially breeds in the region	G4	S2B		S	S
Piping plover	*Charadrius melodus*	Potentially breeds in the region	G3	S2B	T		
Sage grouse	*Centrocercus urophasianus*	Potentially breeds in region					S
Swainson's hawk	*Buteo swainsonii*	Breeds in region					S
White-faced ibis	*Plegadis chihi*	Breeds in region					S
Whooping Crane	*Grus americana*	Possible migrant through region	G1	S1N	E		
FISH[2]							
Blue Sucker	*Cycleptus elongatus*	Missouri River, Marias River, Teton River	G4	S2S3			S
Northern Redbelly Dace ×Finescale Dace hybrid	*Phoxinus eos ×P. neogaeus*	Teton River	HYB	S3			S
Paddlefish	*Polyodon spathula*	Fort Peck Reservoir and the Missouri River up to Loma	G4	S1S2			S
Pallid Sturgeon	*Scaphirhynchus albus*	The Missouri River from the mouth of the Marias River to the Fort Peck Reservoir	G1	S1	E		
Pearl Dace	*Margariscus margarita*	Milk River	G5	S2			S
Sauger	*Sanders canadense*	Teton, Marias, Milk, and Missouri rivers	G5	S2			
Sicklefin Chub	*Macrohybopsis meeki*	Missouri River	G3	S1		S	S
Sturgeon Chub	*Macrhybopsis gelida*	Missouri, Marias, and Teton rivers	G2	S2			S
MAMMALS[3]							
Black-footed Ferret	*Mustela nigripes*	Not documented in project area but cannot be ruled out	G1	S1	E		S
Black –tailed Prairie Dog	*Cynomys ludovicianus*	Present in all counties in the project area	G4	S3S4	C	S	S
Merriam's shrew	*Sorex merriami*	Occurs in the region	G5	S3			S

[2] Distribution data obtained from MFISH database and Holton (1920)
[3] Distribution data obtained from Foresman (2001)

Common Name	Scientific Name	Occurrence in Project Area	Global Rank	2000 State Rank	USFWS	USFS	BLM
Preble's Shrew	*Sorex preblei*	Occurs in the region	G4	S3			S
Swift fox	*Vulpes Velox*	Occurs in the region	G3	S3		S	S
Townsend's big-eared bat	*Corynorhinus townsendii*	Documented in all counties in the project area, roosts in cottonwoods	G4	S2S3		S	S
REPTILES[4]							
Spiny Softshell	*Trionyx spiniferus*	The Missouri River from Fort Benton to the Musselshell, the bottom 20 miles of the Marias, and the Musselshell between Shamut and Harlowton	G5	S3			SS
Western Hognose Snake	*Heterodon nasicus*	South side of Marias River 10 miles south of Galata	G5	S3			N/A

Definitions of the standardized rank devised by the Natural Heritage Network

Rank	Definition
G1 S1	Critically imperiled because of extreme rarity or because of some factor making especially vulnerable to extinction
G2 S2	Imperiled because of rarity or because of other factors demonstrably making it very vulnerable to extinction throughout its range.
G3 S3	Either very rare and local throughout its range, or found locally (even abundantly at some of its locations) in a restricted range, or vulnerable to extinction throughout its range because of other factors
G4 S4	Apparently secure, though it may be quite rare in parts of its range, especially at the periphery
G5 S5	Demonstrably secure, though it may be quite rare in parts of its range, especially at the periphery
GU SU	Possibly in peril, but status uncertain; more information needed
GH SH	Historically known; may be rediscovered
GX SX	Believed to be extinct; historical records only, continue search
G#G# or S#S#	Indicates a range of uncertainty about the rarity of the species
Other Codes	**Definition**
A	Accidental in the state; including species (usually birds or butterflies) recorded very infrequently, hundreds or thousands of miles outside of their usual range
B	A state rank modifier indicating breeding status for a migratory species. Example: S1B, SZN – breeding occurrences for the species are ranked S1 (critically imperiled) in the state, nonbreeding occurrences are not ranked in the state.

[4] Distribution data obtained from Maxwell et al (2003) and Reichel and Flath (1995)

E	An exotic established in the state; may be native in nearby regions
HYB	Element represents a hybrid of species
N	A state rank modifier indicating nonbreeding status for a migratory species. Example: S1B, SZN – breeding occurrences for the species are ranked S1 (critically imperiled) in the state, non-breeding occurrences are not ranked in the state
P	Indicated the element may potentially occur in the state
Q	Taxonomic questions or problems involved, more information needed; appended to the global rank
R	Reported in the state; but lacking documentation which would provide a basis for either accepting or rejecting the report
T	Rank for a subspecific taxon (subspecies, variety, or population); appended to the global rank for the full species
Z	Ranking not applicable
#	A modifier to SX or SH; the species has been reintroduced buy the population is not yet established
?	Inexact or uncertain: for numeric ranks, denoted inexactness
Fish and Wildlife Service Codes	**Definition**
E	Listed endangered
T	Listed threatened
PE	Proposed endangered
PT	Proposed threatened
C	Candidate (those species for which the U.S. Fish and Wildlife Service has sufficient information on biological status and threats to propose to list them as threatened or endangered).
Forest Service Codes	**Definition**
S	Sensitive; animal species identified by the Regional Forester for which population viability is a concern as evidenced by significant downward trend in population or a significant downward trend in habitat capacity.
Bureau of Land Management Codes	**Definition**
SS	Special Status; federally-listed Endangered, Threatened or Candidate species of other rare or endemic species that occur on BLM Lands.

Table 1: Fish species documented to occur in Big Sandy Creek within the project area.

Common Name	Scientific Name	Abundance	Water Use	Status
Black Bullhead	*Ameiurus melas*	Abundant	Year-round resident	
Brassy Minnow	*Hybognathus argyritis*	Rare	Year-round resident	
Brook Trout	*Salvelinus fontinalis*	Rare	Year-round resident	
Emerald Shiner	*Notropis atherinoides*	Rare	Year-round resident	
Fathead Minnow	*Pimephales promelas*	Abundant	Year-round resident	
Flathead Chub	*Platygobio gracilis*	Rare	Year-round resident	
Iowa Darter	*Etheostoma exile*	Rare	Year-round resident	

Lake Chub	*Couesius plumbeus*	Abundant	Year-round resident	
Longnose Dace	*Rhinichthys cataractae*	Rare	Year-round resident	
Mottled Sculpin	*Cottus bairdi*	Rare	Year-round resident	
Mountain Sucker	*Catostomus platyrhynchus*	Unknown	Year-round resident	
Northern Pike	*Esox lucius*	Common	Year-round resident	
Northern Redbelly Dace	*Phoxinus eos*	Common	Year-round resident	
Rainbow Trout	*Oncorhynchus mykiss*	Rare	Year-round resident	
Sauger	*Stizostedion canadense*	Rare	Year-round resident	G5, S2
Spottail Shiner	*Notropis hudsonius*	Common	Year-round resident	
Walleye	*Stizostedion vitreum*	Rare	Year-round resident	
Western Silvery/Plains Minnow	*Hybognathus placitus x H. argyritis*	Common	Year-round resident	
White Sucker	*Catostomus commersoni*	Abundant	Year-round resident	
Yellow Perch	*Perca flavescens*	Abundant	Year-round resident	

Table 2: Fish species documented to occur in Cottonwood Creek.

Common Name	Scientific Name	Abundance	Water Use	Status
Common Carp	*Cyprinus carpio*	Unknown	Year-round resident	

Table 3: Fish species documented to occur in the Dry Fork of the Marias River.

Common Name	Scientific Name	Abundance	Water Use	Status
Burbot	*Lota lota*	Rare	Year-round resident	
Flathead Chub	*Platygobio gracilis*	Rare	Year-round resident	
Lake Chub	*Couesius plumbeus*	Abundant	Year-round resident	
Longnose Dace	*Rhinichthys cataractae*	Abundant	Year-round resident	
Longnose Sucker	*Catostomus catostomus*	Rare	Year-round resident	
Northern Pike	*Esox lucius*	Rare	Year-round resident	
Walleye	*Stizostedion vitreum*	Rare	Year-round resident	
White Sucker	*Catostomus commersoni*	Common	Year-round resident	

Table 4: Fish species documented to occur in Eagle Creek.

Common Name	Scientific Name	Abundance	Water Use	Status
Lake Chub	*Couesius plumbeus*	Common	Year-round resident	
White Sucker	*Catostomus commersoni*	Common	Year-round resident	

Table 5: Fish species documented to occur in Fresno Reservoir.

Common Name	Scientific Name	Abundance	Water Use	Status
Black Crappie	*Pomoxis nigromaculatus*	Rare	Year-round resident	
Burbot	*Lota lota*	Rare	Year-round resident	
Emerald Shiner	*Notropis atherinoides*	Rare	Year-round resident	
Flathead Chub	*Platygobio gracilis*	Rare	Year-round resident	
Lake Whitefish	*Coregonus clupeaformis*	Abundant	Year-round resident	
Longnose Sucker	*Catostomus catostmus*	Rare	Year-round resident	
Northern Pike	*Esox lucius*	Common	Year-round resident	
Rainbow Trout	*Oncorhynchus mykiss*	Incidental	Fluvial/Adfluvial population, Spawning elsewhere	
Sauger	*Stizostedion canadense*	Rare	Year-round resident	G5, S2
Spottail Shiner	*Notropis hudsonius*	Abundant	Year-round resident	
Walleye	*Stizostedion vitreum*	Abundant	Year-round resident	
White Sucker	*Catostomus commersoni*	Rare	Year-round resident	
Yellow Perch	*Perca flavescens*	Common	Year-round resident	

Table 6: Fish species documented to occur in the Marias River below Lake Elwell.

Common Name	Scientific Name	Abundance	Water Use	Status
Bigmouth Buffalo	*Ictiobus cyprinellus*	Common	Year-round resident	
Blue Sucker	*Cycleptus elongatus*	Common	Year-round resident	G4, S2S3
Brown Trout	*Salmo trutta*	Rare	Year-round resident	
Burbot	*Lota lota*	Rare	Year-round resident	
Channel Catfish	*Ictalurus punctatus*	Common	Year-round resident	
Cisco	*Coregonus artedi*	Rare	Year-round resident	
Common Carp	*Cyprinus carpio*	Common	Year-round resident	
Emerald Shiner	*Notropis atherinoides*	Rare	Year-round resident	
Fathead Minnow	*Pimephales promelas*	Rare	Year-round resident	
Flathead Chub	*Platygobio gracilis*	Abundant	Year-round resident	
Freshwater Drum	*Aplodinotus grunniens*	Rare	Year-round resident	

Goldeye	*Hiodon alosoides*	Abundant	Year-round resident	
Lake Chub	*Couesius plumbeus*	Rare	Year-round resident	
Longnose Dace	*Rhinichthys cataractae*	Rare	Year-round resident	
Longnose Sucker	*Catostomus catostmus*	Abundant	Year-round resident	
Mottled Sculpin	*Cottus bairdi*	Rare	Year-round resident	
Mountain Sucker	*Catostomus platyrhynchus*	Rare	Year-round resident	
Mountain Whitefish	*Prosopium williamsoni*	Abundant	Year-round resident	
Northern Pike	*Esox lucius*	Rare	Year-round resident	
Paddlefish	*Polyodon spathula*	Rare	Primarily spawning and rearing	G4, S1S2
Rainbow Trout	*Oncorhynchus mykiss*	Rare	Year-round resident	
River Carpsucker	*Carpiodes carpio*	Common	Year-round resident	
Sauger	*Stizostedion canadense*	Common	Both resident and Fluvial/Adfluvial populations	G5, S2
Sauger X Walleye Hybrid	*Stizostedion canadense x S. vitreum*	Unknown	Year-round resident	
Sculpin	*Cottus*	Unknown	Year-round resident	
Shorthead Redhorse	*Moxostoma macrolepidotum*	Common	Year-round resident	
Shovelnose Sturgeon	*Scaphirhynchus platorynchus*	Common	Year-round resident	
Smallmouth Bass	*Micropterus dolomieu*	Rare	Year-round resident	
Smallmouth Buffalo	*Ictiobus bubalus*	Rare	Year-round resident	
Spottail Shiner	*Notropis hudsonius*	Rare	Year-round resident	
Stonecat	*Noturus flavus*	Common	Year-round resident	
Walleye	*Stizostedion vitreum*	Common	Both resident and Fluvial/Adfluvial populations	
Western Silvery/Plains Minnow	*Hybognathus placitus x H. argyritis*	Rare	Year-round resident	
White Sucker	*Catostomus commersoni*	Common	Year-round resident	
Whitefish	*Prosopium williamsoni*	Unknown	Year-round resident	
Yellow Perch	*Perca flavescens*	Rare	Year-round resident	

Table 7: Fish species documented to occur in the middle Missouri River.

Common Name	Scientific Name	Abundance	Water Use	Status
Bigmouth Buffalo	*Ictiobus cyprinellus*	Common	Year-round resident	
Black Crappie	*Pomoxis nigromaculatus*	Unknown	Year-round resident	

Blue Sucker	*Cycleptus elongatus*	Common	Year-round resident	G4, S2S3
Burbot	*Lota lota*	Rare	Year-round resident	
Channel Catfish	*Ictalurus punctatus*	Common	Year-round resident	
Cisco	*Coregonus artedii*	Rare	Year-round resident	
Common Carp	*Cyprinus carpio*	Common	Year-round resident	
Emerald Shiner	*Notropis atherinoides*	Common	Year-round resident	
Fathead Minnow	*Pimephales promelas*	Rare	Year-round resident	
Flathead Chub	*Platygobio gracilis*	Common	Year-round resident	
Freshwater Drum	*Aplodinotus grunniens*	Rare	Year-round resident	
Goldeye	*Hiodon alosoides*	Common	Year-round resident	
Lake Chub	*Couesius plumbeus*	Rare	Year-round resident	
Longnose Dace	*Rhinichthys cataractae*	Common	Year-round resident	
Longnose Sucker	*Catostomus catostmus*	Common	Year-round resident	
Mottled Sculpin	*Cottus bairdi*	Rare	Year-round resident	
Mountain Sucker	*Catostomus platyrhynchus*	Rare	Year-round resident	
Mountain Whitefish	*Prosopium williamsoni*	Rare	Year-round resident	
Northern Pike	*Esox lucius*	Rare	Year-round resident	
Paddlefish	*Polydon spathula*	Rare	Primarily spawning and rearing	
Pallid Sturgeon	*Scaphirhynchus albus*	Rare	Year-round resident	G1, S1
Rainbow Trout	*Oncorhynchus mykiss*	Rare	Year-round resident	
River Carpsucker	*Carpiodes carpio*	Common	Year-round resident	
Sand Shiner	*Notropis ludibundus*	Unknown	Year-round resident	
Sauger	*Stizostedion canadense*	Common	Year-round resident	G5, S2
Sauger X Walleye Hybrid	*Stizostedion vitreum x S. canadense*	Unknown	Year-round resident	
Shorthead Redhorse	*Moxostoma macrolepidotum*	Common	Year-round resident	
Shovelnose Sturgeon	*Scaphirhynchus platorynchus*	Common	Year-round resident	

Smallmouth Bass	*Micropterus dolomieu*	Rare	Year-round resident	
Stonecat	*Noturus flavus*	Rare	Year-round resident	
Sturgeon Chub	*Macrhybopsis gelida*	Rare	Year-round resident	G2, S2
Walleye	*Stizostedion vitreum*	Common	Year-round resident	
Western Silvery/Plains Minnow	*Hybognathus placitus x H. argyritis*	Common	Year-round resident	
White Crappie	*Catostomus commersoni*	Rare	Year-round resident	
White Sucker	*Catostomus commersoni*	Rare	Year-round resident	

Table 8: Fish species documented to occur in the North Fork of Pondera Coulee.

Common Name	Scientific Name	Abundance	Water Use	Status
Brassy Minnow	*Hybognathus argyritis*	Unknown	Year-round resident	
Brook Stickleback	*Culaea inconstans*	Unknown	Year-round resident	
Common Carp	*Cyprinus carpio*	Unknown	Year-round resident	
Fathead Minnow	*Pimephales promelas*	Unknown	Year-round resident	
Lake Chub	*Couesius plumbeus*	Unknown	Year-round resident	
Longnose Dace	*Rhinichthys cataractae*	Unknown	Year-round resident	
White Sucker	*Catostomus commersoni*	Unknown	Year-round resident	

Table 9: Fish species documented to occur in Sage Creek.

Common Name	Scientific Name	Abundance	Water Use	Status
Brassy Minnow	*Hybognathus argyritis*	Common	Year-round resident	
Brook Stickleback	*Culaea inconstans*	Common	Year-round resident	
Fathead Minnow	*Pimephales promelas*	Common	Year-round resident	
Lake Chub	*Couesius plumbeus*	Common	Year-round resident	
Longnose Dace	*Rhinichthys cataractae*	Common	Year-round resident	
Northern Pike	*Esox lucius*	Rare	Year-round resident	
Western Silvery Minnow	*Hybognathus argyritis*	Common	Year-round resident	
White Sucker	*Catostomus commersoni*	Common	Year-round resident	
Yellow Perch	*Perca flavescens*	Common	Year-round resident	

Table 10: Fish species documented to occur in the Milk River below Fresno Dam.

Common Name	Scientific Name	Abundance	Water Use	Status
Bigmouth Buffalo	*Ictiobus cyprinellus*	Rare	Year-round resident	
Black Bullhead	*Ameiurus melas*	Abundant	Year-round resident	
Black Crappie	*Pomoxis nigromaculatus*	Rare	Year-round resident	
Brassy Minnow	*Hybognathus argyritis*	Rare	Year-round resident	
Brook Stickleback	*Culaea inconstans*	Rare	Year-round resident	
Brook Trout	*Salvelinus fontinalis*	Unknown	Unknown	
Burbot	*Lota lota*	Common	Year-round resident	
Channel Catfish	*Ictalurus punctatus*	Rare	Year-round resident	
Common Carp	*Cyprinus carpio*	Common	Year-round resident	
Creek Chub	*Semotilus atromaculatus*	Unknown	Year-round resident	
Emerald Shiner	*Notropis atherinoides*	Common	Year-round resident	
Fathead Minnow	*Pimephales promelas*	Rare	Year-round resident	
Flathead Chub	*Platygobio gracilis*	Common	Year-round resident	
Goldeye	*Hiodon alosoides*	Common	Year-round resident	
Iowa Darter	*Etheostoma exile*	Rare	Year-round resident	
Lake Chub	*Couesius plumbeus*	Common	Year-round resident	
Lake Whitefish	*Coregonus clupeaformis*	Common	Year-round resident	
Longnose Dace	*Rhinichthys cataractae*	Common	Year-round resident	
Longnose Sucker	*Catostomus catostmus*	Rare	Year-round resident	
Northern Pike	*Esox lucius*	Common	Year-round resident	
Northern Redbelly Dace	*Phoxinus eos*	Common	Year-round resident	
Pearl Dace	*Margariscus margarita*	Unknown	Unknown	G5, S2
Rainbow Trout	*Oncorhynchus mykiss*	Rare	Fluvial/Adfluvial population, Spawning elsewhere	
River Carpsucker	*Carpiodes carpio*	Rare	Year-round resident	
Sauger	*Stizostedion canadense*	Common	Both resident and Fluvial/Adfluvial populations	G5, S2
Shorthead Redhorse	*Moxostoma macrolepidotum*	Rare	Year-round resident	
Smallmouth Bass	*Micropterus dolomieu*	Rare	Year-round resident	
Smallmouth Buffalo	*Ictiobus bubalus*	Rare	Year-round resident	
Spottail Shiner	*Notropis hudsonius*	Rare	Year-round resident	
Stonecat	*Noturus flavus*	Common	Year-round resident	

Walleye	*Stizostedion vitreum*	Common	Both resident and Fluvial/Adfluvial populations	
Western Silvery Minnow	*Hybognathus placitus*	Rare	Year-round resident	
White Sucker	*Catostomus commersoni*	Abundant	Year-round resident	
Yellow Perch	*Perca flavescens*	Common	Year-round resident	

Table 11: Fish species documented to occur in Sandy Creek.

Common Name	Scientific Name	Abundance	Water Use	Status
Black Bullhead	*Hybognathus argyritis*	Abundant	Year-round resident	
Brassy Minnow	*Hybognathus argyritis*	Rare	Year-round resident	
Brook Trout	*Salvelinus fontinalis*	Rare	Year-round resident	
Emerald Shiner	*Notropis atherinoides*	Rare	Year-round resident	
Fathead Minnow	*Pimephales promelas*	Abundant	Year-round resident	
Flathead Chub	*Platygobio gracilis*	Rare	Year-round resident	
Iowa Darter	*Etheostoma exile*	Rare	Year-round resident	
Lake Chub	*Couesius plumbeus*	Abundant	Year-round resident	
Longnose Dace	*Rhinichthys cataractae*	Rare	Year-round resident	
Mottled Sculpin	*Cottus bairdi*	Rare	Year-round resident	
Mountain Sucker	*Catostomus platyrhynchus*	Unknown	Year-round resident	
Northern Pike	*Esox lucius*	Common	Year-round resident	
Northern Redbelly Dace	*Phoxinus eos*	Common	Year-round resident	
Rainbow Trout	*Oncorhynchus mykiss*	Rare	Year-round resident	
Sauger	*Stizostedion canadense*	Rare	Year-round resident	G5, S2
Spottail Shiner	*Notropis hudsonius*	Common	Year-round resident	
Walleye	*Stizostedion vitreum*	Rare	Year-round resident	
Western Silvery/Plains Minnow	*Hybognathus placitus x H. argyritis*	Common	Year-round resident	
White Sucker	*Catostomus commersoni*	Abundant	Year-round resident	
Yellow Perch	*Perca flavescens*	Abundant	Year-round resident	

Table 12: Fish species documented to occur in the Teton River below Muddy Creek.

Common Name	Scientific Name	Abundance	Water Use	Status
Blue Sucker	*Cycleptus elongatus*	Rare	Year-round resident	G4, S2S3
Brassy Minnow	*Hybognathus argyritis*	Rare	Year-round resident	
Burbot	*Lota lota*	Rare	Year-round resident	
Channel Catfish	*Ictalurus punctatus*	Common	Year-round resident	
Common Carp	*Cyprinus carpio*	Common	Year-round resident	
Emerald Shiner	*Notropis atherinoides*	Common	Year-round resident	
Fathead Minnow	*Pimephales promelas*	Rare	Year-round resident	
Flathead Chub	*Platygobio gracilis*	Abundant	Year-round resident	
Freshwater Drum	*Aplodinotus grunniens*	Rare	Year-round resident	
Goldeye	*Hiodon alosoides*	Common	Year-round resident	
Lake Chub	*Couesius plumbeus*	Rare	Year-round resident	
Longnose Dace	*Rhinichthys cataractae*	Common	Year-round resident	
Longnose Sucker	*Catostomus catostmus*	Common	Year-round resident	
Mottled Sculpin	*Cottus bairdi*	Rare	Year-round resident	
Mountain Sucker	*Catostomus platyrhynchus*	Common	Year-round resident	
Mountain Whitefish	*Prosopium williamsoni*	Rare	Year-round resident	
Northern Pike	*Esox lucius*	Rare	Year-round resident	
Northern Redbelly/Finescale Dace	*Phoxinus eos x P. neogaeus*	Rare	Year-round resident	HYB, S3
Plains Minnow	*Hybognathus placitus*	Unknown	Year-round resident	
Rainbow Trout	*Oncorhynchus mykiss*	Rare	Year-round resident	
River Carpsucker	*Carpiodes carpio*	Rare	Year-round resident	
Sand Shiner	*Notropis stramineus*	Rare	Year-round resident	
Sauger	*Stizostedion canadense*	Rare	Year-round resident	G5, S2
Shorthead Redhorse	*Moxostoma macrolepidotum*	Common	Year-round resident	
Stonecat	*Noturus flavus*	Common	Year-round resident	
Sturgeon Chub	*Macrhybopsis gelida*	Rare	Year-round resident	G2, S2

Western Silvery/Plains Minnow	*Hybognathus placitus x H. argyritis*	Rare	Year-round resident	
White Sucker	*Catostomus commersoni*	Common	Year-round resident	

Table 13: Fish species documented to occur in Lake Elwell.

Common Name	Scientific Name	Abundance	Water Use	Status
Black Crappie	*Pomoxis nigromaculatus*	Incidental	Year-round resident	
Brook Stickleback	Culaea inconstans	Rare	Year-round resident	
Burbot	*Lota lota*	Common	Year-round resident	
Channel Catfish	*Ictalurus punctatus*	Rare	Year-round resident	
Cisco	*Coregonus artedii*	Abundant	Year-round resident	
Common Carp	*Cyprinus carpio*	Common	Year-round resident	
Emerald Shiner	*Notropis atherinoides*	Rare	Year-round resident	
Fathead Minnow	*Pimephales promelas*	Rare	Year-round resident	
Flathead Chub	*Platygobio gracilis*	Rare	Year-round resident	
Lake Chub	*Couesius plumbeus*	Rare	Year-round resident	
Lake Trout	Salvelinus namaycush	Rare	Year-round resident	
Longnose Dace	*Rhinichthys cataractae*	Rare	Year-round resident	
Longnose Sucker	*Catostomus catostmus*	Rare	Year-round resident	
Mottled Sculpin	*Cottus bairdi*	Rare	Year-round resident	
Mountain Whitefish	*Prosopium williamsoni*	Rare	Year-round resident	
Northern Pike	*Esox lucius*	Common	Year-round resident	
Rainbow Trout	*Oncorhynchus mykiss*	Rare	Year-round resident	
Shovelnose Sturgeon	*Scaphirhynchus platorynchus*	Rare	Year-round resident	
Spottail Shiner	*Notropis hudsonius*	Abundant	Year-round resident	
Walleye	*Stizostedion vitreum*	Abundant	Both resident and Fluvial/Adfluvial populations	
White Sucker	*Catostomus commersoni*	Common	Year-round resident	
Yellow Perch	*Perca flavescens*	Common	Year-round resident	

Table 14: Fish species documented to occur in West Fork of Willow Creek.

Common Name	Scientific Name	Abundance	Water Use	Status
Brook Trout	*Salvelinus fontinalis*	Unknown	Unknown	
Westslope Cutthroat Trout	*Oncorhynchus clarki lewisi*	Rare	Year-round resident	G4T3, S2

Table 15: Fish species documented to occur inWillow Creek.

Common Name	Scientific Name	Abundance	Water Use	Status
Brook Stickleback	*Culaea inconstans*	Common	Year-round resident	
Burbot	*Lota lota*	Common	Year-round resident	
Common Carp	*Cyprinus carpio*	Rare	Year-round resident	
Emerald Shiner	*Notropis atherinoides*	Rare	Year-round resident	
Flathead Chub	*Platygobio gracilis*	Rare	Year-round resident	
Lake Chub	*Couesius plumbeus*	Common	Year-round resident	
Longnose Dace	*Rhinichthys cataractae*	Common	Year-round resident	
Longnose Sucker	*Catostomus catostmus*	Rare	Year-round resident	
Mottled Sculpin	*Cottus bairdi*	Rare	Year-round resident	
Northern Pike	*Esox lucius*	Rare	Year-round resident	
Spottail Shiner	*Notropis hudsonius*	Common	Year-round resident	
Walleye	*Stizostedion vitreum*	Rare	Year-round resident	
White Sucker	*Catostomus commersoni*	Common	Year-round resident	
Yellow Perch	*Perca flavescens*	Rare	Year-round resident	

APPENDIX C

Draft Programmatic Agreement

PROGRAMMATIC AGREEMENT
FOR PROTECTION AND CONSERVATION OF CULTURAL RESOURCES
BETWEEN
THE BUREAU OF RECLAMATION,
THE BUREAU OF INDIAN AFFAIRS,
THE CHIPPEWA CREE TRIBE
OF THE ROCKY BOY'S RESERVATION,
THE CHIPPEWA CREE TRIBAL HISTORIC PRESERVATION OFFICER,
THE NORTH CENTRAL MONTANA REGIONAL WATER AUTHORITY,
AND
THE MONTANA STATE HISTORIC PRESERVATION OFFICE,
FOR THE IMPLEMENTATION OF THE
ROCKY BOY'S/NORTH CENTRAL MONTANA
REGIONAL WATER SYSTEM

WHEREAS, the Bureau of Reclamation, Montana Area Office (Reclamation) is the lead federal agency in the construction of the Rocky Boy's/North Central Montana Regional Water System authorized by Public Law 107-331 and, therefore is responsible for complying with the National Historic Preservation Act, as amended (NHPA) (16 U.S.C. 470 et seq.) pursuant to 36 CFR Part 800.2(a); and

WHEREAS, the Rocky Boy's/North Central Montana Regional Water System consists of the Core System[1], the On-Reservation Water Distribution System[2], and Non-Core System[3]; and

WHEREAS, the Core and On-Reservation Water Distribution System will be held in trust by the United States, for the benefit of the Chippewa Cree Tribe of the Rocky Boy's Reservation (RBTribe), and crosses lands held in trust for the benefit of the RBTribe, the Bureau of Indian Affairs (BIA) has agreed that Reclamation will be the lead federal agency pursuant to 36 CFR Part 800.2(a)(2) but will remain a consulting party pursuant to 36 CFR Part 800.2(c)(6); and

WHEREAS, the Chippewa Cree Tribe of the Rocky Boy's Reservation will construct, operate, and maintain their separate system, including their core lines, through agreements with Reclamation and the BIA under PL 93-638, the Indian Self-Determination and Education Assistance Act, and these parties will be consulting parties pursuant to 36 CFR Part 800.2(c)(2); and

---

[1]. The Core system is that portion of the project which runs from Tiber Dam to the Rocky Boy's Indian Reservation and major lines within the Reservation.
[2]. The On-Reservation Distribution system includes the individual community delivery system within the boundaries of the Rocky Boy's Indian Reservation.
[3]. The Non-Core system is that portion of the project managed by the North Central Montana Regional Water Authority and is outside of the boundaries of the Rocky Boy's Indian Reservation.

WHEREAS, the North Central Montana Regional Water Authority (Authority) will construct the Non-Core System through a cooperative agreement with Reclamation, and is a consulting party with this agreement pursuant to 36 CFR Part 800.2(c)(3); and

WHEREAS, the design plans for the entire project have not been finalized, and Reclamation anticipates that these plans will change over the life of the project, and that the parties to this agreement recognize that the nature of the project prohibits a Class III cultural resource inventory of the entire undertaking Area of Potential Effect (APE) for the Rocky Boy's/North Central Montana Regional Water System prior to the onset of construction; and

WHEREAS, Reclamation has determined that construction activities may have an effect on properties included in or eligible for inclusion in the National Register of Historic Places (historic properties) and has consulted with the State Historic Preservation Officer (SHPO), Tribe, BIA, Advisory Council on Historic Preservation (ACHP), and has included the Authority as a consulting party pursuant to 36 CFR Part 800.5, the implementing regulations for Section 106 and Section 110 of the NHPA (16 U.S.C. 470 et seq); and

WHEREAS, in order for Reclamation to maintain the government-to-government relationship with the RBTribe for all activities under the NHPA and the Native American Graves Protection and Repatriation Act (NAGPRA) (P.L.101-601), the Tribal Business Committee, through resolution has acknowledged the Chippewa Cree Cultural Advisory Committee as the primary authority on Chippewa Cree Culture, and this document establishes a consultation protocol to ensure that Reclamation satisfies its trust responsibilities; and

NOW, THEREFORE, Reclamation, the RBTribe, SHPO, BIA, ACHP and the Authority agree that the Rocky Boy's/North Central Montana Regional Water System shall be constructed in accordance with the following stipulations to satisfy Reclamation's Section 106 responsibilities for all activities associated with this project.

GENERAL STIPULATIONS

I. For purposes of this Programmatic Agreement (PA), the roles of the involved parties are as follows:

A. The RBTribe shall be a consulting party for all ground disturbing activities associated with the Rocky Boy's/North Central Montana Regional Water System, including the Core System, the On-Reservation Distribution System and the Non-Core System per 36 CFR Part 800.2(c)(2)(I). The primary point of contact between Reclamation's cultural resource personnel and the RBTribe shall be their Tribal Historic Preservation Officer (THPO).

B. The SHPO shall be included in all considerations under this PA for those portions of the project outside of the boundaries of the Rocky Boy's Reservation, per 36 CFR Part 800.2(c)(1) and will be a consulting signatory to this PA.

C. The ACHP shall be included in all consultations specified below and has been asked to be a consulting signatory to this PA per 36 CFR Part 800.2(b).

D. The BIA shall be included in all consultations for activities on trust lands and shall be a consulting signatory to this PA for those activities on trust lands as required by 36 CFR Part 800.2(c)(6).

E. The Authority shall be considered a consulting party for all activities associated with the Rocky Boy's/North Central Montana Regional Water System and shall be provided copies of all documents generated under this PA that pertain to the Non-Core System.

F. The Turtle Mountain Band of Chippewa Indians (TMCI) shall be considered a consulting party where the construction right-of-way crosses allotted lands held by members of that Tribe. Reclamation shall consult with the Turtle Mountain Band to determine the requirements of the TMCI for protection of cultural resources on that land. Any resulting cultural resource inventories shall be performed to no less stringent conditions than those specified in Section VI of this agreement. The Turtle Mountain Band of Chippewa Indians have been invited to sign this PA.

G. The State of Montana Department of Natural Resources and Conservation (DNRC) will be included in all consultations for activities on lands held by the State of Montana.

H. Reclamation as required by Public Law 107-331 is responsible for compliance with environmental and cultural resource laws and regulations. This includes: review and approval of all cultural resource reports required for the project, consultation with the SHPO, THPO's, and the various other consulting parties and other Federal and State agencies as required.

II. The Chippewa Cree Tribe of the Rocky Boy's Reservation has developed a tribal historic preservation program in accordance with Section 101(d) of the 1992 Amendments to the NHPA, the Tribal Historic Preservation Officer (THPO) shall be the primary point of contact between Reclamation in regards to cultural resources and be consulted with in accordance to requirements of the NHPA, and Section 106 Regulations (36 CFR Part 800). The involvement of the SHPO with the Rocky Boy's/North Central Montana Regional Water System shall be limited to those functions and activities, as applicable, that the RBTribe has not assumed, such as activities on those areas outside of the boundaries of the Rocky Boy's Reservation. However, the SHPO may, at the request of the THPO, provide technical assistance as provided for in the THPO Memorandum of Understanding completed in 2002.

III. The RBTribe and Authority shall notify Reclamation of pending construction schedules and will provide copies of 7.5 minute USGS quadrangle maps depicting the construction rights-of-way. Reclamation will provide copies of these documents to the THPO, SHPO, DNRC if State Lands are involved, and BIA as requested.

IV. A Class I Cultural Resource Inventory titled: A Class I Cultural Resource Inventory of the Proposed North Central Montana Regional Water System has been completed. A copy of this document has been provided to the SHPO, and as appropriate, to the other signatories. This study provides an outstanding review of known cultural resources within many portions of the project area, but does not replace the need for Class III surveys within specific impact areas. This document will be used to assess further information needs for the identification of historic properties per 36 CFR Part 800.4.

V. To consider and address cultural concerns of the RBTribe, and the requirements of the 1992 amendments to NHPA with respect to properties of traditional religious and cultural importance and consultations with Native Americans, the RBTribe agrees to:

A. Conduct public awareness meetings in a tribally appropriate manner to identify concerns about the project, cultural resources, cultural concerns, and the locations of human remains and burials, and properties of traditional religious and cultural importance and/or spiritual significance,

B. Provide appropriate information to the design engineers and construction supervisors to ensure that historic properties and culturally sensitive locations are avoided to the extent practicable,

C. Provide the Authority with any information that may be applicable to that project area, and

D. Document these activities in a tribally appropriate manner and provide Reclamation with copies of this documentation.

VI. All Areas of Potential Effect, including equipment and material staging areas, borrow sources and all ancillary impact areas except those identified in Section X of this PA will be subjected to a Class III Cultural Resource Inventory. The RBTribe and the Authority will be responsible for conducting these inventories in consultation with Reclamation. Reclamation will review the statements of work developed for the Cultural Resource Inventories to insure that they comply with the requirements of this agreement and the Secretary of the Interior's Standards. Reclamation will review draft copies of the reports, and require corrections if necessary. The inventories will be performed according to the following conditions:

A. All Class III Cultural Resource Reports will apply the National Register Criteria (36 CFR Part 60.4(c)(1) to each site located within the APE and recommend whether or not the sites meet any of the Criteria. Properties of traditional religious and cultural importance will be evaluated with reference to National Register Bulletin 38: Guidelines for Evaluating and Documenting Traditional Cultural Properties. All sites identified during the Class I inventory that fall within the APE will be field checked and associated site forms will be updated.

B. Historic resources identified during Class III Cultural Resource Inventories shall be documented according to the Secretary of the Interior's Standards/Guidelines for Historical Documentation(48FR190:44726-4473); architectural resources according to the Secretary of the Interior's Standards/Guidelines for Architectural and Engineering Documentation (48FR190:44730-44734); and archaeological resources according to Secretary of the Interior's Standards/Guidelines for Archaeological Documentation (48FR190:44734-44737). All archaeological and historic cultural resources identified during the Class III inventories will be recorded on Montana Cultural Resources Information System Forms and assigned site numbers by the University of Montana Archaeological Records Office. If the RBTribe Tribal Historic Preservation Office has developed specific forms and a site numbering system those forms and system may be used for those properties within the exterior boundaries of the RBTribes' Reservation. Properties of traditional religious and cultural importance (such as healing springs and fasting sites) will be documented and evaluated

with reference to National Register Bulletin 38: Guidelines for Evaluating and Documenting Traditional Cultural Properties and as determined appropriate by the Tribe.

C. Reclamation will, in consultation with the RBTribe, the Authority, and other appropriate Federal Agencies (if lands that they manage are involved) request determination of eligibility from the SHPO or THPO, depending on the appropriate jurisdiction

D. In the event land managed by the Department of Natural Resources and Conservation Trust Land Management Division are involved, that agency shall be consulted with and a consensus reached between DNRC and BOR before the BOR requests eligibility determination with the SHPO.

VII. Where the construction rights-of-way cross lands administered by other federal or state agencies, Reclamation shall consult with the agency (ies) to determine the requirements of that agency. Any resulting cultural resource inventories conducted on these properties shall be performed to no less stringent conditions than those specified in Section VI of this agreement.

VIII. Given the nature of the project, the sequence of all activities necessary to comply with Section 106 of the NHPA will be determined by the construction schedules. All Class III Cultural Resource Inventories of the undertaking APEs shall be completed prior to the initiation of ground-disturbing activities. Ground disturbance can commence with the concurrence of the Reclamation Archaeologist in writing following written consultation with the RBTribe's THPO, concurrence of the DNRC if State Lands are involved, and the Authority as appropriate without further consultations and before completion of the requisite reports provided that:

A. Inventories have been completed for the agreed-upon areas according to the stipulations in this agreement, and

B. No cultural resources are present within the undertaking APEs, or

C. Cultural resources are present but will be avoided through project redesign or project cancellation, or

D. Cultural resources are present but they do not constitute historic properties as defined in 36 CFR Part 800.16(l)(1) or

E. The area is an exemption as defined in Section XI of this agreement.

IX. Operation & Maintenance Activities – The RBTribe and the Authority will be responsible for operation and maintenance activities, including add-on hookups, of their respective systems subsequent to construction.

A. The Core and On-Reservation Distribution Water System Operations & Maintenance Activities (O & M) will be funded through the accrued interest from the Chippewa Cree Water System Operations & Maintenance Trust Fund. Following completion of the system, the BIA will become the lead federal agency for O & M operations of the Core and On-Reservation Water

System. These activities can proceed with the concurrence of BIA's Archaeologist and the RB Tribe's THPO provided that:

1. Inventories have been completed for the agreed-upon areas according to the stipulations in this agreement, and

2. No cultural resources are present within the undertaking Areas of Potential Effects, or

3. Cultural resources are present but will be avoided through project redesign or project cancellation, or

4. Cultural resources are present but they do not constitute historic properties as defined in 36 CFR Part 800.16(l)(1), or

5. The area is an exemption as defined in Section XI of this agreement. If previously undiscovered cultural resources are encountered during O & M activity, then the RBTribe will comply with the terms of this agreement and all applicable federal laws and regulations.

B. The Non-Core System operations, maintenance or replacement activities will not be funded by the Secretary (P.L. 107-331). Unless these activities in some way become an "undertaking" as defined in 36 CFR Part 800.16(y), Section 106 compliance activities will not be required.

X. The SHPO, Reclamation, the RBTribe's THPO, and the Authority have determined that the following areas and conditions can be considered exempt from Class III cultural resource inventories at the discretion of the Reclamation archaeologist. The Reclamation archaeologist, in concurrence with the RBTribe's THPO or SHPO as appropriate and the DNRC if State Lands are involved, will determine the locations of the excepted areas periodically as the rights-of-way are determined. The exempt areas will be indicated on topographic maps, and transmitted to the project sponsors in writing. Care will be taken to require monitoring if there are indications that due to the setting it is possible that buried cultural resources are present. However, any building, structure, object, site, district or properties of traditional religious and cultural importance identified in these exempt areas or conditions during the Class I inventory shall be field-checked and the site forms updated. These exceptions are:

A. Rights-of-way in developed urban areas

B. Areas where all Holocene sediments have been removed (Borrow ditches, gravel pits) or thoroughly disturbed (under developed roads)

C. Rights-of-way or other APEs in which the total depth of Holocene soils and sediments have been disturbed for years by plowing in upland areas of glacial till. This exception does not include bottomlands, and first terraces along water courses or areas at the toe of slopes where coluvial and alluvial deposition is relatively rapid.

XI. The SHPO, Reclamation, the RBTribe's THPO, and the Authority have determined that the following properties do not constitute historic properties as defined in 36 CFR Part 800.16(l), and need not be recorded provided that they are less than 50 years of age.

A. Junk piles and trash scatter
B. Abandoned farm equipment
C. Abandoned vehicles
D. Metal granaries, Quonset huts, and prefabricated storage sheds
E. Windmills (except for historic wind generators)
F. Wells and stock tanks
G. Isolated finds, except for diagnostic artifacts (less than 3 artifacts in100 sq. meters)
H. Fence lines
I. Rock piles constructed as part of field clearing
J. Highways & modern roads (does not exclude historic bridges)
K. Utility lines
L. Signs
M. Isolated buildings, nonpermanent or semi-permanent utilitarian structures, farmsteads/home sites less than 50 years in age and which do not qualify as an exception to that guideline as found in National Register Bulletin 22: Guidelines for Evaluating and Nominating Properties that have Achieved Significance Within the Last 50 Years.

XII. The preferred method of treatment for historic properties is the avoidance of adverse effects and the promotion of preservation. The project will be designed in so far as technically, economically, and environmentally feasible to avoid or minimize the impacts to historic properties. To the extent possible, avoidance will involve rerouting the project right-of-way and construction corridor so that all ground disturbing activities are outside of and removed from the boundaries of the historic property as described on the site form.

XIII. If effects to cultural resources, other than those identified in Section XI above, cannot be avoided, then Reclamation will consult with the SHPO, or where applicable, the RBTribe's THPO, DNRC if State Lands are involved, and the other signatories according to 36 CFR Part 800.4 to determine if the resource is a historic property that will be affected. If a historic property is affected, the effects of the undertaking shall be assessed in accordance with 36 CFR Part 800.5. Adverse effects will be resolved following procedures in 36 CFR 800.6. If a resolution cannot be reached, the procedures in 36 CFR 800.7 will be followed. Reclamation, in consultation with the SHPO, RBTribe's THPO, the Authority, DNRC if State Lands are involved, and any interested persons or other appropriate tribe, will develop treatment plans to mitigate the effects of the project. Documentation of these steps will be in accordance with
36 CFR Part 800.11.

XIV. If previously undiscovered historic properties are encountered during construction per 36 CFR Part 800.13, the following methodologies will be followed:

A. Work in the immediate vicinity of the discovered historic property will cease except as necessary to secure and protect the discovery. Work will not resume until all activities specified below and necessary to comply with 36 CFR Part 800.13 have been completed. Reclamation will

provide notice to the appropriate parties when these activities have been completed. Work can continue in areas away from the discovery.

B. If the discovery is on Tribal lands, Reclamation shall consult with the RBTribe's THPO, SHPO, BIA, and other appropriate tribes to determine whether the discovery qualifies as a historic property. If the discovery is on easements managed by the Authority, Reclamation shall consult with the Authority, SHPO, the RBTribe's THPO, and other tribes as appropriate to determine whether the discovery constitutes a historic property. If the discovery is on easements for the Core System but outside the boundaries of the Rocky Boy's Reservation, Reclamation shall consult with the RBTribe's THPO and SHPO to determine whether the discovery constitutes a historic property.

C. If the discovery qualifies as a historic property and is on tribal lands, Reclamation shall consult with the RBTribe's THPO, BIA, ACHP and other tribes if necessary, to identify and implement the appropriate mitigation strategy. These activities will be carried out according to the mandates of both the National Historic Preservation Act and the Archaeological Resources Protection Act. If the discovery is on easements maintained or managed by the Authority, Reclamation shall consult with the Authority, DNRC if State Lands are involved, RBTribe's THPO, SHPO, ACHP and other tribes if necessary to identify and implement the appropriate mitigation strategy.

D. If the discovery is on lands administered by another federal agency, Reclamation shall include the appropriate agency in the consultations.

XV. If during the development and construction of the Rocky Boy's/North Central Montana Regional Water System human remains are discovered, Reclamation must be notified immediately. All work in the vicinity of the discovery shall cease and the area will be secured. Reclamation will then immediately notify the appropriate parties as outlined below. These stipulations apply to human remains encountered during all activities associated with the development and construction of the Rocky Boy's/North Central Montana Regional Water System.

A. If human remains are discovered on Federal lands, Reclamation will take the steps required to be in compliance with NAGPRA (P.L. 101-601; 25 U.S.C. 3001-3013; 104 Stat. 3048-3058) and its implementing regulations 43 CFR 10.

B. If the discovery is on Tribal lands the appropriate THPO will be the Lead agency, and along with Reclamation will take the steps required to be in compliance NAGPRA (P.L. 101-601; 25 U.S.C. 3001-3013; 104 Stat. 3048-3058) and its implementing regulations 43 CFR 10. If desired by the RBTribe a separate NAGRPA agreement may be developed with Reclamation.

C. If the discovery is on state or private lands within the area of the Core System or Non-Core System, Reclamation will ensure compliance with the provisions of The Human Remains and Burial Site Protection Act (MT State Code: Title 22, Chapter 3, Part 8). All work in the vicinity of the discovery shall cease and the area will be secured. Reclamation will notify the appropriate County Coroner, DNRC if State Lands are involved, and the Montana State Archaeologist. If the discovery is of a Native American, Reclamation will also notify the RBTribe, THPO and other appropriate tribal groups. Reclamation will consult with the County Coroner, DNRC if State Lands

appropriate tribal groups. Reclamation will consult with the County Coroner, DNRC if State Lands are involved, and the State Archaeologist to have a tribal monitor present while the remains are being exhumed. Work in the vicinity of the discovery cannot resume until the requirements of State Code are completed.

XVI. Each year, the RBTribe's THPO and the Authority respectively, shall prepare a report that documents all activities in their project areas. These reports shall be in lieu of individual inventory/data recovery reports for each construction schedule. The reports shall be prepared according to contemporary professional standards and to the Secretary of the Interior's Format Standards for Final Reports of Data Recovery Programs (42 FR 5377-79). These reports will include findings and recommendations. The reports shall be accompanied by completed site forms, site maps, topographic maps showing the locations of all activities and resources, photographs as appropriate, and any other relevant information. Precise location data on historic properties shall be provided in a separate appendix if it appears that its release could jeopardize historic properties. Reclamation will review the drafts of these reports to insure that they comply with the requirements of this agreement and the Secretary of the Interior's Standards and will provide comments to the RBTribes THPO and the Authority. The RBTribe's THPO, and the Authority shall submit 10 copies of the final report to Reclamation no later than December 31 each year. Reclamation, in turn, shall forward copies of these reports to the SHPO, RBTribe's THPO, and, where applicable, the ACHP and the BIA. Because these reports may contain culturally sensitive information or location information on historic properties, no party to this Agreement can release these reports without the written consent of Reclamation, the RBTribe's THPO and/or the Authority.

XVII. Reclamation, the RBTribe's THPO, and the Authority agree to produce a summary report at the end of the project for construction of the system. This report shall be for the general public. This report shall summarize the cultural resource activities and provide an archaeological and historic overview of the project area. A total of 25 copies will be produced and distributed to the SHPO, RBTribe's THPO, ACHP, Reclamation, and University/College Libraries in Montana.

XVIII. All parties shall ensure that historic preservation compliance and consultation activities subject to this Agreement are carried out by or under the direct supervision of a person that meets the Secretary of the Interior's Professional Qualification Standards (48 FR 447738-9).

XIX. All parties shall ensure that any project-specific agreements reached during consultation are included as specifications in the construction contracts. All parties will ensure that construction contractors are informed of the presence of historic properties within and/or near the project area and that these properties are protected by Federal, RBTribal and State law. All parties will also inform contractors of the stipulations in Section 3 of NAGPRA.

XX. All parties will ensure that all applicable stipulations in this Agreement have been satisfied prior to the initiation of ground disturbing activities in the vicinity of historic properties.

XXI. All cultural materials that are not returned to the landowner and all records associated with this Agreement are to be curated by a curation facility agreed upon by Reclamation and the RBTribe's THPO in accordance with 36 CFR Part 79. If the cultural materials come from lands owned by the RBTribe or an allotee(s) of the Turtle Mountain Tribe and are administered by the

BIA, cultural materials will be disposed of pursuant to 43 CFR Part 7.

XXII. Reclamation will take the lead in coordinating a meeting between the RBTribe's THPO and the Authority on an annual basis. This coordination meeting will be to review and monitor the activities undertaken in association with this Agreement. These meetings will be for the purposes of monitoring compliance with this Agreement. The SHPO, BIA, DNRC and/or ACHP may attend if they desire.

XXIII. Consultation Protocol - All formal consultations between Reclamation and the RBTribe will be carried out in a manner that is consistent with the government-to-government relationship and maintains Reclamation's trust responsibility to the Tribes. Formal consultations will be in writing and the correspondence documenting this consultation will be between Reclamation's Montana Area Office Manager, and the respective Tribal chairman with a copy of all correspondence sent to the Rocky Boy's/North Central Montana Regional Water System project manager. It is fully anticipated that informal consultations will be necessary in carrying out compliance activities. These consultations will be between the cultural resources technical staff in Reclamation and the RBTribe's THPO. Correspondence at this level will be between these respective staffs. In the interest of efficiency, Reclamation will review and act on correspondence within 20 working days following receipt in so far as allowed by Law, Regulations and this Agreement. This is not to preclude return of documents for correction so that they will meet the standards set forth in Section V of this agreement.

XXIV. Disclosure Clause - In accordance with the 1992 amendments to NHPA and 36 CFR Part 800.11(c), Reclamation has determined that the disclosure of any information about the location, character, or ownership of the historic resources, NAGPRA-related sites and traditional cultural properties associated with this undertaking may: (1) cause a significant invasion of privacy, (2) risk harm to the historic resource, and/or (3) impede the use of a traditional religious site by practitioners. Consequently, the release of such information from tribal lands shall be contingent upon written approval by Reclamation, the RBTribe's THPO, BIA, and where appropriate, other tribes. Release of information for the Non-Core System area shall be contingent upon written approval by Reclamation and the Authority. Reclamation will notify and consult with the Tribes prior to providing written consent for the Non-Core System project area.

XXV. Amendments - If a signatory to the Agreement determines that the terms of this Agreement cannot be met or believes a change is necessary, the signatory shall immediately request the consulting parties to consider whether an amendment is necessary in accordance with 36 CFR Part 800.14. Amendments will be executed in the same manner as the original Agreement.

XXVI. Dispute Resolution - Should a signatory to this Agreement object within 30 days to any action proposed pursuant to this Agreement, Reclamation shall consult with the objecting party to resolve the objection. If Reclamation determines that the objection cannot be resolved, Reclamation shall request comments from the ACHP pursuant to 36 CFR Parts 800.9 and 800.14. Reclamation will submit all relevant documentation to the ACHP pertaining to the dispute or objection along with Reclamation's proposal for resolution. Reclamation's responsibility to carry out all actions under this Agreement that are not the subjects of dispute shall remain unchanged.

XXVII. Termination - Any party to this Agreement may terminate it by providing sixty (60) days written notice to the other parties, provided that the parties will consult prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, Reclamation will comply with 36 CFR Part 800.4 through 800.7 with regard to individual undertakings covered by this Agreement.

XXVIII. In the event the RBTribe or the Authority do not carry out the terms of this Agreement, Reclamation shall comply with 36 CFR Part 800.4 through 800.7 with regard to individual undertakings covered by this Agreement.

XXIX. This Agreement has been prepared in accordance with 36 CFR Part 800.14. No term or condition of this Agreement is intended to conflict with the RBTribe's role and responsibility for the construction and the day-to-day management of the Core and On-Reservation System of the Rocky Boy's/North Central Montana Regional Water System under its Title IV Agreement with Reclamation pursuant to the Indian Self-Determination Act, P.L. 93-638, as amended. Execution of this Agreement and implementation of its terms are evidence that Reclamation has afforded the RBTribe, the Authority, SHPO, ACHP, and the BIA an opportunity to comment on various Reclamation development and management activities associated with the construction of the Rocky Boy's /North Central Montana Regional Water System and its effects on historic properties, and that Reclamation has taken into account the effects of the undertaking on historic properties. Execution and implementation of this Agreement evidences that Reclamation has satisfied its responsibilities under the National Historic Preservation Act for all activities associated with the Rocky Boy's/ North Central Montana Regional Water System project.

SIGNATORIES:

BUREAU OF RECLAMATION

_____

Maryanne C. Bach, Regional Director
Great Plains Region

MONTANA STATE HISTORIC PRESERVATION OFFICE

_____

Dr. Mark Baumler, State Historic Preservation Officer

THE CHIPPEWA CREE TRIBES OF THE ROCKY BOY'S RESERVATION

_____

Alvin Windy Boy Senior, Chairman

THE CHIPPEWA CREE TRIBE TRIBAL HISTORIC PRESERVATION OFFICER

_____

Joan Mitchell, THPO

THE NORTH CENTRAL MONTANA REGIONAL WATER AUTHORITY

_____

Dan Keil, Chairman

THE ADVISORY COUNCIL ON HISTORIC PRESERVATION

_____

BUREAU OF INDIAN AFFAIRS

_____

Keith Beartusk, Regional Director
Rocky Mountain Regional Office

INVITED SIGNATORIES

TURTLE MOUNTAIN BAND OF CHIPPEWA

_____

THE TURTLE MOUNTAIN BAND OF CHIPPEWA THPO

_____

Kade M. Ferris, THPO

APPENDIX D

General Soil Units Within Study Area

APPENDIX D:
General Soil Units Within Study Area

WINKLER-AMBRANT-PERMA (MT010)
BEARPAW-VIDA-SAVAGE (MT035)
VIDA-BEARPAW-ZAHILL (MT036)
BINNA-SCRAVO-RIVRA (MT047)
BOXWELL-TANNA-YAWDIM (MT059)
CABBA-WAYDEN-TIMBERG (MT085)
CABBART-BADLAND-NELDORE (MT088)
CABBART-DELPOINT-ROCK OUTCROP (MT091)
CABBART-RENTSAC-ROCK OUTCROP (MT098)
BELAIN-CASTNER-HEDOES (MT110)
CHINOOK-ASSINNIBOINE-YETULL (MT128)
CHINOOK VARIANT-CHINOOK-TELSTAD (MT132)
DELPOINT-CABBART-KREMLIN (MT162)
DELPOINT-CABBART-SLICKSPOTS (MT163)
KOBAR-ETHRIDGE-MARIAS (MT186)
EVANSTON-ETHRIDGE-CHINOOK (MT189)
FAIRFIELD-MARTINSDALE-CABBA (MT191)
FLOWEREE-KREMLIN-LONNA (MT206)
GERDRUM-ABSHER-CREED (MT223)
HARLEM-HAVRE-LARDELL (MT257)
HAVRE-RYELL-RIVRA (MT262)
HEDOES-CASTNER-BELAIN (MT270)
HILLON-NELDORE-CABBART (MT277)
JUDITH-WINDHAM-KIEV (MT296)
KIEV-ROUNDOR-CABBA (MT302)
KREMLIN-DELPOINT-CABBART (MT312)
LAMRETH-HILLON-HAVRE (MT320)
MARIAS-KOBAR-ETHRIDGE (MT370)
MARVAN-DIMMICK FAMILY-MCKENIZE (MT380)
MARVAN-GERDRUM-ABSHER (MT381)
NELDORE-BADLAND-HILLON (MT417)
NELDORE-BASCOVY-HILLON (MT420)
NELDORE-HILLON-ROCK OUTCROP (MT423)
NELDORE-LAMBETH-HAVRE (MT424)
NELDORE-ROCK OUTCROP-MARVAN (MT423)
NELDORE-ROCK OUTCROP-BASCOVY (MT429)
PENDROY-ETHRIDGE VARIANT-LINNET (MT442)
PHILLIPS-ELLOAM-THOENY (MT453)
KEVIN-PHILLIPS-SCOBEY (MT454)
ROTHIEMAY-NIART-CRAGO (MT502)
ROTHIEMAY-SAYPO-SLICKSPOTS (MT503)
SAYPO-TETONVIEW-TRUCHOT (MT524)
SCOBEY-CHINOOK VARIANT-CHINOOK (MT525)
SCOBEY-KEVIN-HILLON (MT526)
SCOBEY-KEVIN-HILLON MT(527)
TANNA-PYLON-MEGONOT (MT558)
JOPLIN-TELSTAD-CHINOOK (MT563)
TELSTAD-JOPLIN-HILLON (MT564)
SAYPO-TRUCHOT-TETONVIEW (MT583)
VANDA-ABSHER-MARCOTT FAMILY (MT595)
VIDA-WILLIAMS-CASTNER (MT600)
WILLIAMS-BEARPAW-VIDA (MT635)
WINDHAM-UTICA-JUDITH (MT642)
WORK-SHAWNUT-FARNUF (MT656)
YAMAC-EVANSTON-VANDA (MT671)
YAWDIM-MEGONOT-ABOR (MT672)
ZAHILL-BEARPAW-VIDA (MT685)

APPENDIX E

Distribution List

APPENDIX E:
Distribution List

Name	Address
Mr. Mike Aderhold Regional Supervisor Region 4 Montana Fish, Wildlife & Parks	4600 Grant Springs Road Great Falls, MT 59405
Mr. Keith Beartusk Regional Director Bureau of Indian Affairs	Rocky Mountain Regional Office 316 N. 26th Billings, MT 59101
Big Sandy Branch Library	P.O. Box 1247 Big Sandy, MT 59520
Town of Big Sandy	P.O. Box 512 Big Sandy, MT 59520
Town of Chester	P.O. Box 644 Chester, MT 59522
Chouteau County Commissioners Mr. Ken Evans	P.O. Box 459 Fort Benton, MT 59442
Chouteau County Library	P.O. Box 639 Fort Benton, MT 59442
Conrad Public Library	15 4th Avenue SW Conrad, MT 59425
City of Conrad	411½ South Main Conrad, MT 59425
City of Cut Bank	221 West Main Cut Bank, MT 59427
Department of Natural Resouces & Conservation Mr. Bob Larson	P.O. Box 1828 Havre, MT 59501-1828
Devon Water Inc. Mr. Art Adamson	293 South Devon Shelby, MT 59474
Dutton Public Library	Dutton, MT 59433
Town of Dutton	Box 156 Dutton, MT 59433
Eagle Creek Colony Mr. John Wurtz/Mr. Eli Hofer	P.O. Box 78 Galata, MT 59444
East Kremlin Water Users Ms. Virginia Reynolds	HCR 36, Box 56 Havre, MT 59501
Flat Coulee WUA Mr. Don Hanson	P.O. Box 56 Rudyard, MT 59540-0056
Fort Belknap Commission Council Water Policy Coordinator	RR 1, Box 66 Harlem, MT 59526
Teton County Conservation District Ms. Amy Fry	Route 2 Box 240 Choteau, MT 59422

Name	Address
Galata County Water	P.O. Box 16 Galata, MT 59444
Montana Fish,Wildlife and Parks Mr. Bill Gardiner	P.O. Box 938 Lewistown, MT 59457
Gildford Colony	Box 149 Gildford, MT 59525
Glacier County Commissioners	512 East Main Cut Bank, MT 59427
Havre-Hill County Library	402 3rd Street Havre, MT 59501
Hill County Conservation District Ms. Pam Grubb	206 25th Street West Havre, MT 59501
Mr. Lou Hanebury U.S. Fish and Wildlife Service Ecological Services	Billings Sub-Office 2900 4th Avenue North Billing, MT 59101
Dean Hanson	P.O. Box 106 Gildford, MT 59525-0106
City of Havre Bob Rice, Mayor	P.O. Box 231 Havre, MT 59501
Hill County Commissioners	Hill County Courthouse 315 4th Avenue Havre, MT 59501
Hill County Water District	P.O. Box 274 Hingham, MT 59528
Glacier County Public Library	21 1st Avenue SE Cut Bank, MT 59427
Mr. Dan Keil North Central Montana Regional Water Authority	P.O. Box 923 428 Price Road Conrad, MT 59425
North Rudyard WUA Dan Hybner	HC Box 23 Rudyard, MT 59540
Town of Kevin	Box 275 Kevin, MT 59454
Liberty County Commissioners	P.O. Box 459 Chester, MT 59522
Liberty County Library	P.O. Box 458 Chester, MT 59522
Loma County Water District	Route 1, Box 71 Loma, MT 59460
Mr. Donald R. Marble, Commissioner	P.O. Box 725 Chester, MT 59522
Ms. Gloria Mason Glacier County Conservation District	601 W. Main Suite 14 Cut Bank, MT 59427

Name	Address
MSU-Northern Library	P.O. Box 7751 Havre, MT 59501
Pondera County Conservation District Ms. Chi McCuin	406 North Main Conrad, MT 59425
Liberty County Conservation District Ms. Marlene Moon	P.O. Box 669 Chester, MT 59522
North Havre County Water District	Route 1, Box 15 Havre, MT 59501
Oilmont County Water District	P.O. Box 229 Sunburst, MT 59482
Mr. Glenn Phillips Habitat Bureau Chief Montana Fish, Wildlife & Parks	1420 East Sixth Avenue P.O. Box 200701 Helena, MT 59620-0701
Pondera County Commissioners	20 4th Avenue Southwest Conrad, MT 59425-2340
Mr. Steve Potts Environmental Protection Agency Operations Office	Federal Building 10 West 15th Street, Suite 3200 Helena, MT 59626
Riverview Colony John Wurtz	Box 238 Chester, MT 59522
Sage Creek Colony John D. Wurtz	SR 83, Box 25 Chester, MT 59522
Sage Creek County Water District	Box 541 Chester, MT 59522
Mr. Jim Satterfield Region 6 Supervisor Montana Department of Fish, Wildlife & Parks	Route 1 – 4210 Glasgow, MT 59230
Shaud Schwarzbach	P.O. Box 219 Big Sandy, MT 59520-0219
City of Shelby	P.O. Box 743 Shelby, MT 59474
Stone Child College Library	Rocky Boy Route, Box 1082 Box Elder, MT 59521
Sunburst High School Library	Sunburst, MT 59482
Toole County Conservation District Ms. Sara Shepard	1125 Oilfield Avenue Shelby, MT 59474
Toole County Library	229 Maple Avenue Shelby, MT 59474
Chouteau County Conservation District Ms. Sonia Silvan	P.O. Box 309 Fort Benton, MT 59442
South Chester Water John Englund	P.O. Box 94 Chester, MT 59522-0094

Name	Address
Mr. Alan Steinle Army Corps of Engineers	301 S. Park Avenue Helena, MT 59601
Town of Sunburst	P.O. Box 383 Sunburst, MT 59482
Sweetgrass Water District Leonard Atkinson	P.O. Box 12 Sweetgrass, MT 59484-0012
Teton County Commissioners	P.O. Box 610 Choteau, MT 59422-0610
Tiber County Water District c/o Robert Wolfe	Box 577 Conrad, MT 59425
Toole County Commissioners	226 1st Street South Shelby, MT 59474-1920
Mr. Mark Wilson U.S. Fish and Wildlife Service	100 N. Park Helena, MT 59601
Mr. Dave Yerk Montana Fish, Wildlife and Parks	4600 Giant Springs Road Great Falls, MT 59405