



**United States Department of the Interior
BUREAU OF INDIAN AFFAIRS**

Fort Peck Agency
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Poplar, Montana 59255



**PROGRAMMATIC ENVIRONMENTAL ASSESSMENT
FOR FORT PECK AGRICULTURAL LEASING**

**FORT PECK TRIBES
FORT PECK INDIAN RESERVATION
ROOSEVELT COUNTY, MONTANA**

**DECISION RECORD
AND
FINDING OF NO SIGNIFICANT IMPACT**

BIA Decision:

I approve the Programmatic Environmental Assessment (PEA) prepared to evaluate continued and expanded agricultural leasing and permitting, including associated improvements, and an expansion of the wild buffalo herds proposed by the Fort Peck Tribes on the Fort Peck Indian Reservation (Reservation), Montana. I have selected Alternative 2, the Proposed Action, which would result in the continuation of leasing, permitting, and associated improvements (hereafter Agricultural Program) with a more informed NEPA analysis and incorporation of additional agricultural leases and permits on trust lands (as described in Alternative 1). This alternative would also include expanding the Tribes' wildlife buffalo herds on the Reservation. This alternative would allow expedited review by the BIA for individual leasing and permitting actions by the Tribes by means of NEPA documents tiered from this PEA.

The analysis in the PEA concludes that, with implementation of mitigation measures identified in the PEA, conducting the Proposed Action would not result in significant environmental impacts. The Proposed Action would occur on the Reservation within portions of Roosevelt, Valley, Daniels, and Sheridan counties. The proposed Project Area, as enumerated in Table 2-1, includes all trust lands within the boundaries of the FPIR including current rangelands, farm pasture lease lands, and agricultural trust lands that could be subject to future leasing or permitting. The Tribes actively pursue expansion of tribal ownership of lands within the FPIR that were previously alienated to non-tribal owners or that have highly fragmented allottee ownership. Any such lands that come into tribal ownership will also be subject to agricultural leasing or permitting under provisions of this PEA. To the extent possible and reasonable, such lands are included in the PEA analysis.

TABLE 2-1. AGRICULTURAL LEASING/PERMITTING IN THE PROJECT AREA.

Type of Agricultural Land	Acres
Rangeland	458,847 ^a
Farm Pasture Land (i.e., cropland and intermingled pasture)	355,572 ^a
<i>Cropland</i>	180,042
<i>Intermingled Pasture</i>	175,530
Other Trust Lands – available for additional agricultural leasing	346,786
Total	1,127,645^b

Sources: WWC Engineering 2015; BIA 2014; Lopez 2014.

^a These acreages are not exclusive of each other, and there is some overlap, which can be identified within the language of individual leases and permits.

^b The total rangeland, farm pasture land, and other trust lands does not add up to the total acreage of trust lands on the Reservation as shown above. The difference in acreages is due to overlapping acreages as described in footnote a, and the use of different sources for acreages used in the PEA, including geospatial and report data.

All environmental commitments contained in this PEA would be implemented by Fort Peck Tribes. Additional NEPA compliance would be required by the BIA prior to any other agricultural activities, not included in this PEA, taking place on trust lands within the Reservation.

BIA Finding of No Significant Impact:

Based on the analysis of potential environmental impacts resulting from agricultural activities associated with the Proposed Action, this decision will not result in significant impacts to the human environment, provided that the stipulations and environmental commitments are implemented. Therefore, an environmental impact statement is not required.

BIA's Rationale for Decision:

Approval of this PEA accomplishes the objectives identified below:

1. Compliance with NEPA regulations regarding the agencies' preparation/review of the PEA for the Proposed Action.
2. Identification, evaluation, and consideration of potential surface environmental impacts and mitigation measures for the BIA to use in regulatory reviews and decisions regarding approval of the Proposed Action.
3. Providing an analysis process that can be revised and updated as new information is obtained on future agricultural activities. In addition, approval of this PEA for the Proposed Action fulfills the wishes of the tribal and individual landowners, and fulfills the trust responsibilities of the BIA, on behalf of the Fort Peck Tribes.

Other Factors Considered in the Decision:

1. The BIA Fort Peck Agency and the Regional Office have worked cooperatively with Fort Peck Tribes in the development of this PEA and mitigation measures. The Fort Peck Tribes have demonstrated a commitment to the protection of the environmental resources belonging to the Fort Peck Tribes and individual Indian landowners.
2. The Fort Peck Indian Reservation consists almost entirely of agricultural lands with small communities dispersed throughout the Reservation. Grazing and crop production are the dominant resource-based sources of revenues within the Reservation. The Tribes and individual Indian landowners derive a substantial portion of their annual income from agricultural activities on trust lands. The need for this project is to provide that income as a result of the execution of the Proposed Action.
3. The BIA, in coordination with US Fish and Wildlife Service have determined that there would be no effect to the endangered black-footed ferret (*Mustela nigripes*); the Proposed Action may affect, but not likely to adversely affect the interior least tern (*Sternula antillarum*), pallid sturgeon (*Scaphirhynchus albus*), and the threatened piping plover (*Charadrius melodus*); and the Proposed Action is not likely to contribute to the future listing of candidate greater sage-grouse (*Centrocercus urophasianus*) and Sprague's pipit (*Anthus spragueii*) (Appendix E).
4. The Proposed Action would not result in significant impacts to cultural/historical resources or to Waters of the United States.

BIA Monitoring and Compliance:

BIA inspectors will monitor Fort Peck Tribes' compliance with all applicable regulations, including compliance with the provisions of the mitigation measures (identified in Chapter 2 of the PEA).

Delegation of Authority to Approve the Proposed Action:

Delegation to the Assistant Secretary of Indian Affairs, Deputy Commissioner and Regional Directors through 209 DM 8, 230 DM 1, and to the Rocky Mountain Regional Director by 3 IAM 4 (Release No. 99-03), as amended, and to the Superintendent/Field Representative by 10 BIAM 13, as amended, and Addendum 10 BIAM-4 effective October 1, 1998.

The regulations for permitting and leasing of tribal land, individually owned Indian land, or government land are defined in 25 CFR Part 162 and 25 CFR Part 166.

Approved By: Howard Bemer Date: 3/17/15
for Howard Bemer, Superintendent
Fort Peck Agency, Bureau of Indian Affairs
Department of the Interior, Poplar, Montana

Approved By: Melissa Passes Date: 3/17/15
Melissa Passes, Supervisory Environmental Protection Specialist
Rocky Mountain Region, Bureau of Indian Affairs
Department of the Interior, Billings, Montana

Approved By: Jo'Etta Plumage Date: 3/17/15
Jo'Etta Plumage, Rocky Mountain Regional Archaeologist (Cultural Resources)
Rocky Mountain Region, Bureau of Indian Affairs
Department of the Interior, Billings, Montana

Approved By: David Gust Date: 3/17/15
acting Jarvis Gust, Branch Chief of Agriculture and Wildlife Management
Rocky Mountain Region, Bureau of Indian Affairs
Department of the Interior, Billings, Montana

**AGRICULTURAL LEASING, PERMITTING, AND ASSOCIATED
IMPROVEMENTS
PROGRAMMATIC ENVIRONMENTAL ASSESSMENT
FORT PECK INDIAN RESERVATION**

**United States Department of the Interior
Bureau of Indian Affairs
Fort Peck Agency
Poplar, Montana**

**Prepared for:
Fort Peck Tribes
Poplar, Montana**

**Prepared by:
Trihydro Corporation
Laramie, Wyoming**



March 2015

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1.0 INTRODUCTION

1.1 PURPOSE AND NEED FOR ACTION

The Fort Peck Assiniboine and Sioux Tribes (Tribes) propose to continue and expand agricultural leasing and permitting, including associated improvements, and expand their wild buffalo (*Bison bison*) herds on the Fort Peck Indian Reservation (FPIR or Reservation) from 2015 through 2025. Leasing, permitting, and agricultural improvements would occur within portions of approximately 1,127,645 acres of tribal and allotted lands (trust lands) located throughout the FPIR (Figure 1-1).

The Bureau of Indian Affairs (BIA) exercises the fiduciary responsibility of the United States (US) Government to oversee management of natural resources on trust lands for the benefit of the Tribes and individual Indian landowners. BIA is responsible for compliance with the National Environmental Policy Act (NEPA) and other federal laws and regulations regarding management oversight of trust lands and resources. The Tribes exercise sovereign rights under treaties and multiple federal and tribal laws, regulations, and resolutions regarding protection of the environment and permitting of investigations and industrial development on the FPIR. The Tribes conduct a leasing, permitting, and associated improvements program (hereafter Agricultural Program) for tribal and allottee agricultural lands within the FPIR; the execution of the Agricultural Program is overseen by the BIA.

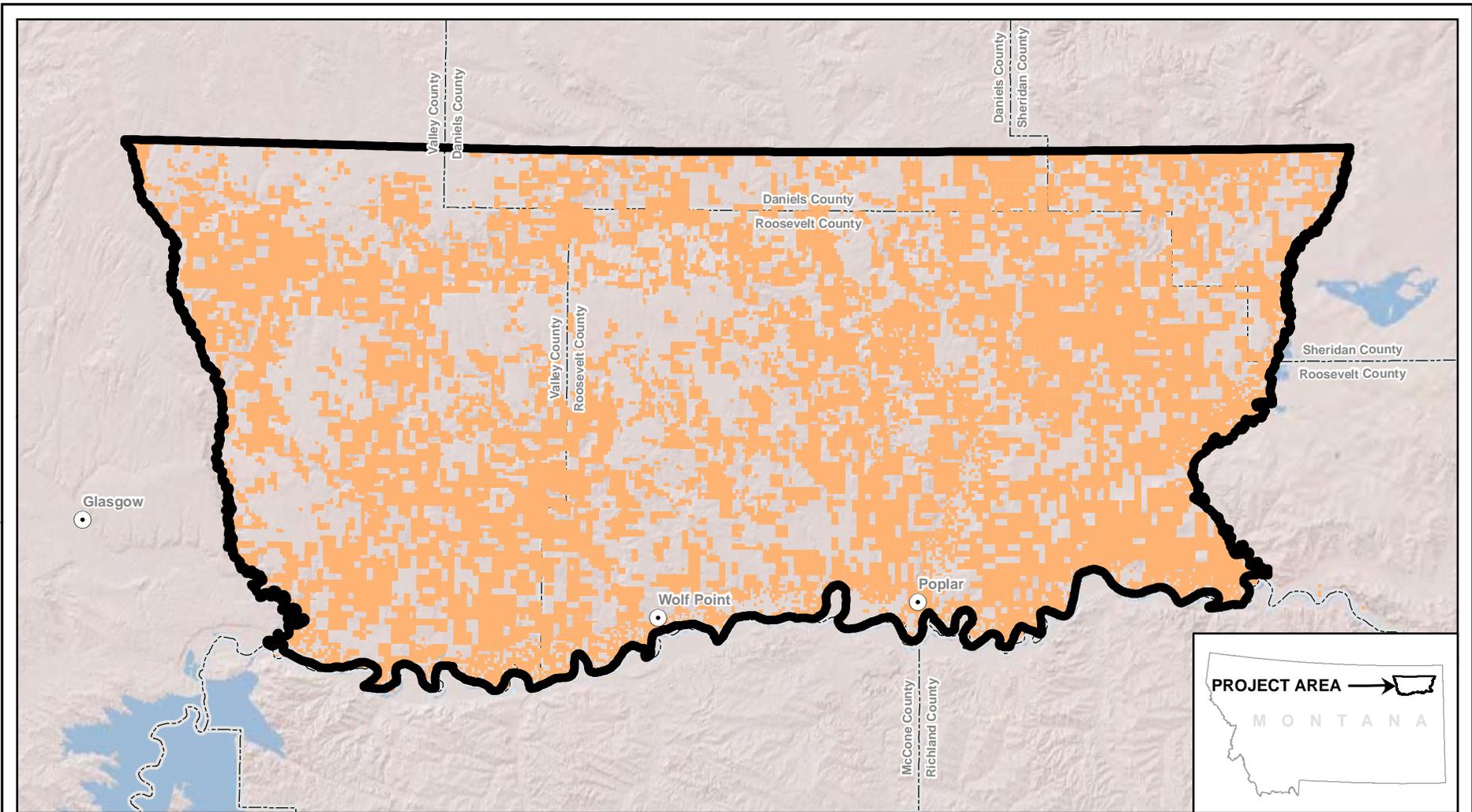
This Programmatic Environmental Assessment (PEA) provides information for BIA compliance with NEPA pertinent to review of the Agricultural Program. This PEA will assist the BIA and the Tribes by identifying and analyzing potential environmental impacts associated with the proposed Agricultural Program.

This chapter discusses the purpose and need of the proposed project, the role of NEPA, and public involvement in the NEPA process.

1.1.1 PURPOSE

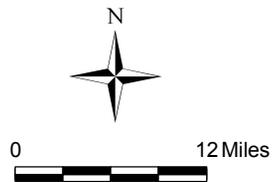
Periodic leasing and permitting of agricultural lands provide direct revenues to the Tribes and individual Indian landowners who are owners of allotments. Additionally, the availability of lands for leasing or permitting provides opportunities for economic enterprise by the Tribes and Indian landowners in an area that has few other sources of employment or other income. The purpose of the project is continuation of the Agricultural Program for sustained, expanded, and improved use of trust lands for agricultural purposes, and the expansion of the Tribes' two wild buffalo herds.

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EXPLANATION

-  FORT PECK INDIAN RESERVATION
-  TRUST LANDS



Trihydro
CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 1-1

PROJECT AREA

**FORT PECK INDIAN RESERVATION
MONTANA**

Drawn By: BR | Checked By: KM | Scale: 1" = 12 Miles | Date: 2/13/15 | File: Fig1-1_FPIR_SiteLoc.mxd

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1.1.2 NEED

The FPIR consists predominately of agricultural lands (approximately 50 percent) with small communities dispersed throughout the Reservation (Montana Natural Heritage Program [MTNHP] 2013). Grazing and crop production are the dominant resource-based sources of revenues within the Reservation. The Tribes and individual Indian landowners derive a substantial portion of their annual income from agricultural activities on trust lands. The need for this project is to provide that income as a result of the execution of the Agricultural Program.

The need for the current analysis arises from BIA's responsibilities under NEPA, especially for updating the existing Environmental Assessment (EA): *Decision Record and FONSI for Farm or Pasture Leases, and Range Permits Environmental Assessment*, March 1996 (hereafter BIA 1996). The Tribes' agricultural activities have expanded and diversified since 1996, and environmental considerations that may be applicable to the Tribes' agricultural management are addressed in two key plans prepared since 1996: the *Fort Peck Land Use Policy* (hereafter Land Use Policy) (WWC Engineering 2011) (Appendix A); and the *Fort Peck Reservation Agricultural Resource Management Plan* (ARMP) (WWC Engineering 2015) (Appendix B [excluding appendices]).

1.1.3 NEPA AND PROJECT REVIEW

NEPA was enacted as the United States' basic national charter for protection of the human environment. It established policy, set goals (Section 101), and provided means (Section 102) for carrying out the policy. The Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] 1500-1508) promulgate Section 102(2) of NEPA. Federal agencies are required to comply with NEPA and the CEQ regulations for all of their actions that may impact the human environment. NEPA compliance may take three forms:

- Categorical Exclusion (CE or CatEx) – the responsible federal agency determines that a proposed action is of a type that is unlikely to affect the human environment. BIA and the Department of the Interior have lists of action types that are typically categorically excluded from further NEPA analysis.
- EA – the responsible federal agency conducts analysis of the proposed action(s) to determine if the action(s) might result in significant impacts to the human environment. The federal agency may issue a Finding of No Significant Impact (FONSI) or may determine that preparation of an Environmental Impact Statement (EIS) is warranted. A FONSI may include or reference specific requirements to avoid potential environmental impacts or to mitigate or lessen potential impacts.
- EIS – the responsible federal agency conducts an analysis of potential significant impacts to the human environment. At the conclusion of an EIS, the federal agency issues a Record of Decision (ROD) that states the agency's determination that the proposed project will or will not have significant impacts to the human

environment. A ROD may also include requirements to avoid, mitigate, or lessen potential significant environmental impacts.

Programmatic EAs or EISs are prepared for broad-scale programs and/or for multiple similar individual actions that are likely to occur over time in a defined geographic area and have similar potential for environmental impacts.

Programmatic EAs or EISs may be terminal in nature, such as analysis of potential effects of proposed use of a pesticide, or may provide a basis for focused further analysis of individual actions. A Programmatic EA is appropriate for analysis of the continuation of the Tribes' Agricultural Program including the expansion of a wild buffalo herd because multiple, similar leasing, permitting, and improvement actions are anticipated on FPIR trust lands over the 2015-2025. Those actions may include but are not limited to:

- Renewal, assignment, or changes in current leases or permits with no changes in land use or lease/permit areas
- New leases or permits for acquired properties or changed/increased lease/permit areas
- Expansion of the Tribes' wild buffalo herds
- Changes in land use of trust lands that could result in environmental impacts, including conversion of native grasslands to crop tillage
- Improvements to facilitate optimum use of trust agricultural lands, including installation of wells, dams, stock watering tanks, pipelines, aboveground and underground electrical lines, electric poles, fences, roads, and rights-of-ways

1.2 INTERAGENCY SCOPING AND PUBLIC INVOLVEMENT

NEPA and CEQ regulations require that the PEA process include a forum for public notice and comment. Based on comments received, major public issues and concerns must be identified and addressed in the PEA. All concerns and comments of non-tribal members about the Proposed Action are addressed in the PEA in the same manner as those of any tribal member; however, decisions regarding the Proposed Action occur primarily under the determination of the BIA and the Tribes.

Initial interagency scoping for this PEA occurred in multiple meetings. Representatives of BIA Rocky Mountain Region, BIA Fort Peck Agency, the Tribes, the Natural Resources Conservation Service (NRCS), and a third party contractor (Trihydro Corporation) discussed agricultural leasing and permitting during a meeting at the BIA tribal office in Poplar, Montana, on September 4, 2014. The proposed schedule for the project, the identification of BIA and Tribes' requirements, and alternatives were reviewed and discussed. Numerous telephone conversations also occurred from September through December, 2014, and January through February, 2015, among the BIA Region, BIA Fort Peck

Agency, the Tribes, NRCS, and Trihydro Corporation regarding schedules, data sharing, project alternatives, biological and cultural resources, and coordination among the Tribes.

Opportunity for public participation in this NEPA assessment included a Notice of Intent (NOI) to prepare this PEA, which was posted within the community at BIA Fort Peck Agency and the tribal office on October 23, 2014, the US Post Office in Poplar, and published in Fort Peck Journal on October 23, 2014, November 13, 2014, and November 20, 2014. The NOI identified a 30-day public comment period for written and oral comments regarding the proposed Agricultural Program and expansion of the wild buffalo herds. One comment letter was received.

A Notice of Availability of the completed PEA and FONSI were posted in the same locations within the community and published for one week in the Fort Peck Journal on March 19, 2015, providing for a 30-day public appeal period.

1.3 RELEVANT STATUTES, REGULATIONS, POLICIES, AND EXECUTIVE ORDERS

BIA uses permitting or leasing as a means to protect and manage trust lands within the FPIR. The regulations for permitting and leasing of tribal land, individually owned Indian land, or government land are defined in 25 CFR Part 162 and 25 CFR Part 166. The BIA, as trustee for this acreage, is obligated to offer the acreage to lessees in the case of intermingled pasture or cropland (both of which make up farm pasture land), or to permittees in the case of range units (which make up rangelands). The regulations in 25 CFR Part 162 and 166 govern leases and management except in cases of conflict with the Land Use Policy (Appendix A), in which case the provisions of that policy shall apply. The ARMP was developed in 2013 and finalized in 2015 (Appendix B) by the Tribes under the authority to supersede federal regulations as outlined in the American Indian Agricultural Resource Management Act (25 USC 3702 and 3712). As outlined in that Act, the BIA shall manage agricultural resources consistent with the ARMP and an Integrated Resource Management Plan. Specific to cattle and the wild buffalo herds, the BIA also has leasing provisions regarding trust land on the Reservation. Provision No. 19 of lease Form 5-180 addresses brucellosis control stipulations. This is further described in Section 2.2.4.3.

An additional number of statutes, regulations, and executive orders (EOs) are relevant to the proposed Agricultural Program and expanded wild buffalo herds. Some of the relevant federal and tribal statutes, regulations, and EOs are provided below:

- Endangered Species Act (ESA)
- Clean Water Act (CWA)
- Clean Air Act (CAA)
- Migratory Bird Treaty Act (MBTA)
- EO 11990 – Protection of Wetlands
- EO 12898 – Federal Actions to Address Environmental Justice in Minority and Low Income Populations



- Archeological Resources Protection Act
- National Historic Preservation Act
- Tribal Cultural Property Code
- American Indian Religious Freedom Act
- Consultation Executive Order 13175

2.0 PROPOSED ACTION AND ALTERNATIVES CONSIDERED

The following alternatives are under consideration by the BIA Rocky Mountain Region for the issuance and administration of the Agricultural Program and the expansion of the wild buffalo herds on the FPIR.

2.1 ALTERNATIVES CONSIDERED

Three alternatives are considered for this analysis and described below.

2.1.1 NO ACTION. CONTINUE LEASING AND PERMITTING USING ALL EXISTING PROCEDURES AND DOCUMENTATION

The No Action Alternative would allow BIA and the Tribes to continue leasing and permitting with existing procedures and documentation. The previous EA (BIA 1996) has been in effect and in use for almost 20 years. However, further use of the 1996 EA is not practical for various reasons, including recent CEQ and other BIA guidance documents that provide more clarity and guidance for programmatic NEPA documents and the need to incorporate provisions of the Land Use Policy and the ARMP. Additionally, the Tribes' proposal to expand their wild buffalo herds requires analyses beyond the analysis included in the 1996 EA (BIA 1996).

2.1.2 ALTERNATIVE 1. ADDITIONAL AND RENEWAL OF AGRICULTURAL LEASES/PERMITS

Selection of Alternative 1 by the BIA would result in approval for the Tribes' Agricultural Program with a more informed NEPA analysis, including renewal of existing leases and permits and issuance of additional leases and permits on trust lands and associated improvements needed for those leases and permits. The agricultural leasing and permitting would be conducted in accordance with the Tribes' processes as identified herein, BIA requirements, and stipulations identified in this PEA to avoid or mitigate potential adverse environmental impacts (outlined in Section 2.2 and detailed in Appendix A and B). This alternative would allow expedited review by the BIA for individual leasing and permitting actions by the Tribes by means of NEPA documents tiered from this PEA (example provided in Appendix C).

2.1.3 ALTERNATIVE 2. (PREFERRED ALTERNATIVE). ADDITIONAL AND RENEWAL OF AGRICULTURAL LEASES/PERMITS WITH EXPANDED WILDLIFE HERDS

Selection of Alternative 2 (Preferred Alternative) by the BIA would result in approval for the Tribes to continue the Agricultural Program with a more informed NEPA analysis and incorporation of additional agricultural leases and



permits on trust lands (as described in Alternative 1). This alternative would also include expanding the Tribes' wildlife buffalo herds on the Reservation. The agricultural leasing and permitting would be conducted in accordance with the Tribes' processes as identified herein, requirements of the BIA and the Tribes, and stipulations identified in this PEA to avoid or mitigate potential adverse environmental impacts (outlined in Section 2.2 and detailed in Appendix A and B). This alternative would also allow expedited review by the BIA for individual leasing and permitting actions by the Tribes by means of NEPA documents tiered from this PEA (example checklist provided in Appendix C).

2.1.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER STUDY

An alternative considered, but eliminated from further study, would be the denial of approval by BIA for any future renewals or new agricultural leases or permits on the basis of inadequate consideration of potential environmental impacts as required by NEPA (no leases or permits approved by BIA without EAs). This alternative was eliminated from further study because BIA's fiduciary trust responsibilities to the Tribes and allottees would not be served by denying or unnecessarily delaying revenues derived from leasing and/or permitting (25 USC 466), and protection of the human environment can reasonably be expected to occur under provisions of a PEA and subsequent tiered documents as appropriate.

2.2 DETAILS OF THE PROPOSED ACTION

The Preferred Alternative, or Proposed Action, is further described below. Each individual permit, lease, and/or associated improvement would be reviewed using a checklist (example provided in Appendix C) to determine whether or not its potential environmental impacts have been addressed in the PEA. The review would ensure that site specific information falls within the parameters of the programmatic impacts that are analyzed in the PEA.

2.2.1 PROJECT LOCATION

The FPIR is located on the northeastern corner of Montana. It is bordered on the west by Porcupine Creek, the east by Big Muddy Creek, and the south by the Missouri River. The northern boundary is located approximately 20 miles south of the US/Canadian border. The FPIR is approximately 100 miles long and 40 miles wide and lies within the Missouri River drainage. The FPIR occupies portions of Roosevelt, Valley, Daniels, and Sheridan counties.

The FPIR is comprised of approximately 2.1 million acres (WWC Engineering 2015). Approximately 1,127,645 acres (1,762 square miles) are held in trust for the Tribes and Indian landowners; the remaining approximately 972,355 acres within the Reservation boundary are mostly owned in fee by persons who are not Indian landowners. Trust lands (comprised of allotted and tribal land) include approximately 458,847 acres of rangelands and 355,572 acres in farm

pasture leases (intermingled pasture and cropland) (BIA 2014; Lopez 2014). The proposed Project Area, as shown in Figure 2-1 and further enumerated in Table 2-1, includes all trust lands within the boundaries of the FPIR including current rangelands, farm pasture lease lands, and agricultural trust lands that could be subject to future leasing or permitting.

The Tribes actively pursue expansion of tribal ownership of lands within the FPIR that were previously alienated to non-tribal owners or that have highly fragmented allottee ownership. Any such lands that come into tribal ownership will also be subject to agricultural leasing or permitting under provisions of this PEA. To the extent possible and reasonable such lands are included in this PEA analysis.

TABLE 2-1. AGRICULTURAL LEASING/PERMITTING IN THE PROJECT AREA.

Type of Agricultural Land	Acres
Rangeland	458,847 ^a
Farm Pasture Land (i.e., cropland and intermingled pasture)	355,572 ^a
<i>Cropland</i>	180,042
<i>Intermingled Pasture</i>	175,530
Other Trust Lands – available for additional agricultural leasing	346,786
Total	1,127,645^b

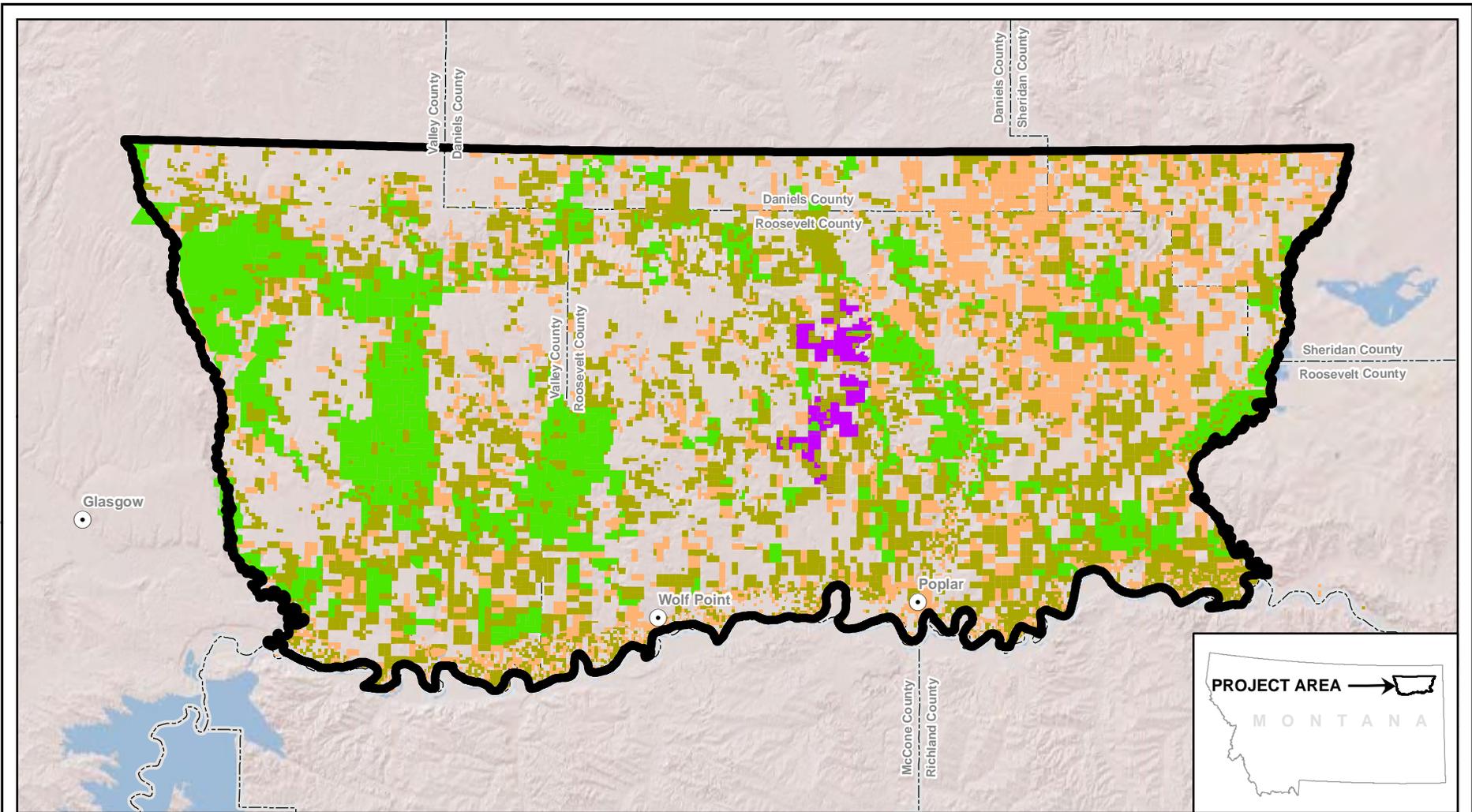
Sources: WWC Engineering 2015; BIA 2014; Lopez 2014.

^a These acreages are not exclusive of each other, and there is some overlap, which can be identified within the language of individual leases and permits.

^b The total rangeland, farm pasture land, and other trust lands does not add up to the total acreage of trust lands on the Reservation as shown above. The difference in acreages is due to overlapping acreages as described in footnote a, and the use of different sources for acreages used in the PEA, including geospatial and report data.

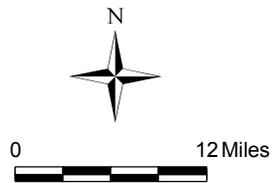


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EXPLANATION

-  FORT PECK INDIAN RESERVATION
-  FARM PASTURE LEASES
-  BUFFALO RANGELANDS
-  RANGELANDS
-  TRUST LANDS



Trihydro
CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 2-1

PROJECT AREA WITH LEASE/PERMIT BOUNDARIES

**FORT PECK INDIAN RESERVATION
MONTANA**

Drawn By: BR	Checked By: KM	Scale: 1" = 12 Miles	Date: 2/13/15	File: Fig2-1_FPIR_AdminBnds.mxd
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2.2.2 PROJECT DESCRIPTION

The continuation of the Tribes' Agricultural Program under the Proposed Action includes four major components:

- Permitting of rangelands for livestock grazing (including the Fort Peck Tribal commercial cattle herd)
- Leasing of intermingled pasture and cropland for forage and crop production
- Operation of two wild buffalo herds for commercial and cultural purposes
- Improvements for optimizing use of agricultural lands

Range units are held by grazing permits, granted to permittees, and administered by the Fort Peck Tribes' Natural Resources Department. A range unit is a block of rangeland containing allotted and/or tribal lands consisting of multiple tracts that are consolidated for the purpose of administering grazing privileges and are granted to permittees as single units. Ninety-three range units have been designated on the Reservation as of 2014. Permitting of range units provides prime grazing for cattle producers through the summer months, allowing operation of more than 40 small commercial cattle ranches. Additionally, some range units are used to operate the Fort Peck Tribal Ranch commercial cattle herd and the Turtle Mound Buffalo Ranch (Ranch) that consists of the two wild buffalo herds. Use of rangelands is restricted to a maximum number of animal units (AUs), which are determined by the Tribes and reflect range condition including vegetation and water availability.

Farm pasture lands are comprised of intermingled pasture and croplands. Intermingled pasture is made up of pasture units, which are single-tract land classifications, usually consisting of native grasses. The majority of the pasture units are not located in the hills or breaks but on more gradual and gentle sloping lands. Croplands are made up of dryland, irrigated, and potentially irrigable land. Cropland is considered land that is suitable for crop production. Crops grown vary to an extent depending on the type of cropland, but generally consist of small grains such as wheat and barley; lentils such as peas and beans; and forage crops such as alfalfa. The vast majority of cropland lies in the southern and eastern portions of the Reservation. Leases for farm pasture lands are granted for five year terms. The livestock carrying capacity for intermingled pasture is determined by acreage as opposed to a stocking rate (as issued for range units).

Currently, the Tribes manage the Ranch on the FPIR, which includes both the cultural and business herds. The Ranch is located about 25 miles northeast of Poplar, Montana. In 2000, the Tribes returned buffalo to the Reservation after an almost 130-year absence. The Tribes have returned buffalo to FPIR because of the buffalos' cultural and spiritual significance, the potential for the Tribes to benefit economically from buffalo, and because buffalo were once a native wildlife species in this area.

The Tribes propose to increase the number of wild buffalo on the FPIR and continue to manage the herds as wildlife, meaning the herds would graze year-round on established range units without supplemental feed. Both herds are located within large fenced grazing areas due to fencing restrictions for current livestock. The two existing buffalo herds' grazing areas occupy approximately 24,571 acres of the agricultural trust lands shown on Figure 2-1. Under the Proposed Action, the Tribes would increase these wildlife herds to a total of approximately 470 buffalo through natural reproduction and/or acquisition from other herds. Table 2-2 provides further detail on the expansion of the wildlife herds and the following section provides additional information on the differences between the business herd and the cultural herd.

TABLE 2-2. EXPANDED WILDLIFE HERDS

Type of Herd	Current Herd Numbers	Expanded Herd Numbers
Business	114	170
Cultural	186	300

Source: Fort Peck Tribes n.d.

Note: The State of Montana classifies buffalo as either *domestic livestock* or a *game animal* which is considered wildlife. Buffalo that are free roaming and held in the public trust are considered a game species by the State of Montana (Adams and Dood 2011).

The Tribes' cultural herd was recently developed by introducing genetically pure buffalo from Yellowstone National Park. Animals from this herd would be culled when the herd reaches the carrying capacity of the range units. The harvested animals would be distributed to various cultural groups and events such as tribal elder programs, diabetics, veteran groups, homeless shelters, head start programs, and other social programs. The cultural herd population would be 60 percent female and 40 percent male (a natural ratio), and yearly culling would be needed to control stocking density of the range units.

The Tribes' business herd would be managed by means of marketing surplus buffalo (e.g., buffalo hunts, local live meat sales, and buffalo sales to livestock markets primarily of male animals) as a source of tribal income. The preferred ratio of wild buffalo would be 1 breeding bull for every 16 breeding cows. This PEA will consider these options for the benefits of the expansion of the wildlife herd.

2.2.3 GENERAL REQUIREMENTS FOR GRAZING PERMITS AND AGRICULTURAL LEASES

Appendix A provides details related to the grazing permits and agricultural leases required by the Tribes. The following section provides the general requirements. The processes for grazing permits and agricultural leases are generally similar, except as distinguished below.

The Fort Peck Tribal Executive Board passed Resolution #1802-2003-7, which includes a requirement that every range unit must have a conservation plan prior to a permit being issued for a range unit. Ultimately, the Fort Peck Tribes will implement a conservation plan that addresses all natural resource concerns identified in each range unit (see Appendix D for an example of a conservation plan). Individual conservation plans for each range unit must be completed before a permit is issued (25 CFR 166). These plans must be consistent with the ARMP and must address the permittee's management objectives regarding animal husbandry and resource conservation. The plan must cover the entire 10-year duration of the permit, and be reviewed by the Tribes' Natural Resources Department annually. Specific information and more details can be found in the Land Use Policy (Appendix A).

Leasing of agricultural land on the Reservation may be accomplished through either preference rights or competitive bids. The Tribes' eligibility requirements for a preference right to lease agricultural land on the Reservation mandate that an applicant be an adult member of the Tribes who meets the Tribes' definition of a Qualified Operator. In addition, he/she (hereafter he) must demonstrate to the Land/Natural Resources Committee (Committee) that he is a farmer or rancher who has the ability, financing, and necessary equipment to operate the land in question; or if the applicant is new to the farming and ranching business, he must show the Committee that he has the correct qualifications in addition to the financing and necessary equipment to be successful.

Under a preference right lease, lessees cannot lease more than 2,560 acres. If a lessee seeks to lease more than 2,560 acres, all additional acreage would be leased through the competitive bid process at a fair rental price. The lessee or his immediate family or employees must actively farm or graze the land, and no other person in that same household is allowed to hold a non-competitive agricultural lease.

Competitive bid leasing is used for any tribal leases or permits that were cancelled because of a violation; any incomplete or idle tracts of trust land; land purchased with Federal Housing Authority loan funds; and lands purchased through rural development funds. Applicants must certify that they own or will own cattle sufficient to fill their allocations. Permits may be transferred, cancelled, and deferred subject to approval of the Tribes and Superintendent.

The following durations for each grazing permit and lease agreement would apply:

- A grazing permit is issued for 5.5 months, beginning either May 1 through October 15 or May 15 through October 31, and is granted for 10 years. Grazing outside of the traditional grazing permit time frame can be approved on a case by case basis by the Tribes' Natural Resources Department, based on an approved conservation plan.
- A farm pasture lease agreement shall have a minimum term of a five-year duration.



More information on leases and permits, including rate structures is presented in Section 3.10.1.

2.2.4 MEASURES TO AVOID OR REDUCE POTENTIAL IMPACTS

Measures identified in the Land Use Policy and the 5 Year Business and Management Plan for the Business and Cultural Buffalo Herds, 2014-2019 (Fort Peck Tribes n.d.) would be required under any of the alternatives. In addition, measures identified in the ARMP would be required under Alternatives 1 and 2. Appendix B (ARMP) provides more detail regarding the measures that would be implemented, but the following section provides a brief overview of the management goals and best management practices (BMPs) that would reduce potential impacts from the Preferred Alternative and Alternative 1. Additional measures applicable only for the wild buffalo herds are further described in Section 2.2.4.3.

2.2.4.1 MANAGEMENT GOALS

Management goals established within the ARMP and administered by the Fort Peck Tribes for the next 5 to 10 years would include the following:

- The management strategy and tracking procedures for farm pasture leases would be revised to improve the forage quality.
- A tribal-wide resource database to improve management of the agricultural resources would be created to increase tribal efficiency, and optimize revenue generation from tribal and trust tracts.
- A systematic review and inspection plan for all rangeland permits and farm pasture leases would be implemented.
- A soil quality improvement strategy for all trust agriculture lands would be implemented.
- The number of idle trust tracts within the Fort Peck Irrigation Project would be reduced (when possible). (Note: the Fort Peck Irrigation Project was initiated by the federal government in 1884 to bring irrigation to the Reservation in an attempt to transition the Assiniboine and Sioux people from the traditional nomadic life to agricultural life on the Reservation [Strait and Fandrich 2007]).
- A lease program which assists new tribal farmers and ranchers attain farm pasture land and rangeland would be implemented.
- The development of additional irrigation within the Reservation would be researched and feasibility would be determined.
- A noxious weed control and management plan would be implemented.

- Targeted lands, in accordance with the Section IX - Land Acquisition and Trade of the Land Use Policy, which would add value to tribal agricultural resources, would be acquired.
- Rangeland forage condition, while reducing clubmoss (*Selaginella densa*) and noxious weed colonies, would be improved.
- Rangeland exterior boundary fence conditions would be improved.
- Water resources on range units to improve livestock and forage management through accessing the tribal water pipeline network would be developed.
- The soil quality of all trust agriculture lands within the Reservation would be improved.
- Irrigation infrastructure and facilities conditions within the Fort Peck Irrigation Project would be improved.
- A water accounting system to track the point of use and quantity of water used under tribal water allocation would be developed.
- The soil quality and stability of tribal and allotted dryland acres would be improved through actively promoting and engaging in BMPs to improve soil health.
- On-farm irrigation for each tract would be improved on irrigable tribal and allotted tracts.
- Sustain adequate forage to maintain upland wildlife habitat (Finnicum 2014a).

2.2.4.2 BEST MANAGEMENT PRACTICES

General BMPs that would be implemented for both rangelands and farm pasture lands within the FPIR boundary under Alternatives 1 and 2 may include, but are not limited to, the following:

- Increase the investment in fence and water maintenance and development
- Increase the amount of sufficient cross fencing to allow for a rotational grazing system
- Increase the number of water developments to improve livestock grazing distribution (i.e., fences) and allow regions where water is a limiting factor to be grazed during various seasons and for longer periods
- Construct additional water developments on farm pasture lands
- Increase the length of pasture unit leases to at least 5, and preferably 10 years to increase incentive for investing in and maintaining improvements
- Provide lease incentives or cost shares to lessees who build or maintain improvements

General BMPs that would be implemented for grazing processes within the FPIR boundary under Alternatives 1 and 2 may include, but are not limited to, the following:

- Develop and maintain a grazing program for each range unit to promote rangeland health
- Establish and enforce a proper stocking rate and season of use where prescribed grazing is not practical (e.g., small pasture units, units without adequate water or fences)
- Utilize prescribed burning in conjunction with grazing to mimic natural fire regimes
- Offer extended season of use on lease contracts to make dormant season grazing available
- Provide incentive for lessees/permittees to implement a rotational grazing system which defers grazing on at least one pasture each year
- Implement grazing practices to consider upland wildlife habitat management (Finnicum 2014a)

General BMPs that would be implemented to control noxious weeds within the FPIR boundary under Alternatives 1 and 2 may include, but are not limited, to the following:

- The Tribes' Natural Resources Department would map the locations of all noxious weeds and develop a noxious weed management plan.
- The Tribes' Natural Resources Department would initiate and/or strengthen a noxious weed education awareness program.
- The Tribes' Natural Resources Department would evaluate (on a species-by-species basis) cost share programs to assist weed control efforts by lessees/permittees and private landowners.

Dense clubmoss is a native, perennial, evergreen forb of the spike moss family and has no forage value for livestock and little to no forage value for wildlife (Crane 1990; Lacy et al. 1995). General BMPs that would be implemented to control dense clubmoss within the FPIR boundary under Alternatives 1 and 2 may include, but would not be limited, to the following:

- Explore the viability of different management options for clubmoss cover on the FPIR
- Implement a fire regime in coordination with improved grazing practices
- Utilize high stocking rates and rotational grazing that has the potential to disturb clubmoss establishment without negatively impacting desirable vegetation
- Establish more intensive grazing management

- Evaluate cost-share opportunities for mechanical treatment
- Initiate an educational effort to better inform ranchers about the benefits of mechanically treating suitable sites where clubmoss cover exceeds 25 percent
- Ensure that control efforts and grazing practices are conducive to the removal of clubmoss and improvement of historic range plants with a monitoring program

General BMPs that would be implemented for cropland to promote soil health within the FPIR boundary under Alternatives 1 and 2 may include, but are not limited to, the following:

- Reduce tillage to protect existing soil organic matter
- Minimize soil compaction
- Implement cover crops for erosion reduction
- Develop a comprehensive crop rotation plan for implementation
- Leave harvested crop residue for decomposition and organic matter improvement
- Manage pests and nutrients efficiently, avoiding overuse of chemical application
- Diversify cropping system by including pulse crops or nitrogen infusing crops

Basic improvement measures or BMPs to improve overall soil health and quality and productivity of specific cropland (i.e., dryland tracts) within the FPIR under Alternatives 1 and 2, may include, but are not limited to, the following:

- Complete a baseline soil health scorecard for all dryland tracts upon all new leasing of the tract
- Consider incentives for inclusion in all new leases for implementation of soil health BMPs

Basic improvement measures or BMPs to improve the value and production of other specific cropland (i.e., irrigable tracts) within the FPIR under Alternatives 1 and 2, may include, but are not limited to, the following:

- Modify the hay lease process to require an operator to sign a minimum of a three year operational lease
- Consider an incentive for lessee investments in idle tracts to improve on-farm irrigation infrastructure
- Implement a field head gate and field drain culvert replacement program

Basic improvement measures or BMPs to improve the potential for future irrigation development of tracts within the FPIR under Alternatives 1 and 2, may include, but are not limited to the following:

- Active encouragement of enrolled members to purchase fractionated tracts
- Pursuit of tribal acquisition of fractionated tracts in key areas

Additionally, the Fort Peck Office of Environmental Protection (OEP) follows and implements the US Environmental Protection Agency's (USEPA's) Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). FIFRA must be adhered to on all trust lands within the boundary of the Reservation.

2.2.4.3 SITE-SPECIFIC MEASURES

Additional site-specific measures would also be implemented. For example, determining specific BMPs applicable to each tract would engage the local NRCS soil conservationist for development of a comprehensive soil health improvement plan and farm plan. These site-specific measures would include example measures from lease and permit-specific conservation plans (Appendix D).

Additionally, other measures from the 5 Year Business and Management Plan for the Business and Cultural Buffalo Herds, 2014-2019 (Fort Peck Tribes n.d.) to reduce impacts from the wild buffalo herds would be required under any of the alternatives. These measures are summarized below:

- Any damage to crops, fencing, or property caused by buffalo that have escaped from their range units would be addressed by the Tribes.
- The Tribes have developed a memorandum of understanding with the State of Montana and the Animal, Plant, Health, Inspection Service on testing buffalo that came from Yellowstone National Park and have developed a written procedure for capturing, and/or removing any Yellowstone buffalo that escape their range units. The Tribes will be responsible for capturing escaped buffalo immediately and repairing fence where they got out.
- Buffalo are susceptible to most diseases carried by cattle. The four most important diseases include brucellosis, bovine tuberculosis, blue tongue, and anthrax. All these diseases have been introduced into North America and can cause serious problems if buffalo are exposed to them. The former two diseases are considered regulatory diseases, and surveillance may be required by the US Department of Agriculture (USDA) or Montana Department of Livestock. In addition, buffalo are extremely susceptible to malignant catarrhal fever; a herpes virus carried by domestic sheep and always fatal to buffalo. Measures to prevent any spread of disease from the buffalo or to the buffalo from other livestock and wildlife would be implemented and include the following:

- All buffalo in private and public herds within the US outside of the Yellowstone National Park ecosystem are now considered by the USDA to be free of brucellosis. Monitoring for brucellosis, although no longer required, can be accomplished through collection of blood samples from field slaughtered animals, from blood taken from calves prior to shipping, and from animals slaughtered at packing plants. Calves scheduled for interstate shipping should be tested for tuberculosis.
 - The Tribes have developed a foreign animal disease emergency preparedness plan to respond to the outbreak of any foreign disease on any domestic and wildlife species on the Reservation and an emergency response plan to minimize the spread of any foreign disease on the Reservation.
 - All lessees operating a buffalo herd shall participate in the Montana State Brucellosis Eradication Program.
 - The BIA Provision No. 19 of lease Form 5-180 requires that breeding cattle being transferred into Indian lands covered by lease or permit must originate (1) from herds in a Modified Certified or Certified Free area not under quarantine for brucellosis; or (2) from herds which have tested negative to the blood test within the past 12 months, and the animals moving into the area have tested negative to the blood test no more than 30 days prior to entry; or (3) are officially vaccinated female animals under 30 months of age, and from a herd not under quarantine.
- Develop a range management program that considers buffalo ecology and behavior, including their forage resources.
 - Restrict grazing on drainage and side hills during the growing season.
 - During years of below average forage production, supplemental feed would be provided to the buffalo as needed to maintain healthy herds. (Buffalo food habits studies have consistently shown that their diet is about 90 percent grass, 5 percent forbs, and 5 percent shrubs.)
 - Use live sale or trade of buffalo to maintain genetic diversity of the buffalo herds and generate cash income.
 - When culling large mature bulls, use a field slaughter method (rather than corralling and shipping) to prevent stress on the animal and damaged equipment.
 - Develop a buffalo educational display for public perception of buffalo and to familiarize people with the cultural significance of buffalo, buffalo biology, and their ecological role.
 - Develop a detailed long-range management plan subjected to public comment. A long-range management goal would provide guidance on buffalo restoration on Reservation lands in a manner that does not interfere or conflict with tribal member cattle operators.

- Maintain optimal herd management practices to provide economic returns to the Tribes, while maintaining the buffalo as a wild animal in a functional prairie environment.

Additional site-specific measures would also be implemented to mitigate potential impacts to threatened, endangered, and proposed species including the following measures:

- To avoid impacts to pallid sturgeon (*Scaphirhynchus albus*), consultation with US Army Corps of Engineers (USACOE) would be required if additional irrigation pumps along the Missouri River are proposed.
- To avoid impacts to greater sage-grouse (*Centrocercus urophasianus*), many of the grazing practices and range management recommendations identified in the EO No. 10-2014 (established core area stipulations for rangelands [State of Montana 2014]) are already being practiced by the Tribes and include the following (note that tribal and federal actions within the FPIR are not required to follow the state's EO):
 - Sage-grouse initiative grazing practices and range management recommendations (encouraged in *Core and Connectivity Areas and General Habitat* of EO No. 10-2014) consisting of:
 - *Rotating livestock to different pastures, while resting others to establish a diversity of habitat types.* This measure is currently adhered to, per existing measures identified in Section 2.2
 - *Changing seasons of use within pastures to ensure all plants have the ability to reproduce.* This measure is currently adhered to, per existing measures identified in Section 2.2
 - *Leaving residual cover (grass from the past season) to increase hiding and nesting cover for sage grouse.* This measure would be implemented within 0.6 mile surrounding the sage-grouse leks under the Proposed Action
 - *Managing the frequency and intensity of grazing to sustain native grasses, wildflowers, and shrubs.* This measure is currently adhered to, per existing measures identified in Section 2.2
 - *Managing livestock access to water to ensure healthy livestock and healthy watersheds.* This measure is currently adhered to, per existing measures identified in Section 2.2
 - *Range management structures should be designed and placed to be neutral or beneficial to sage grouse.* This measure would be implemented within 0.6 mile surrounding the sage-grouse leks under the Proposed Action.
 - *Structures that are currently contributing to negative impacts to either sage grouse or their habitats should be removed or modified to remove the threat.* Structures that are currently contributing to negative impacts to either sage-grouse or their habitats would be evaluated and either removed or modified to remove the threat, if applicable, near the sage-grouse leks (0.6 mile).

- *Mark fences that are in high risk areas for collision with permanent flagging or other suitable device to reduce sage grouse collisions.* A program to mark fences, which are in high risk areas for sage grouse collision, with permanent flagging or other suitable devices to reduce sage-grouse collisions is also in place by the Fort Peck Game and Fish Department (Gust 2014).
- *Identify and remove unnecessary fences.* A program to remove fences that are in high risk areas for sage grouse collision, is also in place by the Fort Peck Game and Fish Department (Gust 2014; Magnan 2014a).
- *Placement of new fences and livestock management facilities (including corrals, loading facilities, water tanks, and windmills) should consider their impact on sage-grouse and, to the extent practicable, be placed at least 0.6 mile from active leks.* The avoidance of existing leks by 0.6 mile has not been adhered to, to date; however, this measure will be complied with under the Proposed Action.
- These measures would also be adhered to for any additional leks that are identified by the Fort Peck Tribes Fish and Game Department under the Proposed Action.
- To avoid impacts to Sprague's pipits, (*Anthus spragueii*), on range units and pasture leases where known nesting Sprague's pipit locations are present, the Tribes would ensure monitoring and continue to require a low-moderate stocking rate.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 INTRODUCTION

Because existing agricultural activities are occurring (including livestock and wild buffalo grazing, and crop production), the associated effects, and the management and mitigation measures (excluding the ARMP) are considered part of the affected environment for this PEA.

3.2 LAND USE

3.2.1 EXISTING ENVIRONMENT

The FPIR encompasses approximately 2.1 million acres, 54 percent (1,127,645 acres) of which is owned by individual Indian landowners or the Tribes; the remaining land (46 percent or 972,355 acres) is owned in fee. Current land uses on the Reservation consist primarily of cropland and grazing; however, some rural residential, dispersed recreation, and oil and gas extraction uses also occur. Grazing and leasing privileges are implemented under the Land Use Policy (Appendix A).

3.2.1.1 GRAZING

Land used for grazing (both rangeland and intermingled pasture) consists of approximately 56 percent (634,377 acres) of trust land on the Reservation. (Note: the acreage available for grazing permits and farm pasture leases changes periodically because land may be used for other purposes; land owners who own 100 percent or majority interest may choose to rent the land themselves or may choose the type of land use, the Tribes may choose to use some of the tribal land for their purposes, and/or fee land may be purchased and converted to trust land). Rangeland makes up approximately 72 percent (458,847 acres) of the trust land used for grazing on the Reservation, and is also part of fee land on the Reservation. Rangeland is divided into 93 range units which vary in size from approximately 700 to 26,000 acres per unit. Twenty-six of the 93 range units include a single pasture; the remaining range units are divided into 2 to 13 pastures each (WWC Engineering 2015).

Each grazing permit grants the permittee permission to graze livestock within a specific range unit for 5.5 months per year for a total of 10 years. Livestock commonly grazed on the Reservation include cattle, horses, and buffalo. Range units are typically permitted for medium to large operations with herds over 500 head.



Six of the range units (or approximately 5 percent of the rangeland) comprise the Turtle Mound Buffalo Pasture, which is used by both the business and cultural herds. This pasture is located about 24 miles northwest of Poplar, on the west side of the Poplar River. Each herd grazes year round.

Improvements to range units have been made over the last decade, but have been limited in nature. In most cases, boundary fences on the units are in poor condition, and cross fencing is present in some cases (WWC Engineering 2015).

Intermingled pasture, which can be leased concurrently with cropland under one farm pasture lease, also contains land used for grazing. Approximately 49 percent (175,530 acres) of the farm pasture land leased is intermingled pasture and used for grazing. Intermingled pasture makes up approximately 27 percent of total trust land used for grazing (Lopez 2014).

3.2.1.2 CROPLAND

Cropland, which is leased under a farm pasture lease, makes up approximately 16 percent (180,042 acres) of trust land on the Reservation (Lopez 2014), and makes up the majority of fee land on the Reservation (MTNHP 2013). Farm pasture leases grant the lessee permission to graze livestock and/or grow crops within specific tracts of land for up to five years. Croplands are identified as dryland, irrigated, or potentially irrigable land. The majority of the cropland lies in the southern and eastern portions of the Reservation. Crop production within the Reservation primarily consists of small grains (i.e., wheat and barley) harvested from dryland areas. Other crops grown on the FPIR include lentils (i.e., peas and beans) and forage crops (e.g., alfalfa).

Farm pasture land is divided amongst 2,516 leases. (Note this includes leases for both cropland and intermingled pasture, both of which can be leased under a single lease document).

3.2.1.3 OTHER DEVELOPED LAND

Residential development is concentrated along US Highway 2, in and around the towns of Poplar, Wolf Point, Brockton, and Frazer. However, only approximately 20 percent of the Tribes' population resides in those towns; the remaining population is dispersed throughout the Reservation (Fort Peck Assiniboine and Sioux Tribes 2013a). All trust land on the FPIR is eligible to be leased or permitted; however, approximately 31 percent (346,786 acres) of the trust land on the Reservation is not currently leased or permitted. This land consists of tracts that are under allottee control for personal use and/or may have access issues. In general, the remaining unleased trust land requires capital infusion to implement land leveling or irrigation improvements (WWC Engineering 2015).

Oil and gas development on the Reservation began in 1951, and oil and gas extraction occurs throughout the Reservation today. However, drilling density on the Reservation is one-eighth of that of surrounding townships (Fort Peck Assiniboine and Sioux Tribes 2013b).

3.2.2 IMPACTS

Impacts from the alternatives to land use within FPIR are described below.

3.2.2.1 NO ACTION

There would be no additional impacts to land use under the No Action Alternative. No new land would be leased or permitted and current agricultural activities on developed land would continue.

3.2.2.2 ALTERNATIVE 1

Impacts to land use under Alternative 1 may include an increase in the total amount of agricultural land on the Reservation and the conversion of undeveloped land to agriculture land. The additional amount of land leased, permitted, or used for agricultural improvements may increase the total amount of trust land used for agricultural purposes. However, if that land is currently held by allottees and is used for cropland or grazing, this would not impact the total amount of agricultural land held in trust. Another potential impact to land use would be the conversion of undeveloped land to cropland, grazing areas, or to be used for agricultural improvements. This would decrease the amount of undisturbed land on the Reservation. These impacts would be minor and long-term.

There would be no impacts to residential land uses on the Reservation. Land leased or permitted for agricultural uses is temporarily held by the lessee/permittee, and the construction of residential housing on that tract(s) would not be allowed. Each individual permit, lease, or associated improvement would be reviewed using a checklist (example provided in Appendix C) to determine whether or not its potential environmental impacts to land use have been addressed in the PEA.

3.2.2.3 ALTERNATIVE 2

Impacts to land use would be the same as those discussed under Alternative 1. The increase in the number of wild buffalo would not impact land use because the additional buffalo would graze in range units that are already being used for buffalo grazing.



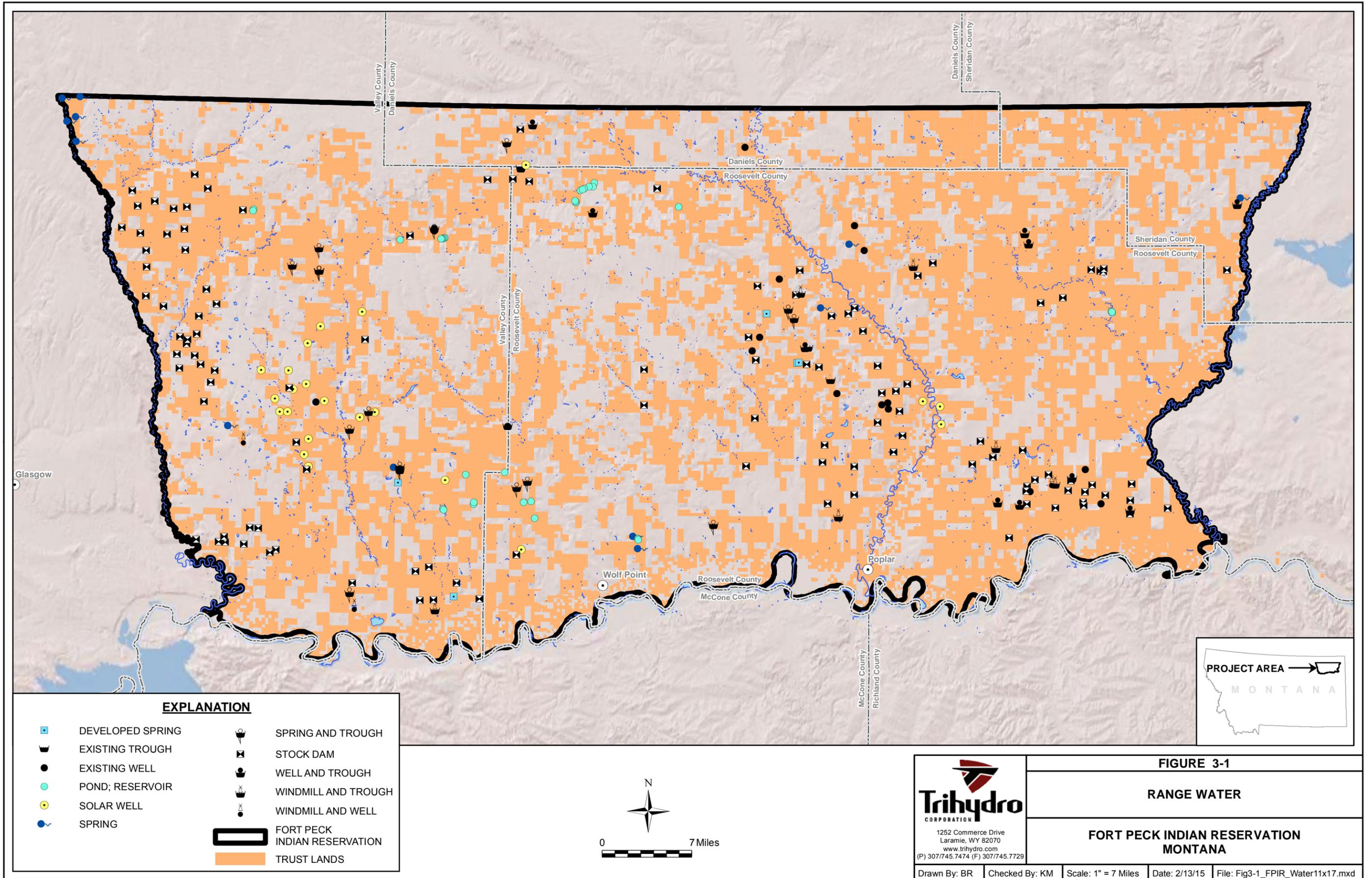
3.3 WATER RESOURCES

3.3.1 EXISTING ENVIRONMENT

3.3.1.1 SURFACE WATER RESOURCES

The FPIR is bordered on the west by Porcupine Creek, the east by Big Muddy Creek, and on the south by the Missouri River. Within the Reservation, surface water features interspersed within the watersheds include emergent wetlands, freshwater ponds and lakes, riparian areas, perennial and intermittent streams, and ephemeral drainages (US Fish and Wildlife Service [USFWS] 2012). There are seven major drainages within the Reservation boundaries (Big Porcupine Creek, Little Porcupine Creek, Wolf Creek, Tule Creek, Poplar River, Smoke Creek, and Big Muddy River), all of which are northern tributaries to the Missouri River. Of these drainages, Wolf Creek, Poplar River, Smoke Creek, and Big Muddy River are perennial, while the others are generally seasonal, intermittent streams (shown on Figure 3-1) (Fort Peck Tribes 2014). Water levels in the flowing rivers peak after snow melt and during flooding events. However, the snowmelt runoff to the west is moderated in the Missouri River by several reservoirs such as Lake Fort Peck, which is approximately 3 miles southwest of the Reservation at its closest point.

The principal uses of surface water resources on the Reservation are for irrigation, livestock, domestic water supply, and recreation. Livestock water facilities are provided in various forms and locations throughout the FPIR. There are developed springs, troughs, wells, pond and reservoirs, solar wells, springs and troughs, stock dams, wells and troughs, and windmills troughs and wells; however, most range units rely entirely on intermittent streams, perennial streams, and reservoirs for livestock water (NRCS 2014). Figure 3-1 shows the various sources and locations of range water on FPIR. Degradation has been reported around some of these water sources, and the lack of water developments restricts the use of some grazing units. Several range units have nonfunctioning tanks, reservoirs, wells, and/or windmills in place, and over half of the water developments on the Reservation have been reported to be in fair or poor condition (WWC Engineering 2015).



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Water quality assessments on Reservation are primarily conducted at USEPA water quality monitoring stations. The stations are managed and the water quality data are reported by the Montana Department of Water Quality and the Fort Peck OEP. The USEPA lists the section of the Poplar River that flows into the Reservation, sections of the Big Muddy Creek (including the section of the river that runs the entire length of the eastern boundary of the Reservation), sections of the Missouri River (including the part of the river that runs the entire length of the southern boundary of the Reservation), and sections of Porcupine Creek (including the part of the river that runs almost the entire length of the western boundary of the Reservation), as impaired. Impairment to Poplar River is caused by natural and unknown sources and rangeland grazing. Impairment to Big Muddy Creek is caused by agriculture, grazing in riparian or shoreline zones, and impacts from hydrostructure flow. Impairment to the Missouri River is caused by loss of riparian habitat, regulation modification, and impacts from hydrostructure flow. Impairment to Porcupine Creek is caused by non-irrigated crop production (Montana.Gov 2014a). (Note: the USEPA does not report the status of water quality for surface water on the Reservation).

A recent study by the Fort Peck Tribes (2014) reported that agricultural activities, primarily livestock grazing, appear to be the main cause of reduced water quality and riparian habitat quality on the Reservation. Grazing of livestock near and on streams and rivers results in stream bank erosion, increased sediment and nutrient inputs, and subsequently reduced water quality. The recent study collected physicochemical water quality data (i.e., water temperature, pH, specific conductance, and dissolved oxygen) in 2013. Based on the data, the dissolved oxygen levels of the majority of the sites were greater than 5.0 milligrams per liter (mg/L), which is adequate for sustaining aquatic life forms. If dissolved oxygen levels in water drop below 5.0 mg/L, aquatic life is put under stress. All three of the Big Muddy River sites and one site at the Poplar River were reported to be less than or equal to 5.0 mg/L. These levels may be caused by bacteria and organic enrichment due to constant cattle grazing in and around the site (Fort Peck Tribes 2014).

The Fort Peck OEP is currently taking steps to remedy water quality and associated problems on the Reservation by implementing nonpoint source pollution control projects. These projects, funded by USEPA, provide support for the implementation of BMPs. It is the goal of the Fort Peck OEP that through demonstrated success of special projects that address these issues, the Tribes take a proactive, non-regulatory approach in improving biological integrity, riparian habitat quality, and water quality on the Reservation (Fort Peck Tribes 2014).

Drought and hydrological management through the Lake Fort Peck Dam can also affect current conditions on the Missouri River system. Additionally, industry exists on the Reservation, yet it presently does not pose a major threat to water quality. Future water quality concerns such as sewage and industrial discharges have the potential to arise with population growth (Fort Peck Tribes 2014).

Protection of water resources is regulated by the Tribes' water quality standards for the Reservation (Fort Peck Assiniboine and Sioux Tribes 2010). Additionally, the USEPA regulates storm water and National Pollutant Discharge Elimination System permits (using the Tribes' water quality standards). In addition, activities occurring within jurisdictional wetlands and other Waters of the US require compliance with the provisions of Section 404 of the CWA administered by the USACOE, and Section 401 of the CWA administered by the USEPA.

3.3.1.2 GROUNDWATER RESOURCES

Groundwater resources in the Project Area were identified through the Groundwater Information System from the Montana Bureau of Mines and Geology (MBMG). The groundwater resources are primarily from Cenozoic and Mesozoic formations. Water of fair to good quality is obtained from sandstone aquifers at depths of 75 to 400 feet below ground surface, and is present within this interval at even greater depths. Reported well yields are small, ranging between 5 to 15 gallons per minute (gpm), and up to 30 gpm in deeper wells (Mancini 1968). High quality Cenozoic quaternary, surficial aquifers are concentrated along Poplar River and Big Muddy Creek beds. These stream beds are also critical recharge zones for the surficial, alluvium, and fluvium aquifers. Mesozoic bedrock aquifers, such as the Fort Union formation and the Hell Creek – Fox Hills Sandstone, also provide high quality groundwater resources within the Project Area (MBMG 1996).

3.3.2 IMPACTS

Impacts from the alternatives to water resources within the FPIR are described below.

3.3.2.1 NO ACTION

Under the No Action Alternative, existing conditions would continue as described in Section 3.3.1 and no new impacts to water resources are expected. As noted in Fort Peck Tribes (2014) and discussed throughout Chapter 3, agriculture practices are currently in progress on the Reservation and agriculture is the predominant economy in the area. Agricultural activities currently are a primary contributor of nonpoint source pollution as they can alter stream flows, degrade riparian areas, and be a source of sediment and chemical pollutants. These impacts are currently being managed by Fort Peck OEP.

3.3.2.2 ALTERNATIVE 1

Similar to the No Action Alternative, existing conditions and impacts to water resources are occurring on the Reservation; however, the impacts may occur over a larger area of the Reservation under Alternative 1. Expanded agricultural activities, including additional land permitted or leased (if it is not already used for agricultural activities or

otherwise developed), could increase the nonpoint source pollution from agriculture activities and affect the quality of water resources within the FPIR. Additionally, most of the water used by grazing livestock and buffalo would be from surface water sources. If additional livestock concentrate at watering sources, then they could potentially further damage adjacent vegetation, and thereby contribute to stream bank erosion and siltation, which could further affect surface water quality and reduce riparian habitat quality. These long-term moderate impacts would be dispersed over the entire Reservation; measures to avoid or reduce potential impacts to water resources would be implemented (Section 2.2.4).

Additional agriculture improvements (i.e., additional range water such as wells and troughs) for livestock could also benefit the water resources within the Reservation by preventing erosion and contamination from livestock concentrating at surface water sources. The Fort Peck OEP is currently implementing nonpoint source pollution control projects funded by USEPA that will provide support for the implementation of BMPs. These measures are likely to reduce the impacts to minor and short-term, as described above.

Minor pumping of groundwater is expected for the agriculture activities, but this pumping is not expected to have a negative impact on the local groundwater resources in the Project Area.

Each individual permit, lease, or associated improvement would be reviewed using a checklist (example provided in Appendix C) to determine whether or not its potential environmental impacts to water resources have been addressed in the PEA. The checklist would ensure that the site-specific information falls within the parameters of the programmatic impacts that are analyzed in the PEA. Inventories developed by NRCS (2014) for range units and farm pasture land in cooperation with the Tribes and BIA provide further and more specific information on water that would be utilized for the site specific checklist.

3.3.2.3 ALTERNATIVE 2

The same impacts discussed under Alternative 1 would also occur under Alternative 2. Additionally, the increase in the buffalo herds and individuals could impact water resources. Yet, as noted by Van Vuren (2001) and further described in Section 3.5.1, in comparison to cattle, bison are less likely to graze close to water. Their behavior is to generally satisfy their water needs and then move away from the water source. Therefore, an additional increase in the number of wild buffalo is not likely to further impact water resources.

3.4 VEGETATION, SPECIAL STATUS SPECIES, AND NOXIOUS WEEDS

3.4.1 EXISTING ENVIRONMENT

The Reservation is located within the Northwestern Glaciated Plains ecoregion. This ecoregion is located along the Missouri River in Montana, northwest and central North Dakota, and central South Dakota. It is considered a transitional ecoregion because it is located between the more level and humid Northern Glaciated Plains and the more irregular and drier Northwestern Great Plains (USEPA 2014a). The climate of the Northwestern Glaciated Plains is considered semiarid (Taylor 2012).

3.4.1.1 VEGETATION

Seven types of land cover classes (generally based on vegetative physiognomy) are within the Reservation, per the Montana Gap Analysis Program data (MTNHP 2013) (Table 3-1). The dominant land cover of the Reservation includes human land use and comprises approximately 1,098,546 acres. Human land use includes developed areas in rural or urban settings (including roads), strip mines and gravel pits, and agricultural lands (cultivated crops). The other dominant land cover on the Reservation includes grassland systems and comprises approximately 680,323 acres. Grassland systems include all natural herbaceous systems, with the exclusion of alpine and riparian systems (MTNHP 2014a).

TABLE 3-1. LAND COVER TYPES ON THE RESERVATION.

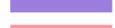
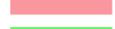
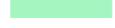
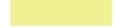
Land Cover Type	Percentage
Human Land Use	52
Grassland Systems	32
Wetland and Riparian Systems	5
Shrubland, Steppe, and Savannah Systems	4
Sparse and Barren Systems	3
Forest and Woodland Systems	2
Recently Disturbed or Modified	<1

Source: MTNHP 2013.

Note: The percentages are approximate due to differences in the boundaries when the geographical information system (GIS) file was converted from raster to the vector.

There are 31 types of ecological systems within the Reservation (which are shown in Figure 3-2, and percentages are provided in Table 3-2) (based on Montana-specific ecological system names); of the 31 types of ecological systems, four systems make up the majority of the FPIR, ranging from 6 percent to 50 percent of the Reservation. The four major systems are further discussed below.

EXPLANATION

-  FORT PECK INDIAN RESERVATION
- ECOLOGICAL SYSTEMS (MTNHP 2013)**
-  COMMERCIAL/INDUSTRIAL
-  CULTIVATED CROPS
-  DEVELOPED, OPEN SPACE
-  GAS AND GAS STORAGE
-  GREAT PLAINS PRAIRIE POTHOLE
-  HIGH INTENSITY RESIDENTIAL
-  INJECTION
-  INTER-MOUNTAIN BASINS BIG SAGEBRUSH STEPPE
-  INTER-MOUNTAIN BASINS GREASEWOOD FLAT
-  INTER-MOUNTAIN BASINS MAT SALTBUUSH SHRUBLAND
-  INTRODUCED RIPARIAN AND WETLAND VEGETATION
-  INTRODUCED UPLAND VEGETATION - ANNUAL AND BIENNIAL FORBLAND
-  LOW INTENSITY RESIDENTIAL
-  MAJOR ROADS
-  NORTH AMERICAN ARID WEST EMERGENT MARSH
-  NORTHWESTERN GREAT PLAINS FLOODPLAIN
-  NORTHWESTERN GREAT PLAINS MIXEDGRASS PRAIRIE
-  NORTHWESTERN GREAT PLAINS RIPARIAN
-  NORTHWESTERN GREAT PLAINS SHRUBLAND
-  OIL AND OIL / GAS
-  OPEN WATER
-  OTHER ROADS
-  PASTURE / HAY
-  QUARRIES, STRIP MINES AND GRAVEL PITS
-  RAILROAD
-  WESTERN GREAT PLAINS BADLANDS
-  WESTERN GREAT PLAINS CLIFF AND OUTCROP
-  WESTERN GREAT PLAINS CLOSED DEPRESSIONAL WETLAND
-  WESTERN GREAT PLAINS OPEN FRESHWATER DEPRESSION WETLAND
-  WESTERN GREAT PLAINS SALINE DEPRESSION WETLAND
-  WESTERN GREAT PLAINS SAND PRAIRIE
-  WESTERN GREAT PLAINS WOODED DRAW AND RAVINE

MTNHP = Montana Natural Heritage Program

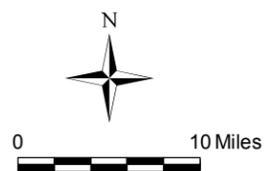
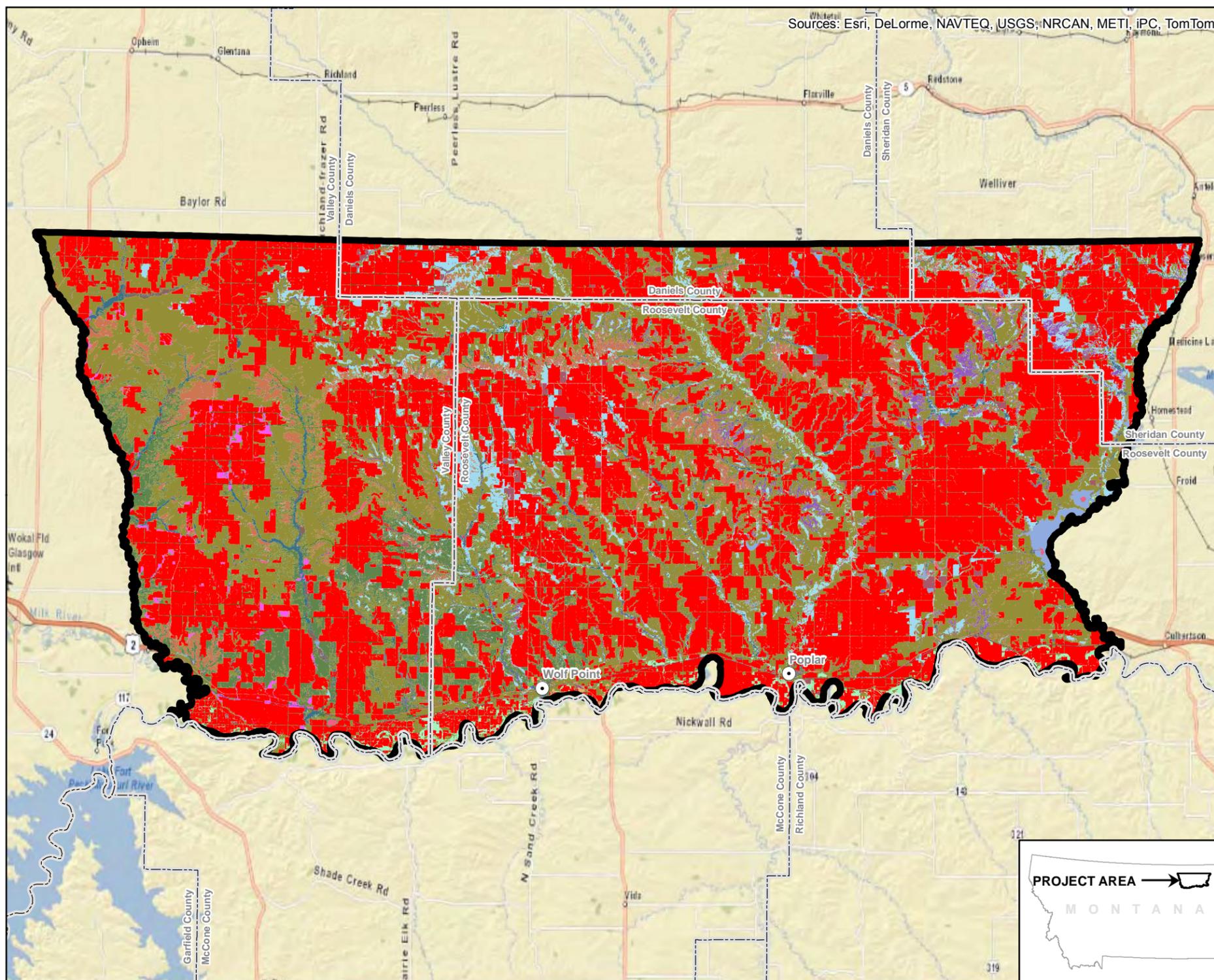


FIGURE 3-2
ECOLOGICAL SYSTEMS
FORT PECK INDIAN RESERVATION
MONTANA

Drawn By: BR Checked By: KM Scale: 1" = 10 Miles Date: 2/13/15 File: Fig3-2_FPIR_Veg11x17.mxd

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The most dominant ecological system is cultivated crops, which make up approximately 1,056,754 acres of the Reservation. Cultivated crops include areas used for the production of annual crops, such as corn, soybeans, and vegetables; this class also includes all land being actively cultivated (USEPA 2014b). Vegetables also may be found in small vegetable gardens.

The other dominant ecological system includes Northwestern Great Plains, which accounts for approximately 574,624 acres of the Reservation (MTNHP 2013). The Northwestern Great Plains system covers much of the eastern two-thirds of Montana, interspersed with wetland/riparian areas or sand prairies. Soils are primarily fine and medium-textured. Grasses typically comprise the greatest canopy cover, and western wheatgrass (*Pascopyrum smithii*) is the dominant species. Other species include thickspike wheatgrass (*Elymus lanceolatus*), green needlegrass (*Nassella viridula*), blue grama (*Bouteloua gracilis*), and needle and thread (*Hesperostipa comata*). Fire and grazing are the primary drivers of this system; with intensive grazing, cool season exotics such as Kentucky bluegrass (*Poa pratensis*), smooth brome (*Bromus inermis*), and Japanese brome (*Bromus japonicus*), will increase in dominance. This system can also be impacted by drought through the promotion of the shortgrass species, rather than the mid-height grasses. Dynamic vegetative communities make up this diverse prairie ecosystem and can be found on uplands, slopes, and creek bottoms throughout the northwestern Great Plains.

Another prevalent ecological system is the Western Great Plains Sand Prairie, which comprises approximately 69,799 acres of land cover on the Reservation. The Western Great Plains Sand Prairie is a unique ecosystem dominated by coarse-textured soils and grasses well-adapted to the soils. Vegetation stand size and soil depth corresponds to the extent of erosion and movement of sand from the caprock sandstone formations that are common in this system. Some vegetation species that are present in the Western Great Plains Sand Prairie are needle and thread, little bluestem (*Andropogon gerardii*), bluebunch wheatgrass (*Pseudoroegneria spicata*), sun sedge (*Carex inops ssp. heliophila*), purple threeawn (*Aristida purpurea*), silver sagebrush (*Artemisia cana*), and sumac (*Rhus trilobata*). This system is primarily affected by wind erosion, fire, and grazing.

The fourth most dominant ecological system on the Reservation is the Inter-Mountain Basins Big Sagebrush Steppe, which includes approximately 68,747 acres of land cover on the Reservation. This ecosystem is widespread, occurring throughout most of central Montana and onto the western edge of the Great Plains. Soils are typically deep and non-saline with a microphytic crust. Although overall shrub density may vary, this system is dominated by grasses and forbs with greater than 25 percent cover. This system is dominated by basin big sagebrush (*Artemisia tridentate ssp. tridentata*), Wyoming big sagebrush (*Artemisia tridentate ssp. wyomingensis*), silver sagebrush, rabbitbrushes (*Ericameria spp.*), and western wheatgrass (*Pascopyrum smithii*). Fire is the most important means of maintaining the

distribution of shrubs that typify the steppe. Shrub cover may also increase as a result of heavy grazing or fire suppression (MTNHP 2014b).

TABLE 3-2. ECOLOGICAL SYSTEMS ON THE RESERVATION

Ecological Systems	Percentage
Cultivated Crops	50
Northwestern Great Plains	27
Western Great Plains Sand Prairie	5
Inter-Mountain Basins Big Sagebrush Steppe	4
Western Great Plains Badlands	3
Northwestern Great Plains Riparian	2
Western Great Plains Wooded Draw and Ravine	2
Northwestern Great Plains Floodplain	1
Other Roads	<1
Western Great Plains Saline Depression Wetland	<1
Pasture / Hay	<1
Introduced Upland Vegetation - Annual and Biennial Forbland	<1
Open Water	<1
Inter-Mountain Basins Greasewood Flat	<1
Major Roads	<1
Western Great Plains Closed Depressional Wetland	<1
Great Plains Prairie Pothole	<1
Western Great Plains Open Freshwater Depression Wetland	<1
Railroad	<1
Low Intensity Residential	<1
Northwestern Great Plains Shrubland	<1
Developed, Open Space	<1
North American Arid West Emergent Marsh	<1
Commercial / Industrial	<1
Quarries, Strip Mines and Gravel Pits	<1
High Intensity Residential	<1
Oil and Oil / Gas	<1
Introduced Riparian and Wetland Vegetation	<1
Injection	<1
Inter-Mountain Basins Mat Saltbush Shrubland	<1
Western Great Plains Cliff and Outcrop	<1

Source: MTNHP 2013.

Note: The percentages are approximate due to differences in the boundaries when the GIS file was converted from raster to the vector.

3.4.1.2 CULTURALLY SIGNIFICANT

The Tribal Historic Preservation Office/Officer (THPO) provided a reference that identifies 41 important plant species belonging to many species families were recorded which were used medicinally and for various other purposes by Tribal members. Examples of such species include, purple coneflower (*Echinacea angustifolia*), prairie wild rose (*Rosa pratincola*), white elm (*Ulmus americana*), wild mint (*Mentha canadensis*), pennyroyal (*Hedeoma hispida*), blue verbena (*Verbena hastata*), wild licorice (*Glycyrrhiza lepidota*), and red cedar (*Juniperus virginiana*) (Youpee 2002).

3.4.1.3 NOXIOUS WEEDS AND CLUBMOSS

Exotic or invasive plant communities, invasive species, and noxious weeds can out-compete and displace native plant species, thereby negatively altering the appearance, composition, and habitat value of affected areas. Noxious weeds are commonly associated with pastures, maintained open land areas, and other disturbed areas (i.e., roadsides, heavily grazed prairie). The Montana Department of Agriculture (MT AG) has issued a prioritized list of noxious weeds that are known to occur within Montana; weed management criteria is largely left to local weed management districts. On the Reservation, the Tribes' Natural Resources Department, along with the county weed districts, assists and advises on weed management (Walking Eagle 2014a).

The following species have been documented in Daniels, Roosevelt, Sheridan, and Valley counties and may occur within the Reservation: Canada thistle (*Cirsium arvense*), field bindweed (*Convolvulus arvensis*), houndstongue (*Cynoglossum officinale*), leafy spurge (*Euphorbia esula*), spotted knapweed (*Centaurea stoebe* or *maculosa*), Russian knapweed (*Acroptilon repens*), Dalmatian toadflax (*Linaria dalmatica*), common tansy (*Tanacetum vulgare*), diffuse knapweed (*Centaurea diffusa*), tamarisk (*Tamarix spp.*), and yellow toadflax (*Linaria vulgaris*) (Table 3-3) (MT AG 2014). Table 3-3 indicates which of these species are found in each county.

Dense clubmoss is not a noxious weed; rather it is a native, perennial, evergreen forb. It has no forage value for livestock and little to no forage value for wildlife. It is currently controlled through general BMPs.

TABLE 3-3. NOXIOUS WEEDS IN DANIELS, ROOSEVELT, SHERIDAN, AND VALLEY COUNTIES

Noxious Weeds	Daniels County	Roosevelt County	Sheridan County	Valley County
Canada thistle	Yes	Yes	Yes	Yes
Field bindweed	Yes	Yes	Yes	Yes
Houndstongue	Yes	No	No	Yes
Leafy spurge	Yes	Yes	Yes	Yes
Spotted knapweed	Yes	Yes	Yes	Yes
Russian knapweed	No	No	No	Yes

Noxious Weeds	Daniels County	Roosevelt County	Sheridan County	Valley County
Dalmatian toadflax	No	Yes	Yes	Yes
Common tansy	No	No	No	Yes
Diffuse knapweed	No	No	No	Yes
Tamarisk	No	No	No	Yes
Yellow toadflax	No	No	No	Yes

Source: MT AG 2014.

3.4.2 IMPACTS

Impacts from the alternatives to vegetation, special status species, and noxious weeds are described below.

3.4.2.1 NO ACTION

Under the No Action Alternative, impacts to vegetation would continue as described in Section 3.4.1. The vegetation communities would continue to be at risk for the introduction and spread of noxious and invasive weeds, the potential for overgrazing would exist, and general surface disturbance could occur, primarily from seasonal agricultural traffic. In addition, the potential exists for localized minor impacts to areas heavily travelled by the livestock herds and wild buffalo.

Some habitats would be more susceptible to these existing impacts than others. For example, minor to moderate negative impacts to riparian areas are a possibility, including trampling of vegetation, soil compaction leading to reduced infiltration and water availability for vegetation, overgrazing, and reduced water quality (for more on water quality and soils, please see Sections 3.3 and 3.6, respectively). However, these impacts are minor to the Reservation vegetation community since riparian habitat is only 3 percent of the Reservation, and measures are in place to avoid impacts. Another minor impact to the Reservation vegetation community may include overgrazing contributing to increased shrub cover in the Inter-Mountain Basins Big Sagebrush Steppe (6 percent of the Reservation). Additionally, the Northwestern Great Plains is the majority of the habitat found on the Reservation, and therefore would be most likely impacted by the grazing habits of the existing buffalo and cattle; potential negative impacts could include overgrazing, especially during drought, and the spread of invasive species. However, impacts to this habitat would be minor and short-term because pasture health and stocking rates are monitored by the Tribes' leasing and permitting processes.

Grazing buffalo herds also contribute to the existing beneficial impacts to vegetation. Buffalo contribute to plant diversity due to their grazing habits and movements. Since buffalo often graze in patches and favor dominant grasses while moving across the landscape, forbs and woody species may thrive. The abundance of forbs and woody species

enhance gas exchange, aboveground biomass, density, and plant cover (Fallon n.d.). Bison also contribute to vegetation propagation as a result of wallowing behavior. The wallows are an effective microhabitat that collects seeds and rain water and allow vegetation to grow in a sheltered environment (Adams and Dood 2011). Bison also impact nutrient cycling. Bison urine and bison carcasses are readily available nitrogen sources for vegetation usage, and bison grazing increases the plant uptake of the available nitrogen fertilizer (Knapp et al. 1999). There is also a possibility for reduction of woody vegetation due to horning and rubbing behavior (Coppedge and Shaw 1997). These impacts would be minor and long-term.

3.4.2.2 ALTERNATIVE 1

Under Alternative 1, impacts to vegetation would continue in the Project Area as described in the No Action Alternative. It is anticipated that noxious and invasive weeds would continue to be introduced and spread on the Reservation. Noxious and invasive weeds pose a minor threat to cultivated crops, native ecosystems, livestock, humans, and habitat. Some grow quickly and spread rapidly across the landscape, reducing biodiversity, altering the natural fire regime, and injuring livestock, wildlife, and humans (Bokan 2009). However invasive species would be controlled with measures identified in Section 2.2.4. Additionally, clubmoss is a species that has no value to livestock, but would also be controlled with measures identified in Section 2.2.4.

The potential for overgrazing would also continue to exist; although it may be lessened by implementation of measures outlined in the ARMP and as listed in Section 2.2.4, such as development of grazing programs specific to range units, use of proper stocking rates, and prescribed burns. Stocking rates vary by ecological site and rangeland health. Generally, light to moderate grazing intensity for the FPIR region is approximately 0.2 animal unit month (AUMs)/acre (Finnicum 2014b). NRCS (2014) calculates a suggested stocking rate for each ecological site within each pasture unit and range unit on FPIR. Further, range unit AUMs are calculated by the soil classification and health and are well documented and managed; pasture leases have land provisions requiring a comprehensive stocking rate (0.15 AUMs/acre) (Finnicum 2014b). Similar to the No Action Alternative, these minor impacts would most likely occur in the Northwestern Great Plains.

There may also be an increase in surface disturbance, resulting from the need for agricultural improvements on leased or permitted land. Additional fencing, water source improvements, increased vehicular and herd traffic would also affect vegetation. Some of these impacts may be short-term and localized (e.g., driving through a field to build or fix fence), while some of the impacts may be long-term and on a larger spatial scale (e.g., installation of a stock tank and the trail that results from animals utilizing the water source). However, BMPs provided in Section 2.2.4 may assist with mitigating a number of the impacts mentioned above. In addition, the conversion of any cropland added to the



Agricultural Program could result in a replacement of native vegetation with cultivated crops. This alteration of vegetation may affect wildlife and/or livestock in the long-term (see Section 3.5).

Each individual permit, lease, or associated improvement would be reviewed using a checklist (example provided in Appendix C) to determine whether or not its potential environmental impacts to vegetation resources have been addressed in the PEA. The checklist would ensure that the site-specific information falls within the parameters of the programmatic impacts that are analyzed in the PEA. Inventories developed by NRCS (2014) for range units and farm pasture land, in cooperation with the Tribes and BIA, provide further and more specific information on vegetation and range health that would be utilized for the site specific checklist.

3.4.2.3 ALTERNATIVE 2

Under Alternative 2, the same impacts would apply as discussed under Alternative 1. In addition, the increase in the number of buffalo on the Ranch would increase the rate of impacts associated with buffalo, as previously discussed. The potential exists for both negative and positive minor impacts to vegetation, but a number of the negative impacts may be reduced or eliminated through implementation of the BMPs listed in Section 2.2.4. For example, a range management program that considers buffalo ecology and behavior, including forage resources, would be developed and implemented.

3.5 WILDLIFE, FISHERIES, THREATENED AND ENDANGERED SPECIES, AND SPECIAL STATUS SPECIES

3.5.1 EXISTING ENVIRONMENT

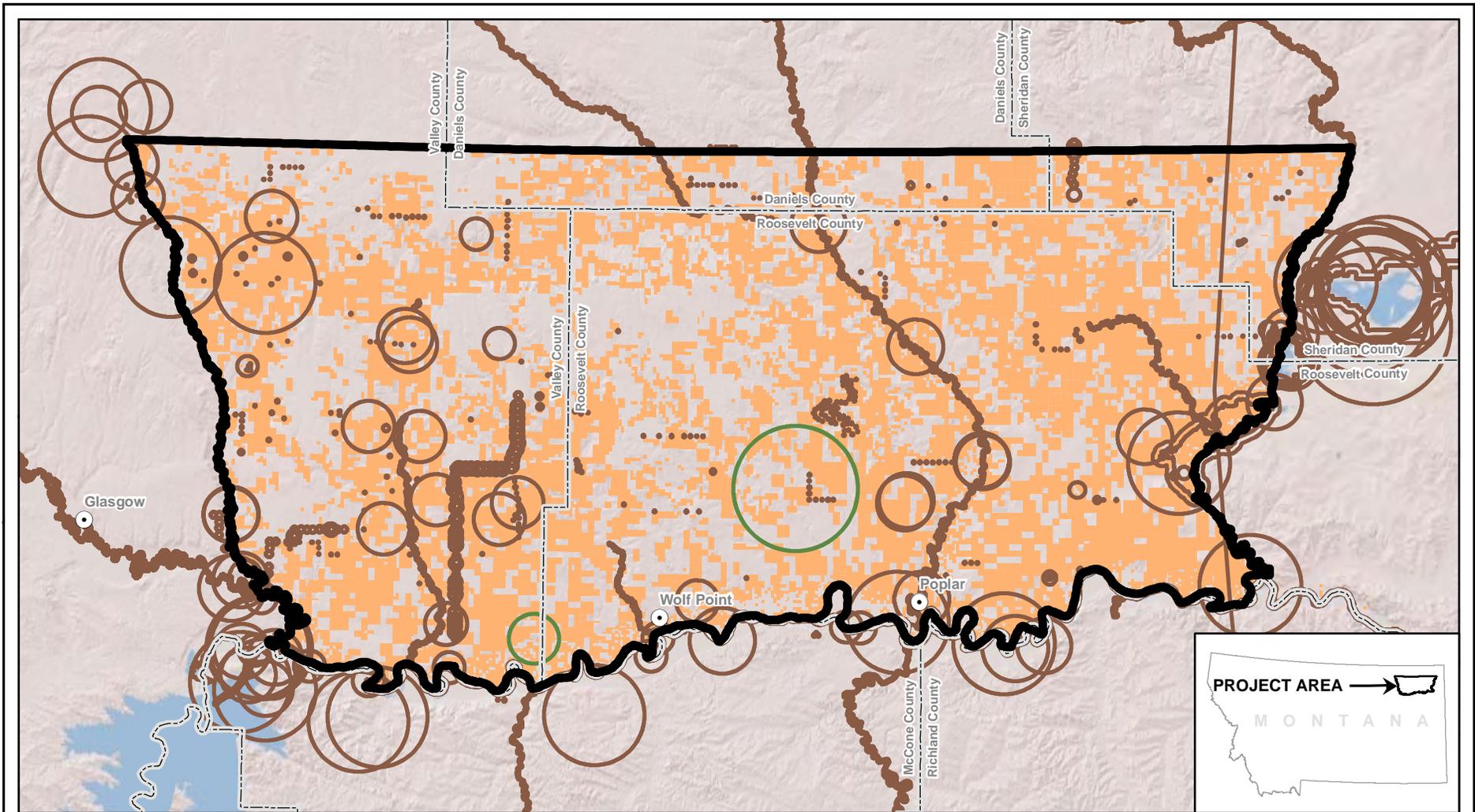
3.5.1.1 WILDLIFE

The discussions in this section regarding common wildlife and fisheries resources that may occur in the vicinity of the Reservation are drawn largely from the *Final Programmatic Environmental Assessment for the Fort Peck Reservation Rural Water Supply System* (BIA 2002) and the baseline nongame wildlife surveys on the FPIR (Hendricks et al. 2013). Additionally, recent occurrence information for Montana state species of concern and federally listed threatened, endangered, and candidate species was obtained by means of a data request to the MTNHP and the MTNHP database (MTNHP 2014b, 2014c, and 2014d). The report, received from MTNHP, was provided to the Tribes on November 10, 2014, for informational purposes.

Sensitive species identified by the MTNHP database includes Montana species of concern in the vicinity of the Fort Peck Indian Reservation (Figure 3-3 provides locations of these occurrences). These species are not discussed in this

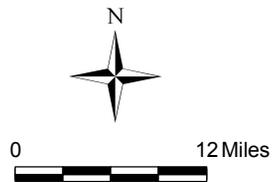
PEA but the occurrences would be considered for each permit or lease using a checklist (example provided in Appendix C). Federally-listed threatened, endangered, and candidate species and culturally significant species are discussed and analyzed below. Occurrence information from the MTNHP report is included in the threatened, endangered, and candidate species and culturally significant species discussions below.

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EXPLANATION

-  FORT PECK INDIAN RESERVATION
-  ANIMAL SPECIES OF CONCERN
-  PLANT SPECIES OF CONCERN
-  TRUST LANDS



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FIGURE 3-3

PLANT AND ANIMAL SPECIES OF CONCERN

**FORT PECK INDIAN RESERVATION
MONTANA**

Drawn By: BR | Checked By: KM | Scale: 1" = 12 Miles | Date: 2/13/15 | File: Fig3-3_FPIR_SOC.mxd

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3.5.1.1.1 COMMON MAMMALS

Large carnivores and omnivores known to occur frequently in the native grasslands, riparian forest, and wetlands of Montana include coyote (*Canis latrans*), red fox (*Vulpes vulpes*), bobcat (*Lynx rufus*), raccoon (*Procyon lotor*), American badger (*Taxidea taxus*), striped skunk (*Mephitis mephitis*), and weasels (*Mustela spp.*). Medium-size omnivores and herbivores that occur in the region include mountain cottontail (*Sylvilagus nutalli*), white-tailed jackrabbit (*Lepus townsendii*), and northern pocket gopher (*Thomomys talpoides*) (MTNHP 2014b).

In a recent field study on the FPIR (Hendricks et al. 2013), the most abundant and widespread small mammal observed was the deer mouse (*Peromyscus maniculatus*). Other species included Hayden's shrew (*Sorex haydeni*), pygmy shrew (*Sorex hoyi*), meadow vole (*Microtus pennsylvanicus*), white-footed mouse (*Peromyscus leucopus*), western harvest mouse (*Reithrodontomys megalotis*), and western jumping mouse (*Zapus princeps*) (Hendricks et al. 2013). Other native species known or likely to occur within FPIR include the following: Arctic shrew (*Sorex arcticus*), masked shrew (*S. cinereus*), Merriam's shrew (*S. merriami*), montane shrew (*S. monticolus*), Preble's shrew (*S. preblei*), northern pocket gopher (*Thomomys talpoides*), olive-backed pocket mouse (*Perognathus fasciatus*), Ord's kangaroo rat (*Dipodomys ordii*), sagebrush vole (*Lemmiscus curtatus*), prairie vole (*Microtus ochrogaster*), bushy-tailed woodrat (*Neotoma cinerea*), and northern grasshopper mouse (*Onychomys leucogaster*) (Hendricks et al. 2013). From the same field study on the FPIR, the most common bat species observed include silver-haired bat (*Lasionycteris noctivagans*) and the hoary bat (*Lasiurus cinereus*). Other bat species identified include the following: Townsend's big-eared bat (*Corynorhinus townsendii*), big brown bat (*Eptesicus fuscus*), eastern red bat (*Lasiurus borealis*), western small-footed myotis (*Myotis ciliolabrum*), and the western long-eared myotis (*Myotis evotis*) (Hendricks et al. 2013).

3.5.1.1.2 BIG GAME AND UPLAND GAME SPECIES

The primary big game species on the FPIR include elk (*Cervus canadensis*), mule deer (*Odocoileus hemionus*), white-tailed deer (*O. virginianus*), pronghorn antelope (*Antilocapra americana*), and mountain lion (*Puma concolor*) (MTNHP 2014d). Upland game species present and hunted on the FPIR include ring-necked pheasant (*Phasianus colchicus*), gray partridge (*Perdix perdix*), and sharp-tailed grouse (*Tympanuchus phasianellus*).

Season dates and bag limits for upland game species and antelope are set and enforced by the Tribes' Fish and Game Department but generally follow those posted each year by Montana Fish, Wildlife, and Parks (MTFWP). Sage-grouse season is currently closed due to very low population numbers (Fort Peck Tribes Fish and Game Department 2010) (see Recreation Section 3.7 for more information on hunting).

3.5.1.1.3 REPTILES AND AMPHIBIANS

Reptile and amphibian species could occur in the wetland habitats within the Reservation. The most common species detected at wetland sites during a standardized survey within the FPIR, included the boreal chorus frog (*Pseudacris maculata*), northern leopard frog (*Lithobates pipiens*), and the Woodhouse's toad (*Anaxyrus woodhousii*). Other species detected included the barred tiger salamander (*Ambystoma mavortium*), plains spadefoot (*Spea bombifrons*), painted turtle (*Chrysemys picta*), and the plains gartersnake (*Thamnophis radix*). Incidental observations of amphibians and reptiles during the course of other surveys also resulted in observations of amphibian and reptile species, including the smooth green snake (*Opheodrys vernalis*), and common gartersnake (*Thamnophis sirtalis*) (Hendricks et al. 2013).

The presence of aquatic larval stages, hence, breeding, was documented at sites where barred tiger salamander, Woodhouse's toad, boreal chorus frog, northern leopard frog, and spadefoot were found. The nearby Manning Lake is about 3 feet deep and is known to support frogs, salamanders, minnows, and invertebrates (Spaur n.d.).

3.5.1.1.4 BUFFALO

Currently on the FPIR, the Ranch (as described in Chapter 2) consists of two buffalo herds; a cultural herd and a business herd. Buffalo are the largest terrestrial mammals in North America (Ellison 2012a), standing 5 to 6.5 feet tall, and weighing between 930 and 2,200 pounds. In spite of their size, they are also quick, reaching speeds up to 40 miles per hour. Buffalo life spans range between 12 and 20 years in the wild. Buffalo are an herbivorous mammal, consuming grass, shrubs, twigs, and herbs. Male and female buffalo form smaller herds that come together in large herds during mating season. The gestation period for buffalo is nine months (National Geographic 2014).

Buffalo have been found to play an important ecological role on the landscape, impacting other wildlife, vegetation, habitat, wildfire, and nutrient cycling. Many of the activities of the buffalo have been found to have unique impacts including: buffalo urine creates nitrogen-rich areas of soil; former buffalo grazing areas allowed for a different wildfire regime; buffalo wallowing creates microhabitats; buffalo trampling and pawing of the ground affects vegetation in ways specific to the buffalo, due to their size, hooves, and movements (Ellison 2012a; Atkinson and Dood 2011); and reduction of woody vegetation (Coppedge and Shaw 1997). Additionally, a study determined that the location of bison foraging was relatively unaffected by the availability of water in comparison to cattle, and that bison were less likely to graze close to water. The author observed that buffalo spend less time near water sources than cattle after they have satisfied their water needs (Van Vuren 2001).

The current business herd has been monitored for brucellosis and tuberculosis for many years, and this monitoring indicates that the herd is free of these two diseases of regulatory concern.

3.5.1.1.5 FISHERIES

Surface water features within and adjacent to the Reservation that may support fisheries include freshwater ponds and lakes and perennial streams (USFWS 2014a). Natural lakes within the Project Area do not support fisheries; however, several man-made stock ponds within the Reservation are managed fisheries for private and sport fishing (MTFWP 2013). The southern boundary of the Reservation borders the Missouri River, which is managed as a wild fishery. Specifically, the border of the Reservation is the *thalweg* of the Missouri River (the definition of *thalweg* is the middle of the chief navigable channel of a waterway that forms the boundary line between states [Merriam Webster 2014]).

3.5.1.2 THREATENED AND ENDANGERED SPECIES

The ESA, enforced by the USFWS, establishes measures for the protection of federally listed threatened and endangered plant and animal species. Endangered species are species that are in danger of extinction throughout all or a significant portion of their range. Threatened species are species that are likely to become endangered within the foreseeable future. While candidate species receive no protection under the ESA, it is within the spirit of the ESA to consider these species as having significant value and worth protecting, as they may become listed in the future. Table 3-4 provides the candidate and federally listed species that may be present on the FPIR (USFWS 2014b). Additional information and analyses regarding threatened, endangered, and candidate species are identified in the Biological Assessment (BA).

TABLE 3-4. FEDERALLY LISTED AND CANDIDATE SPECIES ON FPIR

Common Name	Scientific Name	Status	Habitat	Range in Montana
Black-footed ferret	<i>Mustela nigripes</i>	Endangered	Large prairie dog complexes in grassland prairies	Prairie dog complexes; Eastern Montana
Least tern	<i>Sternula antillarum</i>	Endangered	Sandbars and beaches along large rivers and lakes	Yellowstone and Missouri River sandbars, beaches; Eastern Montana
Piping plover	<i>Charadrius melodus</i>	Threatened ^a	Riverine and reservoir shorelines with sandy beaches or sandbars	Missouri River sandbars, alkali beaches; Northeastern Montana. Alkali lakes in Sheridan County; riverine and reservoir shoreline in Garfield, McCone, Phillips, Richland, Roosevelt and Valley counties
Greater sage-grouse	<i>Centrocercus urophasianus</i>	Candidate	Mosaic of sagebrush-steppe, open	Eastern, central, and southwestern Montana in sagebrush, sagebrush-



Common Name	Scientific Name	Status	Habitat	Range in Montana
			grassland patches, and agricultural lands	grasslands, and associated agricultural lands
Sprague's pipit	<i>Anthus spragueii</i>	Candidate	Large tracts of unbroken prairie grassland with little to no shrub cover	Grassland habitats with little or no shrub cover east of the Continental Divide
Pallid sturgeon	<i>Scaphirhynchus albus</i>	Endangered	Bottom-dweller in large rivers	Missouri and Yellowstone rivers; bottom dwelling

Source: USFWS 2014b.

^a In USFWS (2014b), critical habitat is listed under piping plover status; however, no critical habitat exists on the Reservation because of the FPIR boundary and the thalweg location (Gust 2014).

3.5.1.2.1 BLACK-FOOTED FERRET

The black-footed ferret is listed as endangered under the ESA. The black-footed ferret is a slender, medium-sized member of the weasel family with black feet, a black-tipped tail, and a distinctive black face mask. Historically, the range of this species extended throughout western North America's prairie grasslands and coincided with the range of the black-tailed prairie dog (*C. ludovicianus*), Gunnison's prairie dog (*C. gunnisoni*), and the white-tailed prairie dog (*C. leucurus*) (USFWS 2010). Prairie dogs are the primary prey of the black-footed ferret, and prairie dog complexes provide habitat for the species. Black-footed ferret habitat is limited to grasslands containing large prairie dog complexes, of which the black-footed ferret uses the burrows for shelter and dens (USFWS 2010).

The current range of the black-footed ferret is limited to populations at 16 reintroduction sites in the US, and does not include the FPIR (USFWS 2010, 2014c, and 2014d). The nearest reintroduction site to the Reservation is at UL Bend National Wildlife Refuge, approximately 80 miles southwest of the Reservation (USFWS 2013a). No occurrences of the black-footed ferret are documented within the Reservation (MTNHP 2014c and 2014d).

Threats to the black-footed ferret include habitat loss and loss of its primary prey due to prairie dog eradication programs, disease, and conversion of native grasslands to agricultural lands (USFWS 2010).

3.5.1.2.2 INTERIOR LEAST TERN

The interior least tern is listed as endangered under the ESA. The least tern is the smallest species of North American terns. The species feeds in shallow waters on fish and aquatic invertebrates, which they capture by diving into the water (USFWS 1990).

Interior least terns are migratory, and their wintering habitat likely occurs in Central and South America (USFWS 2014e). The breeding range of this species includes isolated areas along the Rio Grande, Red, Ohio, Mississippi, and Missouri River systems (USFWS 1990 and 2014e). In Montana, the interior least tern is known to nest along the shorelines of Fort Peck Reservoir, along the Yellowstone River, and along the Missouri River below Fort Peck Dam (MTNHP 2014b). Riverine nesting habitat includes sparsely vegetated, dry, exposed sand bars, beaches, and gravel beds along rivers and lakes (USFWS 1990). This species nests in small colonies, and is present in Montana from May through mid-August; observations of this species in the state occurred in June and July (MTNHP 2014b). Historically, the least tern was observed along the channel of the Missouri River, the north half of which is within the FPIR boundary; however, no occurrences of the interior least tern have been documented within the Reservation within the past four years (MTNHP 2014d).

Threats to the interior least tern include nest disturbance on rivers and sandbars, as well as habitat loss and degradation (USFWS 2014e).

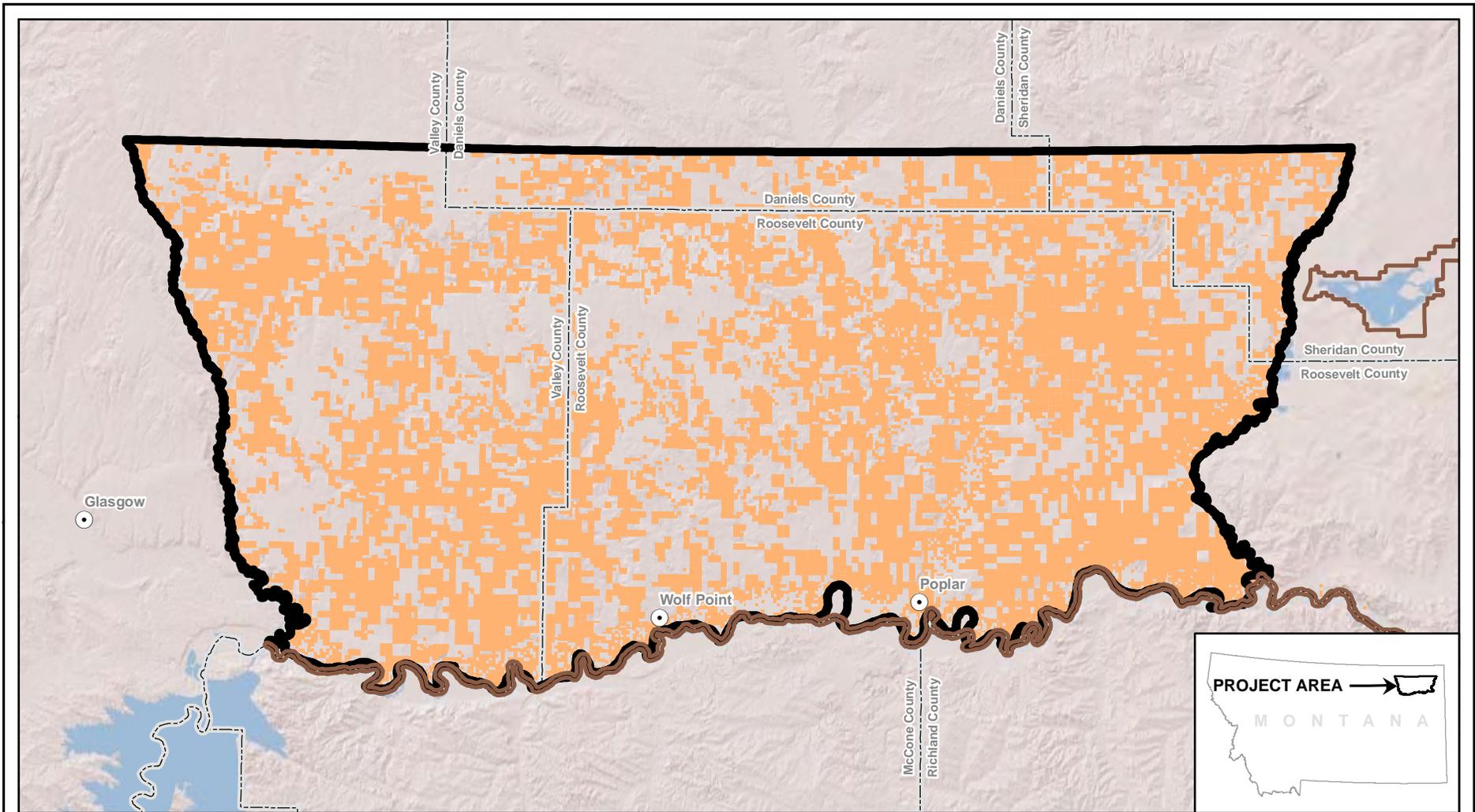
3.5.1.2.3 PIPING PLOVER

The piping plover is listed as threatened in Montana. The plover feeds on invertebrates and is assumed to locate prey by sight. The piping plover breeds on sandy shorelines of reservoirs, along rivers, and on alkali flats in the prairies of the Northern Great Plains. Migrating piping plover arrive on breeding grounds in Montana beginning in late April, and leave by late August (Atkinson and Dood 2006). The occurrence of breeding piping plover has been documented within the channel of the Missouri River (Figure 3-4) (MTNHP 2014d).

USFWS designates critical habitat for federally listed and proposed species. Critical habitat is designated for the piping plover in its breeding range in Montana. The nearest critical habitat to the Reservation is located along the southern border of the FPIR along the channel of the Missouri River (USFWS 2014f); however, the critical habitat is not within the Reservation (Gust 2014).

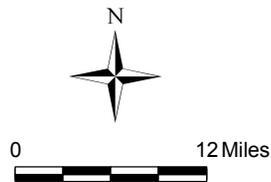
Threats to the piping plover in the Northern Great Plains breeding range include habitat loss and degradation, predation, and disturbance (USFWS 2009).

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EXPLANATION

-  FORT PECK INDIAN RESERVATION
-  PIPING PLOVER OCCURRENCE (MTNHP 2014)
-  TRUST LANDS



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FIGURE 3-4

PIPING PLOVER OCCURRENCES

**FORT PECK INDIAN RESERVATION
MONTANA**

Drawn By: BR | Checked By: KM | Scale: 1" = 12 Miles | Date: 2/13/15 | File: Fig3-4_FPIR_Plover.mxd

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3.5.1.2.4 GREATER SAGE-GROUSE

The greater sage-grouse is a candidate for federal listing under the ESA. The greater sage-grouse is the largest North American grouse. The greater sage-grouse uses different food sources during different life stages; chicks primarily consume insects while juveniles and adults primarily eat sagebrush and forbs depending on the season (MTNHP 2014b).

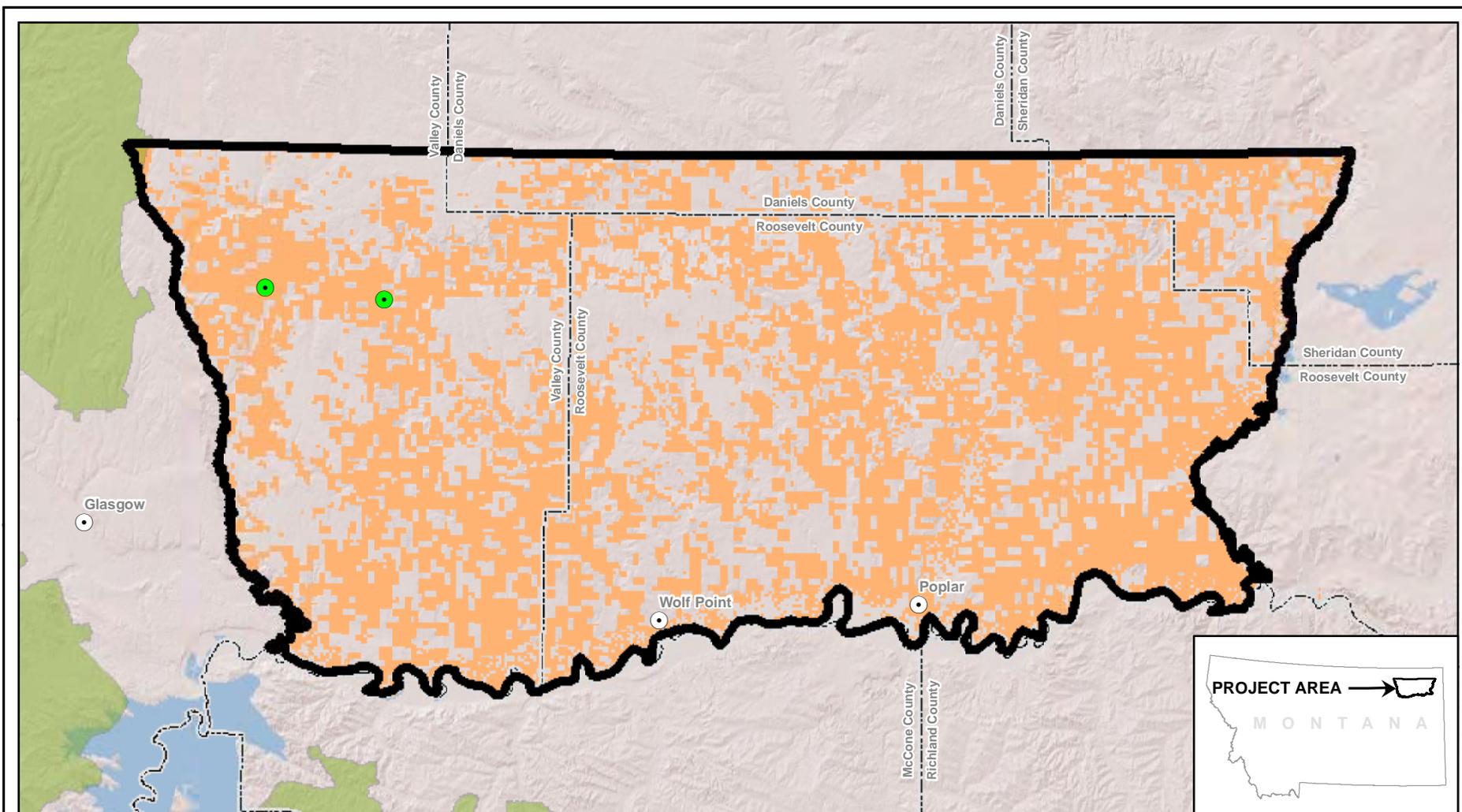
The current range of this species is limited to semiarid sagebrush (*Artemisia* spp.) and shrub-grassland habitats extending from southern Canada to Utah (MTNHP 2014b). This species requires large areas of contiguous sagebrush for feeding, mating displays, and nesting. Males gather on leks, relatively bare areas near areas of dense sagebrush cover, to perform courtship displays prior to nesting (USFWS 2013a). Lekking and breeding occur in the spring from March to May; greater sage-grouse nest in sagebrush habitat in May (MTNHP 2014d).

Two leks have been identified on the western portion of the Reservation; these leks are documented in Figure 3-5 (Walking Eagle 2014b). Additionally, the *Greater Sage-grouse (Centrocercus urophasianus) Conservation Objectives: Final Report* (USFWS 2013a) identifies a designated core area for the Northern Montana sage-grouse population, which covers a small portion of the northwestern corner of the Reservation (Figure 3-5).

The State of Montana, Office of the Governor, issued two EOs to better protect and manage greater sage-grouse and associated habitat. EO No. 2-2013 established a greater sage-grouse Habitat Conservation Advisory Council to assist the Governor with policies and actions that may prevent the listing of the greater sage-grouse under the ESA (State of Montana 2013). EO No. 10-2014 created the Montana Sage Grouse Oversight Team, a team comprised of numerous environmental, industry, and government stakeholders to oversee the Montana Sage Grouse Habitat Conservation Program (State of Montana 2014). Tribal and federal actions within the FPIR are not required to follow these EOs; however, many of the measures are already being practiced by the Tribes and are further described in Section 3.5.2.

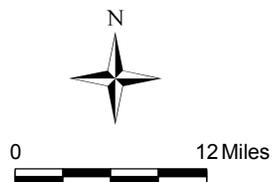
The primary threat to the greater sage-grouse is habitat loss and fragmentation. Other threats include disease, predation, and drought (USFWS 2013a).

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EXPLANATION

-  SAGE GROUSE LEK
-  FORT PECK INDIAN RESERVATION
-  SAGE GROUSE CORE AREA
-  TRUST LANDS



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	SAGE GROUSE CORE AREA AND LEKS			
	FORT PECK INDIAN RESERVATION MONTANA			
Drawn By: BR	Checked By: KM	Scale: 1" = 12 Miles	Date: 2/13/15	File: Fig3-5_FPIR_SGCore.mxd

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3.5.1.2.5 SPRAGUE'S PIPIT

The Sprague's pipit is a candidate for federal listing under the ESA. The Sprague's pipit is a small passerine bird about 5 inches in length with dark brown wings and tail with two pale indistinct wing-bars. The range of this migratory, ground nesting species extends from its breeding grounds in the northern shortgrass prairies of southern Canada and the northern US to wintering grounds in the southern US and northern Mexico.

During breeding season, migration, and on wintering grounds, the diet of the Sprague's pipit consists primarily of arthropods. During late winter, seeds are incorporated into their diet. This species occurs on large tracts of unbroken prairie grassland with little to no shrub cover. Breeding begins as early as late April and continues until mid to late August (Jones 2010).

Sprague's pipit is known to occur on the FPIR during the nesting season (Hendricks et al. 2013; Ellison 2012b; and MTNHP 2014c). Grassland bird surveys from 2012 to 2014 have been conducted on the Reservation (Ellison 2012b, 2013, and 2014). Specifically, the bird surveys focused on the grazing units used by the buffalo (as shown in Figure 3-6). These surveys found high detection rates of 2.2 pipits per point recorded in 2012; generally, high-moderate densities of Sprague's pipit (and nine other species) were recorded from 2012 to 2014 (Ellison 2014).

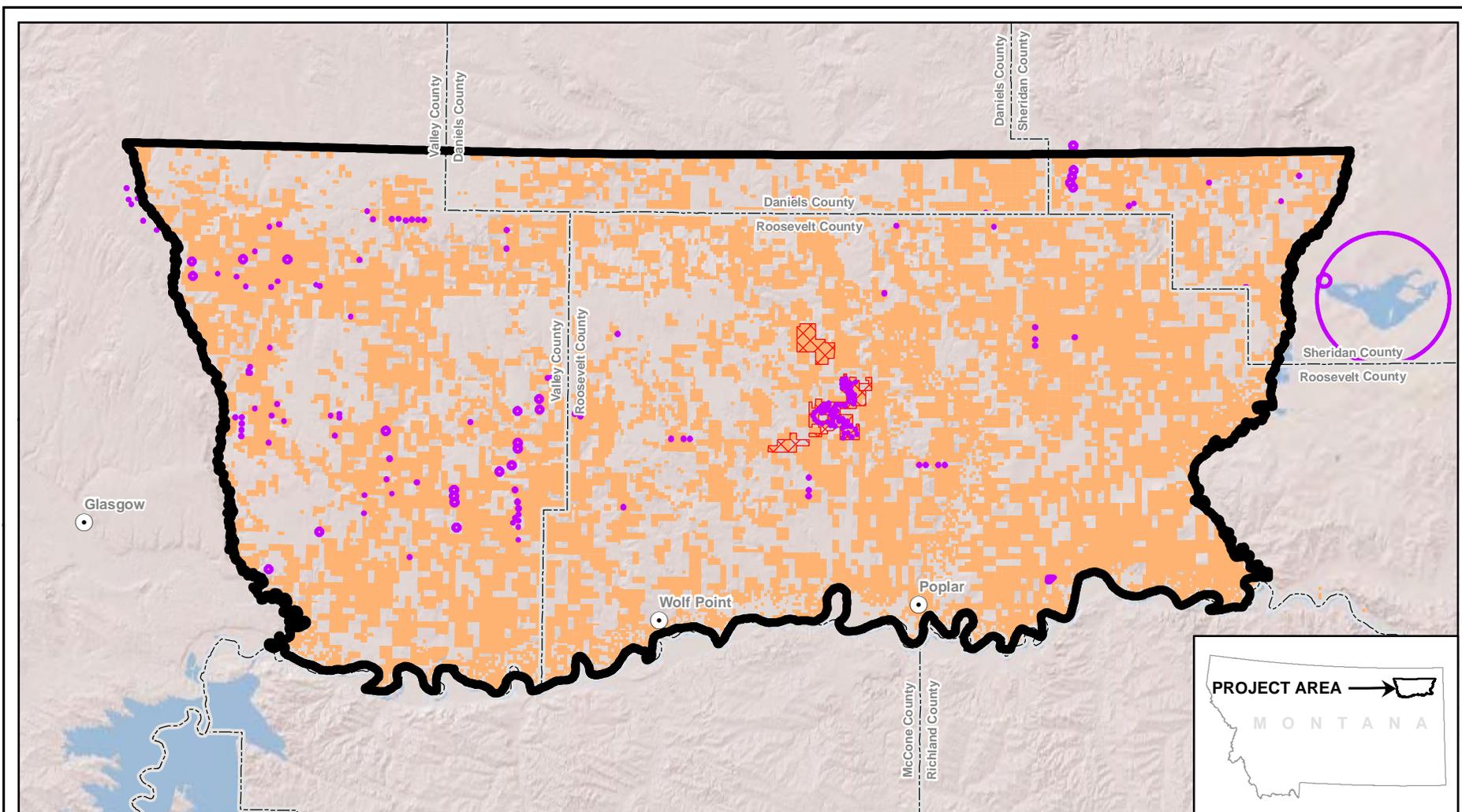
3.5.1.2.6 PALLID STURGEON

The pallid sturgeon is listed as endangered under the ESA. The pallid sturgeon is a large (up to 70 inches long) fish with a distinctive flattened snout and is covered with bony plates (scutes) rather than scales (USFWS 1998). This species feeds on aquatic insects and fish (MTNHP 2014b).

The current range of pallid sturgeon includes the Missouri, Yellowstone, Mississippi, and Atchafalya rivers (USFWS 1998). Pallid sturgeon occur in large, turbid rivers where they remain close to the bottom (MTNHP 2014c). This species was observed within the channel of the Missouri River above Fort Peck Reservoir and adjacent to the Reservation in 2011 (MTFWP 2013). Fort Peck Dam is approximately 10 river miles and the Lake is approximately 3 miles from the Project Area boundary. MTNHP (2014c) identifies the Missouri River stream reach (with a 100 meter buffer) as a location where the species' presence has been confirmed through direct capture or where they are believed to be present based on the professional judgment of a fisheries biologist.

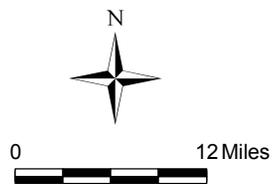
The primary threat to the pallid sturgeon is habitat loss due to the impoundment, channelization, and other modifications to natural rivers (USFWS 1998).

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EXPLANATION

-  FORT PECK INDIAN RESERVATION
-  SPRAGUE'S PIPITS OCCURRENCE (MTNHP 2014)
-  SPRAGUE'S PIPITS OCCURRENCE (ELLISON 2014)
-  TRUST LANDS



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FIGURE 3-6

SPRAGUE'S PIPITS OCCURRENCES

**FORT PECK INDIAN RESERVATION
MONTANA**

Drawn By: BR | Checked By: KM | Scale: 1" = 12 Miles | Date: 2/13/15 | File: Fig3-6_FPIR_Pipits.mxd

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3.5.1.3 MIGRATORY BIRDS AND EAGLES

Migratory birds present on the FPIR are protected by the MBTA (USFWS 2013b). The MBTA was developed in the early 20th century in response to the precipitous decline in populations of many bird species from over harvest for commercial operations. Under the MBTA, taking, killing, or possessing migratory birds is unlawful. Unless permitted by regulations, the MBTA provides that it is unlawful to pursue, hunt, take, capture, or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not.

The combination of grasslands, shrublands, and badlands, together with the ponds and riparian wetlands prevalent throughout the region, results in a relatively high diversity of bird species in the vicinity of the Reservation. Many of the bird species that occur on the Reservation are Neotropical Atlantic and Gulf Coastal migrants that spend the summer nesting season in Montana. Most migratory birds nest in Montana between April 15 and July 15 (US Bureau of Land Management [BLM] 2012). During various site surveys in 2012, 110 bird species were detected within the FPIR (Hendricks et al. 2013), including most of those species expected to breed regularly in uncultivated upland grasslands and shrublands of the northern Great Plains (Kantrud and Kologiski 1982). The following species were detected with the highest frequency of occurrence at count point sites during the FPIR surveys (order provided by highest to lowest frequency): horned lark (*Eremophila alpestris*); western meadowlark (*Sturnella neglecta*); brown-headed cowbird (*Molothrus ater*); chestnut-collared longspur (*Calcarius ornatus*); grasshopper sparrow (*Ammodramus savannarum*); and the vesper sparrow (*Ammodramus savannarum*) (Hendricks et al. 2013).

Large numbers of waterfowl and shorebirds are drawn to this eastern Montana region, particularly during the breeding season, given the proximity of the Missouri and Poplar rivers and the associated emergent marsh and riparian wetland habitats within the Reservation. Opportunistic counts for waterbirds and wetland associated bird species were conducted at 15 wetland sites on FPIR during late May (Hendricks et al, 2013). Fifty-two species were detected at wetland sites, most, but not all, being wetland-associated species. For example, some common waterfowl and shorebirds that were identified include Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), ruddy duck (*Oxyura jamaicensis*), American wigeon (*A. americana*), blue-winged teal (*A. discors*), green-winged teal (*A. crecca*), gadwall (*A. strepera*), California gull (*Larus californicus*), marbled godwit (*Limosa fedoa*), northern pintail semi-palmated sandpiper (*Calidris pusilla*), redhead (*Aythya americana*), willet (*Tringa semipalmata*), and Wilson's phalarope (*Phalaropus tricolor*) (Hendricks et al. 2013).

Birds of prey are also common on the Reservation, given the diversity of cover types and the abundance of small mammal prey. Twelve individuals of northern harriers (*Circus cyaneus*) and a common raptor were detected during the

count point surveys. Three Swainson's hawks (*Buteo swainsoni*) were also detected on the FPIR during count point surveys. Red-tailed hawks (*B. jamaicensis*) and great horned owls (*Bubo virginianus*) are also frequent breeding raptors in the FPIR, preferring to nest in wooded draws containing tall cottonwoods along creeks, and then foraging in the open prairie. Ferruginous hawks (*B. regalis*) and burrowing owls (*Athene cunicularia*) are commonly seen in open grasslands and prairie habitats on the FPIR (Hendricks et al. 2013).

The Manning Lake Wetland Complex has been designated as an important bird area by Montana Audubon, and the Tribes are managing 4,000 acres as a tribal wildlife refuge with plans to include additional acres in the future (Spaur n.d.).

Under the Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668-668d) the taking, killing, possession or commerce of bald and golden eagles (including their eggs, nests, or parts) is prohibited unless allowed by permit. Golden eagles (*Aquila chrysaetos*) may also occur on the Reservation (Hendricks et al. 2013) and bald eagles have been observed on the FPIR (MTNHP 2014d).

3.5.1.4 CULTURALLY SIGNIFICANT

Culturally significant tribal species include greater sage-grouse (as previously discussed in Section 3.5.1.3), sharp-tailed grouse (*Tympanuchus phasianellus*), swift fox (*Vulpes velox*), and buffalo (as previously discussed in Section 3.5.1.1.4) (Magnan 2014a).

Additionally, the THPO provided a reference that identifies natural attractions of the Fort Peck Reservation including amphibians and reptiles, fishes, mammals, and birds (Youpee 2002).

3.5.1.4.1 PLAINS' SHARP-TAILED GROUSE

The Plains' sharp-tailed grouse is a medium-sized grouse with a round body, short legs, and long tail feathers. The upper body of the sharp-tailed grouse is heavily mottled with buff, black, white, and brown plumage and the wings have oval and white dots (MTNHP 2014b). The plains' sharp-tailed grouse consumes a mixture of forbs, grasses, insects, seeds, and fruits; chicks consume mostly insects (MTNHP 2014b).

The current range of this species extends from northern Alaska and Canada to southern Colorado (MTNHP 2014b). Habitat for the plains' sharp-tailed grouse consists of grasslands intermixed with shrubs and brush. Similar to greater sage-grouse, sharp-tailed grouse mate on leks, following courtship dances by the males. Nesting and brooding takes place in the early spring and summer (NRCS 2007).

3.5.1.4.2 SWIFT FOX

The swift fox is a small canine with a coat that is reddish in the summer and dark grey and tawny in the winter (MTNHP 2014b). This species primarily feeds on mammals and small insects. The range of this species extends from southern Canada to the Texas panhandle. The swift fox does not migrate and is present in Montana year-round (MTNHP 2014b). Preferred habitat for the swift fox is large areas of mostly undisturbed open prairie grasslands. This species either creates or uses existing burrows as dens (MTNHP 2014b). Swift foxes breed in late winter, and pups first emerge from the den by June (MTNHP 2014b).

A reintroduction program for the swift fox on the FPIR was approved in 2005 and individuals were introduced in 2006 and 2009 on the western portion of the FPIR (American Prairie Reserve 2014). The FPIR is currently monitoring the success of the reintroduction program; the minimum known population is 16 swift foxes as of 2010 and 20 foxes have been radio collared to date (Fort Peck Assiniboine and Sioux Tribes 2011).

3.5.2 IMPACTS

Impacts from the alternatives to wildlife are described below.

3.5.2.1 NO ACTION

3.5.2.1.1 WILDLIFE AND FISHERIES

Under the No Action Alternative, existing conditions would continue as described in Section 3.5 and no new impacts to wildlife are expected. Generally, most wildlife including common mammals, big game, upland game species, reptiles and amphibians, and the swift fox will coexist with livestock grazing. However, degradation of habitat could occur if rangelands are overgrazed and proper stocking rates are not utilized. Impacts could occur if wildlife movement and travel is restricted by livestock fencing; however, grazing practices would fully consider upland wildlife habitat and implement measures to mitigate such impacts (e.g., wildlife friendly fences and other measures as described in NRCS [2012]). Impacts could also occur from cattle or buffalo potentially trampling any nests of ground-nesting birds. However, during nesting season (April 15-July 15) no hunting, haying, or grazing activities are allowed within the Manning Lake Wetlands Tribal Wildlife Refuge (WWC Engineering 2011). These impacts would likely be minor, but long-term.

Buffalo could also introduce brucellosis to livestock, or vice-versa; however, measures to monitor the current herds are in place ensuring that no brucellosis exists. Additionally, brucellosis, if present in buffalo or cattle could also infect other wildlife (i.e., elk), or vice-versa; however, measures are in place to prevent the spread of brucellosis (see Section 2.4.4.3).

As occurring in the existing conditions, the Agricultural Program could provide minor positive impacts to wildlife. For example, wildlife could utilize water resources that are provided for the livestock indefinitely. Cropland could also provide temporary feeding areas for some mammals, upland game species, eagles, and migratory birds. Additionally, after croplands are harvested, additional temporary opportunities for raptors and large mammals preying on small mammals and reptiles could occur.

The fisheries and reptiles and amphibians within FPIR could be impacted by degradation of their habitat. Non-point source pollution, or over-use of watering areas could also impact streams and waterbodies as further described in Section 3.3.2. These impacts would be minor and long-term.

3.5.2.1.2 THREATENED AND ENDANGERED SPECIES

Under the No Action Alternative, existing conditions would continue as described in Section 3.5 and no new impacts to threatened and endangered species are expected. Because the black-footed ferret is not known to occur in the Project Area, the Agricultural Program would not affect this species. If the pallid sturgeon were to utilize the Missouri River, impacts to the pallid sturgeon could occur through existing and ongoing agricultural practices impacting the surface water quality along the Missouri River (e.g., crop production and grazing elevating concentrations of nutrients, fecal coliforms, and sediment loads). The primary threats to interior least terns and piping plovers from the Agricultural Program could occur from habitat degradation and disturbance from increased livestock and activity in the area – if they nest along the shoreline of the Missouri River within the Reservation. Agricultural practices (including crop production and grazing) have the potential to negatively impact water quality (i.e., Missouri River) by elevating concentrations of nutrients, fecal coliforms, and sediment loads. In addition, these practices may increase erosion which can raise the sediment input into the Missouri River (Utah State University 2014). Trampling of nests by cattle could also occur if least terns and piping plovers nest in the Project Area, however, it is not likely since least terns have not been identified in the Project Area in the last four years and because most of the existing agricultural activities near the Missouri River are irrigated cropland. Additionally, any potential piping plover nests would likely be on sandbars throughout the Missouri River; cattle could access the Missouri River sandbars; however, this is not likely with the existing water sources in the area.

The primary threats to greater sage-grouse from existing agricultural practices would occur from habitat degradation, loss, and disturbance from livestock and activity in the area. Livestock grazing has been identified as one factor associated with the widespread decline and degradation of sage-grouse habitat, yet Beck and Mitchell (2000) identified both positive (e.g., induced sage-grouse use, stimulated growth of preferred forbs in upland meadows, more availability of food forbs, promotion of grouse food forb recovery in rested units, and improvement of herbaceous plants) and

negative (e.g., deteriorated wet meadow hydrology caused by overgrazing, reduction of grouse habitat, trampling of eggs, and nest desertions, avoidance of heavily grazed meadows in poor condition) impacts. However, many of the negative impacts described above are caused by overgrazing and/or heavy stocking rates. Generally, the average suggested stocking rate is 0.218 AUMs/acre for normal ecological sites and is based on an appraisal of vegetation and soil conditions (NRCS 2014). Additionally, Finnicum (2014b) notes that light-moderate grazing intensity in the FPIR region is approximately 0.2 AUMs/acre. Because overgrazing and heavy stocking rates would not be allowed under the Proposed Action; it is not likely that degradation of habitat would affect sage-grouse. Potential trampling of nests is also more likely with a heavy grazing intensity (Paine et al. 1996), which is not allowed under the Proposed Action. The spread of invasive species could also occur if mitigation measures are not in place; however, measures to prevent the spread of invasive species are in place (Section 2.4).

Similar to impacts to sage grouse, habitat loss, degradation, and fragmentation are the primary threats to the Sprague's pipit - mainly due to overgrazing and/or heavy stocking rates. Many authors studied how Sprague's pipits are generally most abundant in ungrazed grasslands, but also tolerate light to heavy grazing, prescribed burning, and, in some cases, mowing in the previous year (e.g., Dechant et al. 2003; Davis et al. 1999; Lusk 2009; Pipher 2011; and Wilmschurt et al. 2007). Generally, literature suggests that lightly to moderately-grazed pastures have been identified as optimal habitat for pipits throughout much of their breeding range (Dechant et al. 2013). Under the Proposed Action there will be both buffalo and cattle grazing in Sprague's pipit habitat. Comparison of light to moderate stocking rate impacts to Sprague's pipits identified in literature provides support that effects to Sprague's pipits would be minor from grazing under the Agricultural Program.

3.5.2.2 ALTERNATIVE 1

3.5.2.2.1 WILDLIFE AND FISHERIES

Similar impacts to wildlife would occur under Alternative 1, as discussed under the No Action Alternative; however, under Alternative 1, the impacts may occur over a larger area of the Reservation. Expanded agricultural activities, including additional land permitted or leased (if it is not already used for agricultural activities or otherwise developed), could increase the total trust land susceptible to overgrazing, if it occurs, within the FPIR. However, additional improvements or additional water resources for livestock could also benefit wildlife through additional water availability indefinitely. Additional cropland could also benefit foraging species; following harvesting, further prey opportunities could occur temporarily to raptors (including eagles) and predators.

These impacts would be minor and dispersed over the entire Reservation, and measures to avoid or reduce potential impacts from cattle or buffalo grazing would be implemented (Section 2.2.4).

Each individual permit, lease, or associated improvement would be reviewed using a checklist (example provided in Appendix C) to determine whether or not its potential environmental impacts to wildlife and fisheries have been addressed in the PEA.

3.5.2.2.2 THREATENED AND ENDANGERED SPECIES

Similar impacts to threatened and endangered species would occur under Alternative 1, as discussed under the No Action Alternative; however, under Alternative 1, the impacts may occur over a larger area of the Reservation. Expanded agricultural activities, including additional land permitted or leased (if it is not already used for agricultural activities or otherwise developed), could increase the total amount of trust land susceptible to overgrazing, if it occurs, within the FPIR. If agriculture improvements, such as installation of irrigation pumps, were installed then the pallid sturgeon could be impacted. However, guidelines and coordination with the USACOE would be required to avoid impacts from irrigation pumps. Additional agricultural improvements could also disturb least terns or piping plovers if they are nesting adjacent to the improvements.

The primary threats to greater sage-grouse from Alternative 1 (differing from the impacts described under the No Action Alternative) include agricultural improvements from the Proposed Action that could cause surface disturbance and disturbance to mating or breeding individuals. However, per the State of Montana (2014), specific actions within 0.6 mile from the existing leks (further discussed in Section 2.4) would be avoided under the Proposed Action. These measures (and additional measures described in Section 2.4) are consistent with proper livestock management and would avoid potential effects to sage-grouse and their habitat on the FPIR. Conversion of native rangeland to cropland or eradication of sagebrush could also impact sage grouse if this occurred under this Alternative. Addressing cropland conversion of sage grouse habitat on tribal lands would also be considered by BIA in the sage grouse Core Area (also discussed in Section 2.4).

3.5.2.3 ALTERNATIVE 2

3.5.2.3.1 WILDLIFE AND FISHERIES

The same impacts discussed under Alternative 1 would also occur under Alternative 2; however the increase in the number of wild buffalo could further negatively and positively impact wildlife. An increase in the buffalo herds could further degrade riparian and grassland habitat; however, as described in Section 3.4.2, buffalo's foraging behavior also reduces impacts these to habitats (in comparison to livestock). Brucellosis could be a threat to and from wildlife as additional buffalo are relocated onto the Reservation; however measures are in place to prevent the spread of brucellosis (see Section 2.2.4.3).

3.5.2.3.2 THREATENED AND ENDANGERED SPECIES

The threatened and endangered species impacts analysis is described in the BA and BIA coordination with USFWS was completed on February 11, 2015 (Appendix E). The same impacts discussed under Alternative 1 would also occur under Alternative 2; however the increase in the number of wild buffalo could further negatively and positively impact threatened and endangered species. An increase in the buffalo herds could further degrade grassland habitat for the sage grouse and Sprague's pipits; however, as described in Section 3.4.2, buffalo's foraging behavior also reduces impacts these to habitats (in comparison to livestock). Further, buffalo are currently grazing on pastures where specific grassland bird surveys from 2012 to 2014 have been conducted (Ellison 2012b, 2013, and 2014). For the last three years of the study and review of the current detection rates, high-moderate densities of Sprague's pipit (excluding potential impacts from a fire) were recorded and maintained with existing wild buffalo grazing. Therefore, wild buffalo grazing is not expected to adversely affect Sprague's pipits. These impacts are discussed further in the BA.

The USFWS reviewed the BA and acknowledged the determination that the Proposed Action will have no effect on the endangered black-footed ferret. The Service also concurs that the project may affect, but is not likely adversely affect the threatened piping plover, the endangered least tern, and the endangered pallid sturgeon. Additionally, USFWS acknowledged that the Proposed Action would not likely jeopardize the continued existence of the candidate species greater sage-grouse and Sprague's pipit (Appendix E).

3.6 SOILS

3.6.1 EXISTING ENVIRONMENT

3.6.1.1 SOIL RESOURCES

Soil is characterized by horizons, or layers, that can be distinguished from the initial material resulting from additions, losses, transfers, and transformations of energy or matter (Soil Survey Staff 2014). Soil development results from geomorphic processes that operate on the underlying geological materials.

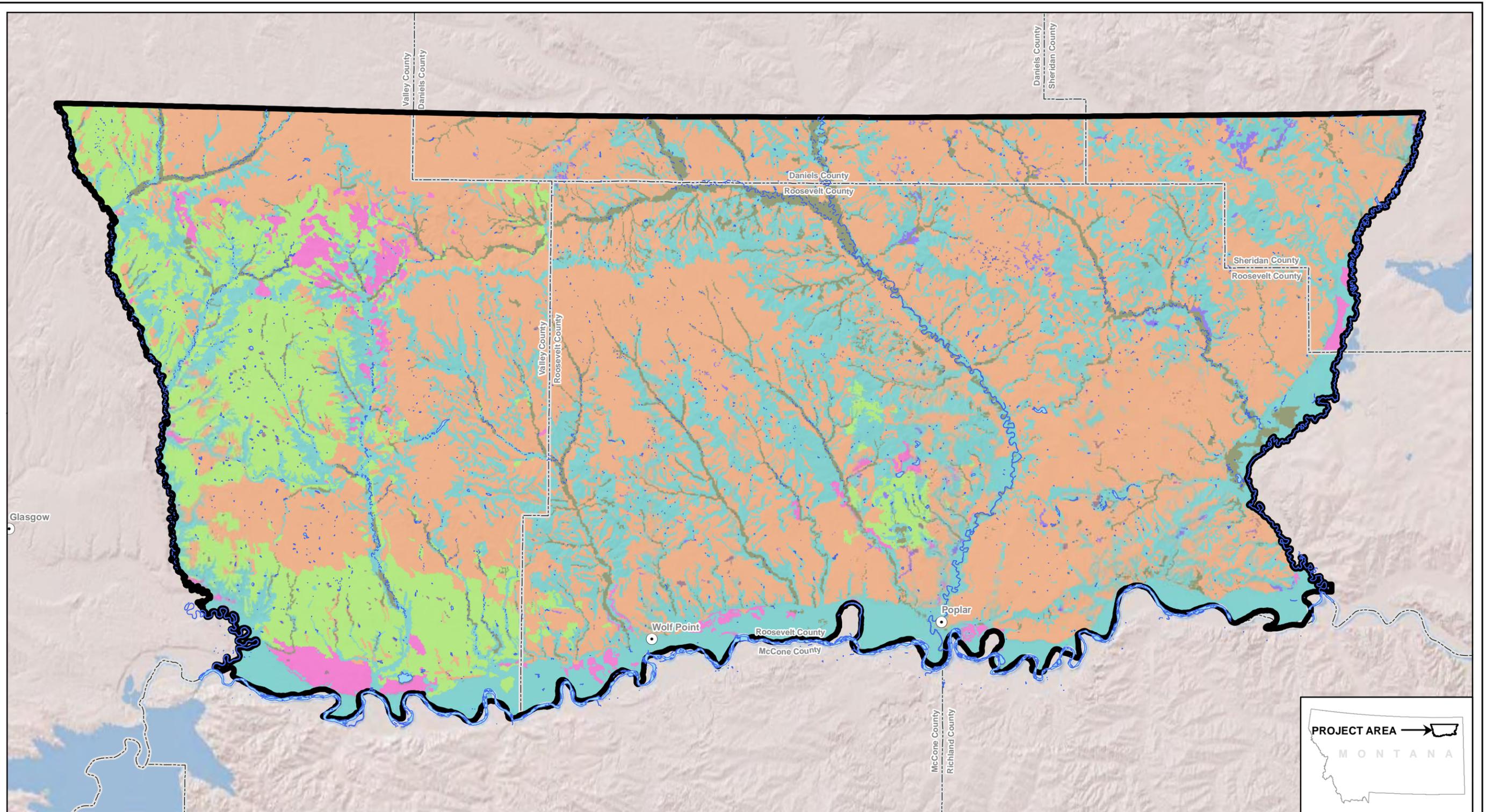
The primary soil forming factors include climate, organisms, topography, parent material, and time (Birkeland 1999). Topology on the FPIR is a significant factor in relation to the location and type of the soil. Topology includes the shape and slope of the landscape, the direction the slope faces (aspect), and the effects of a high water table (Birkeland 1999). FPIR soils are variably located on alluvial fans, stream terraces, relict stream terraces, valley foot slopes, uplands, glacial till plains, hills, outwash plains, and moraines. In addition to these geographic landforms, non-soil areas classified as badlands, are also present.

Floodplains represent nearly 10 percent of the landscape. In general, these soils are poorly drained, resulting in an alkaline surface that is too poor to farm. Moderately steep to steep uplands, terraces, and outwash plains describe nearly 25 percent of the Reservation's landscape. Level to strongly sloping uplands, fans, and terraces represent about 65 percent of the landscape on the FPIR. The soils on the FPIR are mostly very deep and well drained, loamy and clayey textured soils. Generally, higher stocking rates are expected on normal sites (clayey, silty, and sandy) and lower rates are expected on run-off sites (steep, dense clay, gravel, and shallow) (WWC Engineering 2015). The Project Area is differentiated by the following soil series: Beaverton, Farland, Turner, and Williams (Soil Survey Staff, Natural Resources Conservation Service, US Department of Agriculture 2011).

Soils on the Reservation have suffered substantial losses in topsoil and degradation in overall soil health due to the farming of both productive and unproductive acres for decades, and the elimination of grasslands and vegetative cover for the soils (WWC Engineering 2015). Topsoil depths in the northern half of the Reservation average approximately 3 to 6 inches in depth while averaging approximately 6 to 12 inches in depth along the Missouri River bottom and in major tributaries. A notable side effect from topsoil erosion is the increase in soil pH and alkalinity, both of which have a negative impact on the growth potential in soils. The introduction of no-till farming practices have begun to improve the lack of topsoil by allowing organic matter to remain post-harvest and decompose into the topsoil, thus generating additional organic matter in the topsoil horizon (WWC Engineering 2015).

3.6.1.2 SOIL TAXONOMY

Soil taxonomy is comprised of 12 different soil orders, which include: Alfisols, Andisols, Ardisols, Entisols, Gelisols, Histosols, Inceptisols, Mollisols, Oxisols, Spodosols, Udisols, and Vertisols. As shown in Figure (3-7), FPIR primarily consists of Mollisols, followed by Entisols, and some Ardisols on the western portion of the FBIR. These three orders are further discussed below since the majority of the Reservation consists of these orders.



EXPLANATION

- | | | | |
|--|------------------------------|--|-------------|
| | FORT PECK INDIAN RESERVATION | | ENTISOLS |
| | ALFISOLS | | INCEPTISOLS |
| | ARIDISOLS | | MOLLISOLS |
| | OTHER | | VERTISOLS |

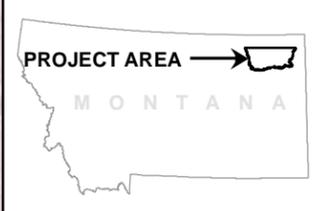


FIGURE 3-7

SOILS

FORT PECK INDIAN RESERVATION MONTANA

1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

Drawn By: BR | Checked By: KM | Scale: 1" = 7 Miles | Date: 2/13/15 | File: Fig3-7_FPIR_Soils11x17.mxd

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3.6.1.2.1 MOLLISOLS

Mollisols are commonly found on the Great Plains and in the western states under grassland vegetation, resembling a thick, dark colored surface horizon. Furthermore, Mollisols can be divided into eight suborders: Albolls, Aquolls, Rendolls, Gelolls, Cryolls, Xerolls, Ustolls, and Udolls. In particular, Ustolls are primarily found on the FPIR in semiarid and sub-humid climates on dry land, irrigated cropland, rangeland, and cultivated lands with an aridic soil moisture regime (Soil Survey Staff, Natural Resources Conservation Service, US Department of Agriculture 2011). Ustolls that contain an argillic subsurface soil horizon are further classified as Argiustolls, which is the primary Ustoll found on FPIR. The Beaverton, Farland, Turner, and Williams soil series that incorporate 65 percent of the FPIR landscape, are all classified as Argiustolls. The four primary soil series comprising a majority of the FPIR are classified as Typic Argiustolls and are further described below.

Typic Argiustoll

All Typic Argiustolls contain an argillic subsurface horizon. An argillic soil horizon is characterized from the illuvial accumulation of phyllosilicate clays forming below the soil surface (Schaetzl and Anderson 2005). Translocation of materials is transferred through the soil profile from one horizon and deposited in the next. This process of illuviation is common on FPIR lands due to very deep, well drained soils. Table 3-5 displays increasing clay content with depth, due to illuviation, from the A horizon to the B horizon in all four soil series, which make up the majority of the FPIR (Soil Survey Staff, Natural Resources Conservation Service, US Department of Agriculture 2011). These loamy/clayey soils are able to support hay crops, rangeland, small grain production, cultivated regions, and irrigated areas that are used for growing alfalfa, beans, and corn. Potential native vegetation is mainly bluebunch wheatgrass, little bluestem (*Schizachyrium scoparium*), western wheatgrass, green needlegrass (*Stipa viridula*), needle and thread, blue grama (*Bouteloua gracilis*), plains muhly (*Muhlenbergia cuspidata*), and prairie junegrass (*Koeleria macrantha*), along with various forbs and shrubs.

TABLE 3-5. SOIL SERIES AND THEIR CHARACTERISTICS WITHIN THE FORT PECK RESERVATION.

Series	Slope (%)	Clay Content (%) ^a	Landform	Taxonomic Class
Beaverton	0-25	10-35	Alluvial fans, stream terraces, hills, outwash plains	Loamy-skeletal over sandy
Farland	0-20	27-35	Terraces, valley foot slopes, and fans on uplands	Fine-silty
Turner	0-15	10-35	Alluvial fans, stream terraces, and relict stream terraces	Fine-loamy over sandy
Williams	0-35	25-35	Glacial till plains and moraines	Fine-loamy

^aClay content (%) represents the amount in the B horizons.



3.6.1.2.2 ENTISOLS

Entisols are the second most common soils that may be encountered on the FPIR (see Figure 3-7). Entisol soils have little or no evidence of development of pedogenic horizons. Many soils found within this soil order, as identified above, have an ochric epipedon. An ochric epipedon is a surface horizon of mineral soils that is too light in color, too high in chroma, too low in organic, or too thin to be classified as any other epipedon. Some Entisols may have steep, very shallow, actively eroding slopes, while others may be located on flood plains that receive new deposits of alluvium at frequent intervals. Dominant suborders included in this soil order include: Aquents, Arents, Fluvents, Orthents, and Psamments. Orthents are located mainly in the Western states, and are the only suborder that would be found on the FPIR. They are commonly found on recently eroded surfaces such as rangeland, pasture, or wildlife habitat.

3.6.1.2.3 ARDISOLS

Aridisols are the third most common soil order located on the FPIR, primarily in the western portion of the FPIR (see Figure 3-7). Aridisols are typically too dry for mesophytic plant development. This soil order presents an aridic moisture regime and an ochric or anthropic epipedon. An aridic moisture regime is one that in normal years has no water available for plants for more than half the cumulative time that the soil temperature at 20 inches below the surface is greater than approximately 41 degrees Fahrenheit. Commonly, the redistribution and accumulation of soluble materials will also occur within the layers of this soil. Dominant suborders include: Argids, Calcids, Cambids, Cryids, Durids, Gypsids, and Salids. Arigids would most likely be the only Aridisol in the FPIR. Argids have an argillic or natric horizon and are used as rangeland or wildlife habitat. Some may also be used as irrigated cropland.

3.6.2 IMPACTS

Impacts to soils from each alternative are described below.

3.6.2.1 NO ACTION

Under the No Action Alternative, persistent soil disturbance, primarily from farm equipment compaction and rutting from both vehicles and hooves, would continue to occur. Areas heavily traveled by existing livestock and wild buffalo herds may exhibit soil compaction, therefore increasing the bulk density and negatively affecting the water holding capacity of the soil. These minor and temporary impacts would be most significant post-precipitation, when the ground is most susceptible to an increase in bulk density. Increasing bulk density restricts water movement throughout the soil profile, therefore decreasing soil moisture, and inhibiting plant development. Generally, these areas display decreased vegetation cover and alter the plant species composition (for more information on impacts to vegetation, see

Section 3.4.2). Over a longer period of time, seasonal heavy compaction can alter soil properties as well (Kaufman and Krueger 1984).

Overgrazing by livestock or wild buffalo can result in poor soil stability. However, if the herds are managed properly under grazing management plans, soils on the FPIR can maintain composition with slight continued erosion.

Mollisols, which make up the majority of the FPIR, are least susceptible to erosion. Mollisols are also able to support sustainable crop growth. In addition, Typic Argiustolls, which contribute to 65 percent of the FPIR landscape, provide more resistance against erosion than other soils present on the Reservation, and therefore, impacts are likely minor and long-term. Endisols and Andisols are more likely to be affected by erosion due to their location on steeper slopes and being composed of a shallower soil. Minor, long-term impacts could occur to soil orders that are susceptible to erosional deposition; however, soil orders would not be greatly affected by agricultural activities and bison compaction due to their sparse location on mostly inaccessible terrain.

3.6.2.2 ALTERNATIVE 1

Under Alternative 1, agricultural impacts to soils would be the same as described under the No Action Alternative, but the impacts would be expanded across the Reservation. It is anticipated that soil loss impacts may be greater under this alternative due to an increase in the land available for agricultural production. (Note: soil losses would only be greater under this alternative if the new leased/permitted land is not currently used for cropland or grazing). However, impacts to soil would be reduced to negligible or minor with the implementation of measures in the ARMP (provided in Section 2.2.4). For example, the soil quality and stability of tribal and allotted dryland acres would be improved through actively promoting and engaging in BMPs to improve soil condition and by developing a grazing program for each grazing unit. These measures would aid in soil recovery and reduce soil losses, while also increasing the desired plant yields that farmers seek. Fencing implementation would pose temporary soil disturbance. However, temporary impacts would be negligible as long as implementation was performed on dry ground, in order to avoid rutting from fencing equipment.

Lease rates (irrigable and dryland) and AUMs for range units are determined by soil classification and health. Therefore, each soil classification and its relative production are considered in renewing leases and granting permits. Each individual permit, lease, or associated improvement would be reviewed using a checklist (example provided in Appendix C) to determine whether or not its potential environmental impacts to soils have been addressed in the PEA. The checklist would ensure that the site specific information falls within the parameters of the programmatic impacts that are analyzed in the PEA. Inventories developed by NRCS (2014) for range units and farm pasture land in

cooperation with the Tribes and BIA provide further specific information on soils that would be utilized for the site specific checklist.

3.6.2.3 ALTERNATIVE 2

Impacts under Alternative 2 would be the same as those described under Alternative 1. In addition, an increase in the wild buffalo herds may affect soil properties and alter the plant species composition. However, the additional buffalo numbers would be kept at or below carrying capacity for the grazing units, and overgrazing impacts are not expected. These range units would be inspected annually to monitor range condition and health by the Tribes' Natural Resources Department.

3.7 RECREATION

3.7.1 EXISTING ENVIRONMENT

Recreational activities in the Project Area consist primarily of outdoor activities, such as fishing, hunting, camping, boating, and seasonal cultural and community events.

3.7.1.1 HUNTING AND FISHING

Fort Peck tribal members and non-tribal members with proper tribal licenses and stamps may hunt (upland game birds or antelope) or fish on the Reservation. The FPIR is well known for a diverse population of upland game birds, including sharp-tailed grouse, Hungarian partridge, and ring-necked pheasant (Magnan et al. 2003). Most of the fishing and boating activities on the FPIR occur in reservoirs, creeks, and rivers including on the Manning Lake Wetland Complex and Tribal Wildlife Refuge (southeast portion of the Project Area).

Common fish caught in and around the Reservation include, but are not limited to: walleye (*Sander vitreus*), northern pike (*Esox lucius*), channel catfish (*Ictalurus punctatus*), paddlefish (*Polyodon spathula*), small mouth bass (*Micropterus dolomieu*), crappie (*Pomoxis* spp.), yellow perch (*Perca flavescens*), freshwater drum (*Aplodinotus grunniens*), sturgeon (*Scaphirhynchus* spp.), and rainbow trout (*Oncorhynchus mykiss*) (Indian Health Services 2014).

Hunting and fishing regulations vary on the Reservation depending on tribal affiliations, game species, and seasons. Hunters and fishers must obtain permission from landowners hunt or fishing on private, fee, deeded, or allotted land. In addition, hunting is not allowed in the Manning Lake Wetlands Wildlife Refuge during nesting season of local and migratory birds (WWC Engineering 2011). Hunting fees for non-tribal members range from \$5 to \$110, and hunting is restricted to game birds and antelope. Hunting season dates for non-tribal members on the Reservation follow those

established by the State of Montana, while tribal members are subject to the Tribes' established hunting season dates (Magnan 2014b). Note: sage-grouse season is currently closed due to very low population numbers (Fort Peck Tribes Fish and Game Department 2010). Fishing fees for Montana residents are \$10 per stamp and tag and \$20 per stamp and tag for out of state residents. Fishing is open year round and includes open water and ice fishing (Fort Peck Tribes Fish and Game Department 2014).

In addition to hunting upland game birds and antelope, supervised buffalo hunts are also available for both tribal and non-tribal members. Buffalo hunt prices depend on the sex, weight, and age of the animal, but current prices range from \$1,000 to \$6,000 per animal (Fort Peck Tribes Fish and Game Department 2010; Magnan 2014c). Buffalo hunts are allowed year-round, and the number of hunts allowed per year is set by the Tribes and is based on the number and age of buffalo in the business herd. The hunts are awarded via a lottery (Magnan 2014b).

A 2002 survey conducted by the Fort Peck Fish and Game Department identified that in addition to purchasing stamps and licenses for hunting, visitors also expressed interest in other attractions for local history and geography, local culture, and entertainment (which are further discussed below) (Magnan et al. 2003).

3.7.1.2 OTHER RECREATIONAL OPPORTUNITIES

Seasonal cultural and community events include Poplar Indian Days, which is normally scheduled over Labor Day weekend. Poplar Indian Days is a Pow wow held on the eastern boundary of Poplar to celebrate native culture and traditions (Montana.Gov 2010). Other events include the Red Bottom Celebration in June, the Badlands Celebration in June, the Fort Kipp Celebration in July, and the Wadopana Celebration in August (Montana.Gov 2014b). Additionally, the Fort Peck Assiniboine and Sioux Culture Center and Museum located in Poplar, Montana features permanent exhibits of tribal heritage, arts, and crafts (Montana.Gov 2014c).

Numerous sports opportunities are also offered for all ages. For example, youth sports include little league, soccer, baseball, basketball, football, wrestling, softball, volleyball, and swimming. Sport opportunities for adults include softball, basketball, golf, racquetball, horseback riding, bowling, rodeo, tennis, water skiing, and boating (Indian Health Services 2014).

Other recreational opportunities exist on the Reservation. For example, many visitors camp on or near the Manning Lake Wetland Complex and Tribal Wildlife Refuge. Also, gambling is available at the Silver Wolf Casino, Tribal Casino and Express, and at several other locations throughout the Reservation with gaming machines.

3.7.2 IMPACTS

Effects to recreation would be considered adverse if they decrease recreational opportunities on the FPIR and decrease the appeal of the setting for some people.

3.7.2.1 NO ACTION

There would be no new impacts to recreation under the No Action Alternative. Recreational opportunities would not be decreased because agricultural activities are already occurring and have historically been occurring on the lands currently leased and permitted. The recreational experience may be impacted by the seasonal presence of farm equipment and related truck traffic and livestock relocations to/from grazing areas; however, the impacts would be short-term and minor in nature and dispersed throughout the Reservation. In addition, the general hunting seasons for upland game birds and antelope begin in early October, by when most of the crops would be harvested.

3.7.2.2 ALTERNATIVE 1

Impacts to recreation under Alternative 1 would vary depending on the level and location of new development related to the leasing or permitting of additional trust lands and any associated improvements (if the land is not already used for agricultural activities or otherwise developed). Similar to the impacts discussed under the No Action Alternative, the recreational experience may be impacted by the seasonal presence of farm equipment and related truck traffic and livestock relocations to/from grazing areas. However, the impacts would be minor and short-term in nature and dispersed throughout the Reservation.

New development could impact hunters, if undisturbed land is leased or permitted, and the development of the land for crops or grazing displaces game species. Disturbance and activity in an otherwise undeveloped area would potentially affect the number and distribution of game species, which could impact the quality of the hunting experience. However, most crops would be harvested before the upland game bird and antelope seasons commence, so impacts are likely negligible and temporary, if any.

Positive impacts from agricultural improvements could also occur. A positive impact to the recreational experience for hunters would be the construction of new roads which could provide access to new areas for hunting, and the Tribes' acquisition of more land could provide additional locations for hunting. Additional livestock water areas could also benefit hunters if wildlife use them for watering sources.

Each individual permit, lease, or associated improvement would be reviewed using a checklist (example provided in Appendix C) to determine whether or not its potential environmental impacts to recreation have been addressed in the PEA.

3.7.2.3 ALTERNATIVE 2

Impacts to recreation under Alternative 2 would be the same as those discussed under Alternative 1. However, there would be a major long-term positive impact to recreation. An increase in the number of wild buffalo, particularly the business herd, would result in more buffalo hunts available per year, which would benefit interested hunters. The demand for buffalo hunts is higher than their availability. In 2014, there were 40 buffalo hunts available, yet 214 people applied for those hunts (Magnan 2014b).

3.8 VISUAL RESOURCES

3.8.1 EXISTING ENVIRONMENT

The visual resources of the Project Area and vicinity are typical of the glaciated portion of the Missouri Plateau Great Plains physiographic region. This region is characterized by fertile soils, expansive prairie of grasslands/rangelands and agricultural crops, cottonwood lined river valleys, and wide panoramic vistas with a dominating sky.

The most densely populated region of the Reservation is concentrated along US Highway/Route 2 which runs along the southern part of the FPIR through Wolf Point and Poplar. The total population of this area is approximately 3,000 (US Census Bureau 2014).

A large portion of the land within the FPIR has been culturally modified primarily through farming and grazing. Agricultural areas within the FPIR include residences and structures such as barns, irrigation systems, grain storage structures, fences, irrigation canals and ditches, haystacks, silos, and other outbuildings. Livestock can also be seen within the grasslands/rangeland areas.

Land on the FPIR has also been modified by mineral extraction and production. Mineral extraction includes oil and gas wells in various stages of development, with drilling rigs and associated tanks and outbuildings for the short-term drilling phase, and pumpjacks and associated tanks for the long-term production phase.

Views of the landscape on the FPIR are available from various highways and roads within the Reservation and vicinity (see Section 3.13 Transportation for more information on various highways and roads).



3.8.2 IMPACTS

Neither the Tribes nor the BIA has established a formal visual resource classification system for the Reservation; impacts to visual resources are described below.

3.8.2.1 NO ACTION

Under the No Action Alternative, there would be no new impacts to visual resources. Existing agricultural activities and associated impacts would continue. These impacts include continued erosion and soil loss, noxious weed spread, and the seasonal presence of farm equipment and associated traffic. These impacts would be long-term (erosion/soil loss) or short-term (presence of equipment) and minor and dispersed throughout the entire Reservation. A positive major visual impact is the presence of buffalo on the Reservation. Buffalo are culturally significant to the Tribes, thus views of the herds on trust lands result in long-term positive visual impacts for traditional purposes.

3.8.2.2 ALTERNATIVE 1

Under Alternative 1, impacts to visual resources would be similar to those discussed under the No Action Alternative, but they may occur over a larger area of the Reservation. Expanded agricultural activities, including additional land permitted or leased (if it is not already used for agricultural activities or otherwise developed), would modify the landscape by introducing new lines, colors, forms, and textures within the FPIR. Visual impacts would also increase as agricultural improvements are constructed and introduced as new visual elements to the landscape. Most noticeable would be the introduction onto the existing landscape of regular geometric shapes with smooth textures associated with new crop fields and the construction of fences and structures associated with the agricultural activities. These long-term impacts would be dispersed over the entire Reservation, and measures to avoid or reduce potential impacts to visual resources would be implemented (see Section 2.2.4). For example, a noxious weed control and management plan would be implemented which would reduce the impacts to visual resources caused by the spread of noxious weeds.

Each individual permit, lease, or associated improvement would be reviewed using a checklist (example provided in Appendix C) to determine whether or not its potential environmental impacts to visual resources have been addressed in the PEA.

3.8.2.3 ALTERNATIVE 2

The same impacts discussed under Alternative 1 would also occur under Alternative 2; however the increase in the number of wild buffalo would be a major positive impact to visual resources. As discussed under the No Action Alternative, buffalo are a culturally significant species to the Tribes. The presence of two wild buffalo herds roaming

within the Reservation as they did historically is an important visual impact as it provides a potential long-term cultural connection between the viewer and the species.

3.9 CULTURAL RESOURCES

Cultural resources are remnants of past human activity that, as a general rule, are greater than 50 years of age. Cultural resources can be present within landscapes as districts and sites (including both precontact and historic sites). Districts are groups of buildings, structures, and sites that are linked historically by function, theme, or physical development (Little et al. 2000). The individual buildings, structures, and sites are most often contiguous within the district, but they can also be non-contiguous. Sites are the locations of a significant event or of past human occupation or activity (Little et al. 2000). Sites are identified by the presence of artifacts and/or features that may have the capacity to yield important information about aspects of human history and cultures. Isolated finds are characterized by solitary artifacts or sparse groupings of artifacts. Isolated finds normally lack the capacity to yield information important to human history and cultures, but may be indicative of a larger site or complex as yet not identified.

Cultural resources also include Traditional Cultural Properties (TCPs). A TCP is a place defined by its historical association with the beliefs, customs, and/or practices of an existing community and its continuing, contemporary importance in maintaining that community's cultural identity. TCPs can include places used for, or in association with, religious, spiritual, ceremonial, medicinal, or subsistence practices, customs, or beliefs. Archaeological and historic cultural resource sites and/or features including (but not limited to) rock imagery, rock alignments, stone circles, and cairns may comprise TCPs, as can natural topographic features or areas, material or plant source areas, whether or not the areas include anthropogenic characteristics. TCPs are generally considered eligible for nomination to the National Register of Historic Places (NRHP) if they are associated with cultural practices or beliefs of a living community that are: (a) rooted in the community's history and (b) important in maintaining the continuing cultural identity of the community (Parker and King 1990). Culturally sensitive locations, which may not be considered eligible for nomination to the NRHP, may still be protected under the American Indian Religious Freedom Act.

3.9.1 EXISTING ENVIRONMENT

Cultural resources listed in or eligible for nomination to the NRHP constitute the affected environment. The eligibility of a cultural resource for the NRHP is dependent upon the resource's *...quality of significance in American history, architecture, archaeology, and culture present in districts, states, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association* (Little et al. 2000). The cultural resource must have a level of significance that meets one or more of the following Criteria for Evaluation established by 36 CFR 60.4 to be considered eligible for nomination to the NRHP:

- Criterion A: Association with events that have made a significant contribution to the broad patterns of our history.
- Criterion B: Association with the lives of persons significant in our past.
- Criterion C: Embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D: Have yielded, or may be likely to yield, information important in prehistory or history.

Cemeteries and properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, commemorative properties, and reconstructed historic buildings and structures, while typically not considered eligible for listing on the NRHP, may be included if they can qualify under one of the four Criteria and the site retains sufficient integrity to represent its historical or cultural significance.

Cultural resources files maintained by the Montana State Historic Preservation Office (SHPO) indicated that 553 cultural resources surveys had occurred on FPIR trust lands as of September 2014. The surveys occurred on a total of 42,935 acres of trust lands, or less than 4 percent of the trust lands on the FPIR (Murdo 2014). Surveys were conducted for a variety of proposed projects, including but not limited to oil and gas exploration, transmission lines, pipelines, highways, and housing developments.

FPIR trust lands occur in parts of 115 legal land townships, and SHPO records include documentation of 1,402 cultural resources within those whole townships (Murdo 2014). A more pertinent estimate of the presence of cultural resources on FPIR trust lands may be the results of surveys conducted for a large seismic project on trust lands in late 2013, results of which have not yet been included in SHPO records. Approximately 1,500 cultural resources were identified by professional archaeologists and tribal monitors within about 500 miles of 75-foot wide corridors primarily in uncultivated lands within a 279,000 acre block area in the eastern portion of FPIR (Harty 2014). The apparent site density of one site per 3 acres may over-represent site distribution for FPIR trust lands as a whole, because (1) the survey was conducted primarily on uncultivated lands, where certain types of sites are relatively likely to exist; (2) some of the sites were identified by tribal monitors and may be elements of other identified sites; and (3) surveys conducted for other projects have indicated lower site occurrences.

Recorded resources include archaeological sites dating as early as the Middle Archaic Period (approximately 7,500 before present [BP] to 2,000 BP), an historic Indian Agency, an historic district, and historic churches, schools, and other historic structures. The majority of previously recorded cultural resources in the study area are archaeological sites dating from the period before contact with Euro-Americans. These sites are typically either stone feature sites or cultural material scatters composed of lithic artifacts. In general these types of sites are located along ridges and hill tops overlooking drainages. Stone feature sites in particular are easily disturbed by cultivation, and therefore are relatively seldom found in tilled lands. Conversely, cultural material scatters may become more apparent as artifacts are brought to the surface by tilling, and because the ground surface is more visible in tilled areas than in grasslands or woodlands.

TCPs are known to exist on trust lands within the FPIR. The THPO has information regarding some TCPs as a result of cultural resources investigations, but a systematic inventory of TCPs has not been completed. TCPs may also exist on non-trust lands within the FPIR that could be obtained by the Tribes.

3.9.2 IMPACTS

Impacts from the alternatives to cultural resources are described below.

3.9.2.1 NO ACTION

Cultural resources of various types, as described in Section 3.9.1, may be subject to adverse impacts from ground-disturbing activities, including construction of roads, fences, pipelines, and transmission lines; from establishment and use of two-track vehicle paths; and from changes in land use that result in removal of historic structures or tillage of previously undisturbed ground surface and subsurface. Grazing may also result in adverse impacts, particularly if vegetation is over-grazed to the extent that soil erosion occurs, if animal use patterns result in establishment of incised trails through cultural resources, or if areas near water sources are degraded by concentrated and prolonged animal usage. Grazing may also result in dislocation of stones in stone features, usually in conditions of over-grazing where sod ground cover is degraded. Adverse impacts to TCPs may occur as a result of any activity that removes a location or natural resource from continued traditional uses or impedes such uses, including impedance of access through fencing, increasing public access to areas used for traditional spiritual purposes, or the removal of certain plants through grazing, tillage, or application of herbicides.

The No Action Alternative would allow the BIA and the Tribes to continue leasing and permitting under existing procedures and documentation. Current procedures include consideration of potential impacts to cultural resources principally under provisions of Section 106 of the National Historic Preservation Act (36 CFR 60) and the Tribes'



Cultural Resource Protection Ordinance (Ordinance). Areas in which ground-disturbing activities may occur are surveyed for presence of cultural resources, any cultural resources present are evaluated for eligibility for the NRHP, and the potential is assessed for the proposed action to affect eligible properties. If potential adverse effects are recognized, the proposed project may be altered to avoid or lessen impacts to eligible properties, and/or the impacts may be mitigated to preserve the scientific and cultural values of the affected property to the extent possible and reasonable. Cultural properties will be avoided and if this cannot be achieved, then BIA will mitigate through consultation with the THPO, for an action which will reduce the adverse impact to the cultural properties. In the event of an inadvertent discovery the project shall halt in the immediate area. The cultural property will be secured and protected. Notification of inadvertent discovery shall be communicated to the Fort Peck THPO and the BIA Rocky Mountain Region. Fort Peck THPO and BIA, in consultation, will determine the treatment of cultural property. The project may continue after proper treatment of the cultural property is completed.

Presence of TCPs may not be readily evident in physical manifestations. Project planners should consult with the THPO regarding the potential for presence of TCPs within leasing or permitting areas.

Cultural resources surveys have occurred in only a small portion of lands involved in the Agricultural Program, and therefore the potential for impacts to NRHP-eligible cultural resources in general is largely unknown. However, through the process described above, the No Action Alternative is unlikely to result in significant impacts to cultural resources.

3.9.2.2 ALTERNATIVE 1

The potential for impacts to cultural resources under Alternative 1 is similar to that of the No Action Alternative. In addition, if undeveloped land is leased, permitted, or used for improvements, additional cultural resources could be discovered and potentially impacted. However, the process outlined above would minimize the potential for potential impacts, and protection of cultural resources may be enhanced under Alternative 1 through stipulations outlined in Section 2.2.4 and detailed in Appendix B of this PEA and through use of NEPA documents tiered from this PEA.

Each individual permit, lease, or associated improvement would be reviewed using a checklist (example provided in Appendix C) to determine whether or not its potential environmental impacts to cultural resources have been addressed in the PEA.

3.9.2.3 ALTERNATIVE 2

The potential for impacts to cultural resources under Alternative 2 is identical to that of Alternative 1. Expanding the wild herds of buffalo would provide a living context for some archaeological resources, particularly stone features that represent pre-contact and early contact era life ways that largely depended on hunting of buffalo. The attraction of tourism and harvest of buffalo would also provide opportunities for broader public understanding of the culture of the Assiniboine and Sioux people.

3.10 SOCIAL AND ECONOMIC ENVIRONMENT

The socioeconomic analysis describes the existing conditions of the Project Area. Data on current population, employment, unemployment, income, and tax revenue are highlighted below.

3.10.1 EXISTING ENVIRONMENT

The FPIR has a lower level of college-level educational attainment and a less diversified economy, as well as a younger population and a higher Native American population than the State of Montana as a whole. For example, the proportion of the statewide population attaining higher levels of education such as a bachelor's degree or graduate degree are higher than exhibited within the FPIR.

The FPIR comprises approximately 1 percent of Montana's total population, and 12 percent of Montana's American Indian population. There are an estimated 11,786 enrolled tribal members, of whom approximately 6,000 reside on or near the Reservation (Montana.Gov 2014b). In 2010, the Reservation's total population was 10,008, including an American Indian population of 6,714 (Fort Peck Assiniboine and Sioux Tribes 2013a). The median age on the Reservation was 30.3, and 39.9 in Montana (US Census Bureau 2014). Over the 2008-2012 period, approximately 41 percent of FPIR residents age 25 years and over were high school graduates (or equivalent) and 15 percent had a bachelor's degree or higher. Over the same period, approximately 30 percent of Montana residents age 25 years and over were high school graduates (or equivalent) and 28 percent had a bachelor's degree or higher (US Census Bureau 2014).

Over the 2008-2012 period, the FPIR had a labor force of 3,616, of which 3,461 were employed resulting in a 4 percent unemployment rate. Over the same period, the State of Montana had a 7 percent unemployment rate (US Census Bureau 2014). Despite the lower unemployment rate and higher percentage of high school graduates on the Reservation, the median household income was \$38,635; almost \$7,000 less than that of the State of Montana.

Jobs in educational services, health care, and social assistance accounted for the largest share of those employed on the Reservation (31 percent), followed by public administration (17 percent), and agriculture, forestry, fishing, hunting, and mining (16 percent). The Tribes supply the majority of employment on the Reservation, which provides work for 400 employees (Montana.Gov 2014b). The educational services, health care, and social assistance industry also lead employment in the State of Montana at 23 percent, while retail trade, the State's second largest employment industry, had 12 percent. Arts, entertainment, and recreation and accommodation and food services accounted for the third largest share of Montana employment at 11 percent (US Census Bureau 2014).

3.10.1.1 LOCAL TRIBAL ECONOMY

Crop production makes up the majority of the local agricultural economy and drives a significant portion of the overall economy within the Reservation (WWC Engineering 2015). The agricultural industry also drives a majority of business within the region, whether it is direct agricultural production such as sale of commodities or indirect such as equipment, chemical sales, fuel sales, etc. Economic conditions in the area, with exception to oil production in far eastern Montana, largely follow the trends and market prices of the commodities produced in the area, like small grains and cattle (WWC Engineering 2015). FPIR residents employed in the agriculture, forestry, fishing, and hunting industry earned an annual wage of \$27,337 between 2009 and 2011. The employment for that industry grew by 25 percent between 2009 and 2011 (Fort Peck Assiniboine and Sioux Tribes 2013a). Experts forecast small grain production from northeast Montana (including the FPIR) to continue to increase for the foreseeable future with modifications in farming techniques.

The permitting and leasing of trust lands for agricultural activities on the Reservation is a source of income for both the Tribes and allottees. In 2013, over \$1.4 million was paid to the Tribes and allottees in permit and lease fees (further discussed below) (Walking Eagle 2014b; Berger 2014). In addition, the Tribes earn money on supervised buffalo hunts throughout the year.

3.10.1.1.1 PERMITTING

The fee for trust lands permitted under allocation is \$16 per AUM for tribal land and \$18.40 per AUM for allotted land with \$3 per AUM set aside for range improvements and \$3 per AUM set aside for rangeland purchases. The minimum fee for lands not permitted under allocation is \$20 per AUM. (Note: allocation is the appointment of grazing privileges to qualified livestock operators without competitive bidding. See the Land Use Policy [Appendix B] for more information). These rates are reassessed every five years, and owners of allotted lands may stipulate different rates under certain conditions. In 2013, the fees collected by the Tribes and allottees for grazing permits totaled approximately \$1,370,400 (Walking Eagle 2014c).

3.10.1.1.2 LEASING

All trust land lease rates for dryland are determined from the soil value assigned to the tract. Irrigable farm acreage lease rates are based on soil classification for tribally owned irrigated land. The relative productivity of the soils system is used to determine tribal land lease rates. The average tribal member lease rates for dryland and irrigable farm acreage is 47 percent of the soil value and the non-tribal lease rate is 80 percent of the value. All operation and maintenance charges associated with the tract are paid by the lessee. Rates for irrigable and sub-irrigated native hay lands are a minimum of \$8 per acre, plus all operation and maintenance charges, including any and all water charges. Rate structure for native grass hay leases are \$5 per acre plus all operation and maintenance charges, including any water charges, if applicable. All funds derived from the difference between the rate of \$8 per acre and the soil classification rate are deposited in the Irrigation Improvement Fund, and those funds are used for purchase of irrigated tribal land improvements and potentially irrigable land (Appendix A). In 2012, the fees collected by the Tribes and allottees for farm pasture leases totaled approximately \$70,390 (Berger 2014).

3.10.1.1.3 BUFFALO HUNTS

A specific number of supervised buffalo hunts are allowed each year on the Reservation. The number of buffalo hunts per year is set by the Tribes Fish and Game Department and is based on maturing the population of the business herd. In 2014, there were a total of 40 buffalo hunts allowed, 20 of which were available for tribal members and the other 20 for nontribal members. The prices for the hunt are dependent on the age, sex, and weight of the buffalo killed. Prices range from \$1,000 to \$6,000 per animal (Fort Peck Tribes Fish and Game Department 2010; Magnan 2014c). In 2014, the Tribes earned approximately \$30,000 in revenue and \$26,000 in donations for buffalo hunts (Magnan 2014c).

3.10.2 IMPACTS

Impacts to the social and economic environment under each alternative are described below.

3.10.2.1 NO ACTION

There would be no impacts to the socioeconomic condition of the FPIR under the No Action Alternative. Unemployment and poverty rates would stay the same, and the Tribes and allottees would continue to earn relatively the same amount from leases, permits, and buffalo hunts, local live meat sales, and buffalo sales to livestock markets. However, without the implementation of measures from the ARMP, income from agricultural activities could be reduced if soil and pasture health is not maintained.

3.10.2.2 ALTERNATIVE 1

There would be positive long-term socioeconomic impacts to both the Tribes and allottees under Alternative 1. The additional land available for leasing or permitting would bring in more money to the Tribes and/or allottees in the form of fees. The additional land available could also increase the amount of available jobs on the Reservation, because of increased agricultural operations and/or provide the opportunity for new farmers/ranchers to lease or permit land on the FPIR. The increase in available jobs would be a major beneficial impact. The expanded agricultural activities would increase the economic base for the Tribes and the allottees who depend on the land for income. The measures to avoid or reduce potential impacts (Section 2.2.4) would be essential for continuing the economic returns on the land used for agricultural operations by ensuring proper management (husbandry) of the land is exercised. For example, a soil quality improvement strategy would be implemented for all trust lands. This could increase the crop yield, thereby increasing long-term economic gains to the Tribes or allottee(s).

Each individual permit, lease, or associated improvement would be reviewed using a checklist (example provided in Appendix C) to determine whether or not its potential environmental impacts to socioeconomics have been addressed in the PEA.

3.10.2.3 ALTERNATIVE 2

Socioeconomic impacts would be the same under Alternative 2 as those discussed under Alternative 1. However, the increase in the number of wild buffalo would also impact socioeconomic conditions on the Reservation. An increase in the business herd would result in an increased number of buffalo available for hunts, local live meat sales, and buffalo sales to livestock markets, all of which would bring in more money to the Tribes and provide long-term benefits.

3.11 ENVIRONMENTAL JUSTICE

Environmental Justice is defined by the USEPA as *...The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people including racial, ethnic, or socioeconomic groups should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies* (USEPA 1998).

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, tasks ...each Federal agency [to] make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high adverse human health and environmental effects of its programs, policies, and activities on minority populations and low income populations.

The memorandum accompanying EO 12898 states that each federal agency shall analyze the environmental effects, including human health, economic, and social effects, of federal actions, including effects on minority communities and low-income communities, when such analysis is required by NEPA (Clinton 1994).

The key parameters addressed within this section for environmental justice are race/ethnicity and measures of social and economic well-being, including per capita income and poverty rates. The environmental justice analysis is conducted for the Reservation, the four counties that comprise the Reservation (Daniels, Roosevelt, Sheridan, and Valley counties), and the State of Montana.

3.11.1 EXISTING ENVIRONMENT

In 2010, American Indians comprised 67 percent of all residents on the FPIR. In comparison, American Indian populations ranged between 2 and 61 percent of all residents in the four counties making up the Reservation. Table 3-6 summarizes minority population characteristics for the FPIR and the four counties comprising the Reservation.

TABLE 3-6. MINORITY POPULATION CHARACTERISTICS OF THE FPIR AND SURROUNDING COUNTIES

	Total Population	American Indian Population	Percent American Indian
Fort Peck Reservation	10,008	6,714	67%
Daniels County	1,751	37	2%
Roosevelt County	10,425	6,316	61%
Sheridan County	3,384	57	2%
Valley County	7,369	730	10%

Source: Fort Peck Assiniboine and Sioux Tribes 2013a

Note: The four surrounding counties each contain portions of the FPIR, which, in some cases, increase their share of American Indian population substantially. Roosevelt County, Montana, is almost completely encompassed within the boundaries of the FPIR (Montana Department of Labor and Industry 2012). Because of this, demographic and economic characteristics of Roosevelt County closely reflect those of the Reservation.

With respect to low-income populations, the incidence of poverty on the FPIR is much higher than within neighboring counties and the state as a whole. Table 3-7 illustrates the per capita income and poverty rates for the Reservation, the four surrounding counties, and for the State of Montana. Over the 2008-2012 period, the average per capita income for the Reservation (\$16,729) was 49 percent lower than the per capita income for Montana (\$25,002), and at least



\$1,000 lower than the county with the closest per capita income (Roosevelt County with a \$17,758 per capita income). Further, the proportion of residents on the Reservation living in poverty was almost twice as high as those living in poverty statewide.

TABLE 3-7. AVERAGE INCOME AND POVERTY RATES (2008-2012)

Location	Per Capita Income	Poverty Rate
Fort Peck Reservation	\$16,729 ^a	24.9% ^a
Daniels County	\$28,440	11.5%
Roosevelt County	\$17,758	21.9%
Sheridan County	\$29,569	10%
Valley County	\$24,462	13.6%
Montana	\$25,002	14.8%

Source: US Census Bureau 2014

^a This includes estimates for both the Fort Peck Reservation and off-Reservation trust land.

With approximately 25 percent of its population living below the poverty line and 67 percent of its population being of American Indian Ancestry, the Fort Peck Reservation contains both low income and minority communities. As a result, the population in the area is considered an environmental justice population where, under the requirements of the EO 12898, analysis of the disproportionate impacts of the proposed project is required.

3.11.2 IMPACTS

This section examines whether any adverse environmental, human health, or other effects identified in conjunction with the alternatives would be disproportionately high and adverse with regard to their incidence on minority or low-income communities on the FPIR or specific sub-sets of that population. In general, the environmental, health and safety, and other effects of past, ongoing, and future agricultural activities are undifferentiated for residents of the FPIR and residents in the surrounding area.

3.11.2.1 NO ACTION

Under the No Action Alternative, agricultural activities would continue and there would be no discernable effects to the environmental justice communities on the FPIR.

3.11.2.2 ALTERNATIVE 1

Under Alternative 1, the increase in the amount of land available for permitting or leasing and the associated improvements would not result in disproportionately high and adverse impacts to the environmental justice population. Agriculture is a prominent industry both on the Reservation and in that region of Montana. In addition, agricultural activities may already be occurring within those tracts that could be used for additional permitting and leasing, and similar agricultural activities are actively occurring in the areas surrounding the Reservation.

Each individual permit, lease, or associated improvement would be reviewed using a checklist (example provided in Appendix C) to determine whether or not its potential environmental impacts to environmental justice populations have been addressed in the PEA.

3.11.2.3 ALTERNATIVE 2

The same impacts discussed under Alternative 1 would apply under Alternative 2. The increase in the number of wild buffalo would not impact the environmental justice population.

3.12 GEOLOGY, MINERALS, AND PALEONTOLOGY

3.12.1 EXISTING ENVIRONMENT

3.12.1.1 GEOLOGY AND MINERALS

The FPIR is regionally located on the Williston Basin (Figure 3-8). This roughly circular depression covers approximately 300,000 square miles of western North Dakota and eastern Montana, as well as adjacent parts of South Dakota and Canada. Interbedded clastics and evaporites predominantly make up this dispositional carbonate basin (US Department of Energy [DOE] 2013). Both marine and organic rich shale, along with marine or fluvial sandstone, comprise the clastic elements. The sedimentary evaporites deposited from soluble salts, are primarily tidal flat, bioherm/reefs, or sabkha deposits (DOE 2013). Structurally, FPIR is situated on the Eastern Flank of the Bowdoin Dome and the northwest trending Poplar Dome.

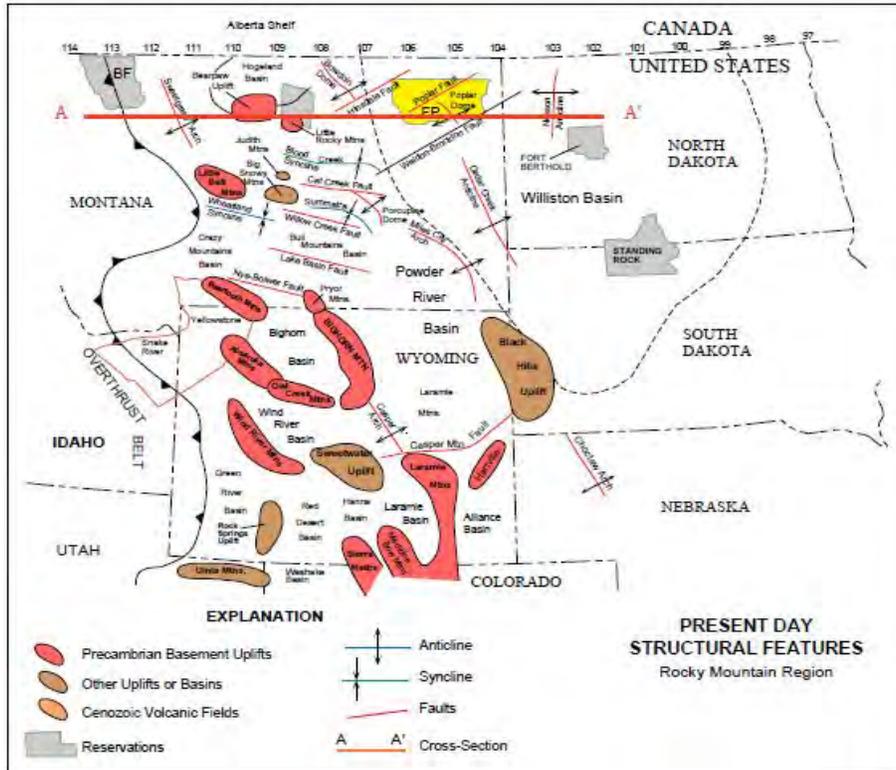


FIGURE 3-8. Present Day Structural Uplifts and Basins in North Dakota, South Dakota, Wyoming, and Montana (Peterson and MacCary1987). (Note the location of Fork Peck Reservation in yellow).

Formations located within FPIR include the Cenozoic – Mesozoic transition features, that overlay earlier Mesozoic – Paleozoic formations. Sandy sediments from the Cenozoic quaternary period of dry lakes now contain the most recent geological structures, including alluvium dispersed along river basins. The Sedimentary Cenozoic formation consists of tertiary period Flaxville gravel deposits blended with volcanic ash features, subsequent to dry lake beds and alluvium (Vuke et al. 2007).

3.12.1.2 PALEONTOLOGY

The geologic formations underlying the location overlap the Cretaceous-Tertiary (K-T) boundary linked with the extinction of the dinosaurs. The Hell Creek formation is a noted fossil-bearing unit in northeastern Montana. Significant vertebrate and invertebrate paleontological remains can be discovered in gravel and ash of the Hell Creek formation. Several species of dinosaurs comprise the vertebrate remains (Vuke et al. 2007). Additionally, invertebrate fossils from the Ordovician period such as the brachiopods (extinct bivalve lophophorates), corals and earlier trilobite fossils, permeate fossil layers. The Winnipeg formation in particular has remnants of conodonts (early toothed, jawless

marine vertebrates) and ostracoderms (armored jawless fish) (Ross 1954). The only known paleontological site on the FPIR is located north of Brockton, Montana.

3.12.2 IMPACTS

Impacts to geology, minerals, and paleontology under each alternative are described below.

3.12.2.1 NO ACTION

Under the No Action Alternative, current agricultural activities would continue, and there would be no impacts to geology or minerals. Potential direct impacts to paleontological resources include damage or destruction of fossils by livestock, buffalo, or other agricultural practices. However, the only known Fort Peck Tribe paleontological site is currently fenced off. Furthermore, if a paleontological property was inadvertently discovered during routine agricultural activities, the resource would be evaluated for eligibility for the NRHP, and the potential for the proposed project to affect eligible properties would be assessed. If potential adverse effects are recognized, the proposed project may be altered to avoid or lessen impacts to eligible properties, and/or the impacts may be mitigated to preserve the scientific and cultural values of the affected property to the extent possible and reasonable.

3.12.2.2 ALTERNATIVE 1

Under Alternative 1, agricultural activities would continue and be expanded. There would be no impacts to geology or minerals. An increase in the amount of land available for leasing or permitting may result in impacts to paleontological resources, if the resources are located within leased/permited areas and are subsequently damaged or destroyed.

Each individual permit, lease, or associated improvement would be reviewed using a checklist (example provided in Appendix C) to determine whether or not its potential environmental impacts to geology, minerals, and paleontology have been addressed in the PEA. However, if a paleontological resource was discovered, proper measures would be taken between the THPO, BIA, and the Tribes to assure preservation of the paleontological resource site.

3.12.2.3 ALTERNATIVE 2

Impacts under Alternative 2 would be the same as those described under Alternative 1. In addition, the increase in the number of wild buffalo would not impact geology or minerals, and impacts to paleontological resources would only occur if the buffalo inadvertently damage or destroy a fossil. However, if a paleontological resource was discovered, proper measures would be taken between the THPO, BIA, and the Tribes to assure preservation of the paleontological resource site.

3.13 TRANSPORTATION

3.13.1 EXISTING ENVIRONMENT

The FPIR is a rural area, interspersed with small rural communities and homesites that are connected by paved (blacktop) and unpaved (gravel, or unimproved dirt) roadways. As shown on Figure 3-9, US Highway 2 traverses the southern edge of the Reservation, through the communities of Wolf Point and Poplar. State Highway 13 runs north-south across the center of the Reservation, and several county roads (438, 250, 251, and 344) provide access to various parts of the FPIR. There are also many local roads providing access to areas not directly served by the highways or county roads.

Current agricultural leasing and permitting activities and wild buffalo grazing have little impact on the transportation system within the FPIR; truck traffic required to transport cattle to market or crops (primarily wheat) to elevators/storage, is by nature infrequent and seasonal, and there is no other measureable agricultural impact on the road network.

3.13.2 IMPACTS

Impacts to transportation under each alternative are described below.

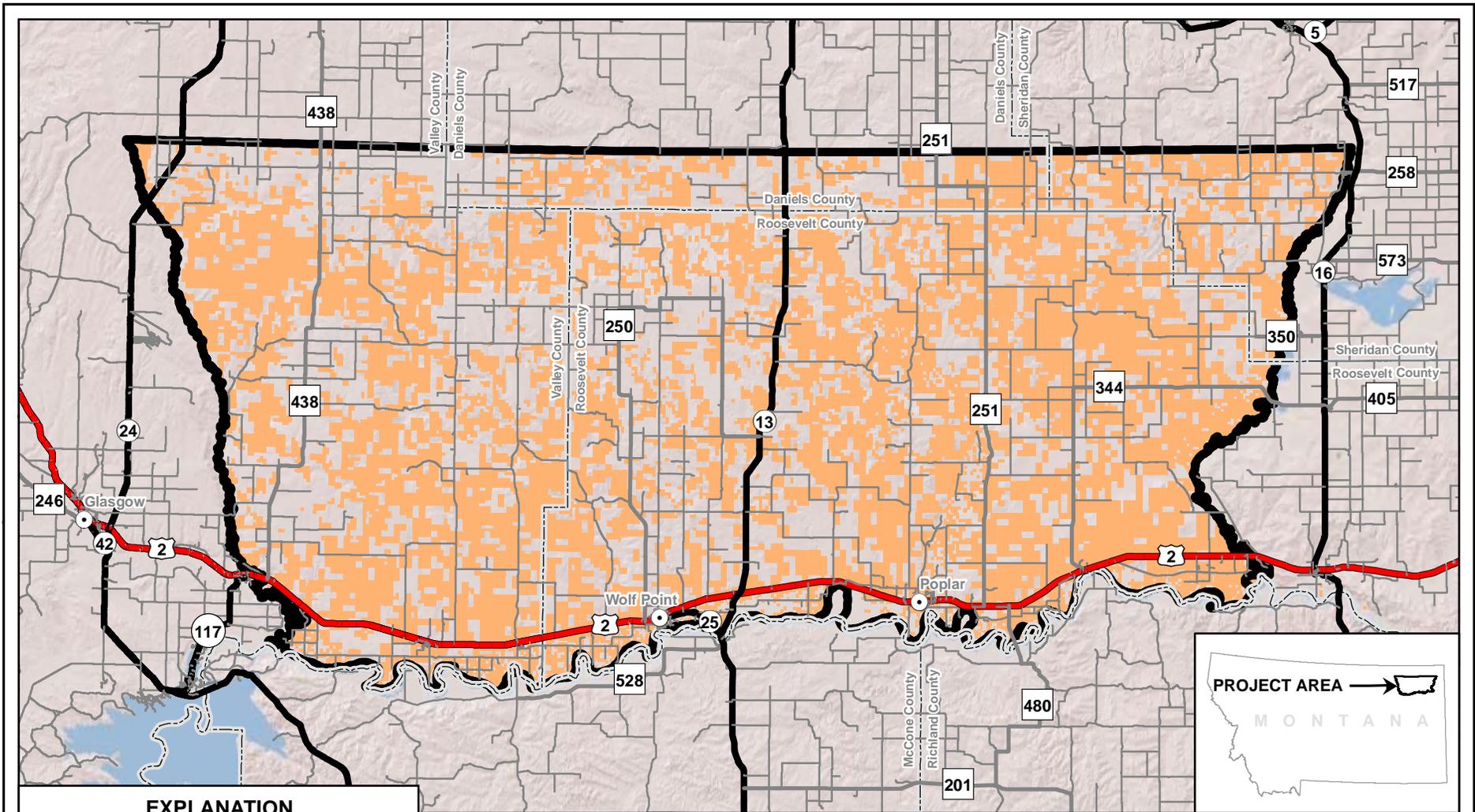
3.13.2.1 NO ACTION

Under the No Action Alternative, with the continuation of current agricultural activity, there would be no additional impacts on the roadway infrastructure or transportation system within the bounds of the FPIR.

3.13.2.2 ALTERNATIVE 1

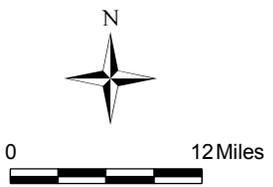
Alternative 1, which would result in renewal of existing leases and permits, issuance of additional leases, and associated agricultural improvements, would have negligible impacts on FPIR transportation. The issuance of the additional leases is not expected to result in a substantial increase in the infrequent/seasonal agriculture-related traffic. As additional property would be made available for cropping, some small access roads for farm machinery might be built; this potential is unquantifiable and likely a negligible impact.

Each individual permit, lease, or associated improvement would be reviewed using a checklist (example provided in Appendix C) to determine whether or not its potential environmental impacts to transportation have been addressed in the PEA.



EXPLANATION

-  US HIGHWAY
-  STATE HIGHWAY
-  COUNTY ROAD
-  LOCAL ROAD
-  FORT PECK INDIAN RESERVATION
-  TRUST LANDS




Trihydro
CORPORATION

1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 3-9

TRANSPORTATION NETWORK

**FORT PECK INDIAN RESERVATION
MONTANA**

Drawn By: BR Checked By: KM Scale: 1" = 12 Miles Date: 2/13/15 File: Fig3-9_FPIR_Roads.mxd

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3.13.2.3 ALTERNATIVE 2

Impacts to transportation under Alternative 2 would be the same as those discussed under Alternative 1. In addition, an increase in the number of wild buffalo would have negligible impacts on FPIR transportation, because the primary increase in the number of wild buffalo on the FPIR would be to the cultural herd. Some culling/harvesting of that herd would take place once it reaches full-strength, and the business herd would also be able to market some animals, but as these herds represent only two sources of infrequent/seasonal traffic. The impact to FPIR transportation would be temporary and negligible.

3.14 NOISE

3.14.1 EXISTING ENVIRONMENT

The FPIR is predominantly rural, with associated low levels of ambient noise. The primary sources of man-made ambient noise on the FPIR are vehicular traffic on both improved and unimproved roads, and air traffic from small, local airstrips that can occasionally be heard in some communities.

3.14.2 IMPACTS

Noise impacts within the bounds of the FPIR under each alternative, are described below.

3.14.2.1 NO ACTION

The No Action Alternative, with the continuation of agricultural activities, would have no impact on the ambient noise levels within the bounds of the FPIR.

3.14.2.2 ALTERNATIVE 1

Similar to the No Action Alternative, Alternative 1, which would result in renewal of existing leases and permits, issuance of additional leases, and associated agricultural improvements, would have negligible impacts on FPIR ambient noise levels. Issuance of the additional leases is not expected to result in a substantial increase in the vehicular traffic noise. A potential for a slight increase in farm machinery noise due to increased leased cropland would have negligible and temporary impacts. Also, the use of additional equipment for agricultural improvements would be temporary and minor.

3.14.2.3 ALTERNATIVE 2

The Preferred Alternative, Alternative 2, is similar to Alternative 1, but allows for additional wild buffalo; the increase in the number of wild buffalo is not expected to have impacts on the FPIR ambient noise levels. As with Alternative 1, any increase in vehicular noise due to increasing the size of the wild buffalo herds would be temporary and negligible.

3.15 AIR QUALITY

3.15.1 EXISTING ENVIRONMENT

In accordance with the United States Code (USC) Title 42, Chapter 85, §7601(d)(2)(B), the USEPA is given authority to *treat tribes as states* for purposes of developing, administering, and enforcing air quality regulations within reservation boundaries, irrespective of land ownership (Milford 2004). Each tribal authority, with the help of USEPA, develops an air quality control program to control emissions on reservation lands. As such, the FPIR is under the jurisdiction of the USEPA until the Tribes obtain an USEPA-approved Tribal Implementation Plan, with respect to an air quality control program.

In the Project Area, ambient air quality is regulated by USEPA. The USEPA has established national ambient air quality standards (NAAQS) for six criteria pollutants: particulate matter (PM₁₀ particulates and PM_{2.5} particulates), sulfur dioxide (SO₂), carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), and lead (Pb). The NAAQS were developed to protect human health (primary standards) and human welfare (secondary standards). Table 3-8 lists the NAAQS for these criteria pollutants.

TABLE 3-8. NATIONAL AND MONTANA AMBIENT AIR QUALITY STANDARDS

Pollutant	Time Frame	National Standards	
		Primary	Secondary
PM ₁₀	24-hour	150 µg/m ^{3 a}	150 µg/m ^{3 a}
PM _{2.5}	Annual	12 µg/m ^{3 b}	15 µg/m ^{3 b}
	24-hour	35 µg/m ^{3 c}	35 µg/m ^{3 c}
SO ₂ ^d	3-hour	NA	0.5 ppm ^e
	1-hour	0.075 ppm ^f	NA
CO	8-hour	9 ppm ^e	NA
	1-hour	35 ppm ^e	NA
NO ₂	Annual	0.053 ppm ^g	0.053 ppm
	1-hour	0.100 ppm ^c	NA
O ₃ ^{h, i}	8-hour	0.075 ppm	0.075 ppm

Pollutant	Time Frame	National Standards	
		Primary	Secondary
Pb ^j	3-month rolling	0.15 µg/m ³	0.15 µg/m ³
	90-day average	NA	NA

Source: USEPA 2013a.

^aNot to be exceeded more than once per year on average over 3 years.

^bAnnual arithmetic mean, averaged over 3 years.

^c98th percentile, averaged over 3 years.

^dThe 1971 annual and 24-hour SO₂ standards were revoked in the same rulemaking signed June 2, 2010. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

^eNot to be exceeded more than once per year.

^f99th percentile of 1-hour daily maximum concentrations, averaged over 3 years.

^gAnnual mean. Applicable only in Class I areas as are designated under the Montana Clean Air Act rules, Prevention of Significant Deterioration of Air Quality.

^hFinal rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, USEPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard (*anti-backsliding*). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.

ⁱAnnual fourth-highest daily maximum 8-hr concentration, averaged over 3 years

^jFinal rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Abbreviations:

mg = Milligram(s)

NA = Not applicable; Not available

µg = Microgram(s)

m³ = Cubic meter(s)

ppm = Part(s) per million

The Project Area is rural in nature and air quality is primarily affected by agricultural activities and transportation corridors (i.e., road and rail traffic). Air quality in the Project Area currently meets NAAQS. High concentrations of total suspended particulates (dust) occur occasionally during springtime due primarily to wind erosion of tilled land; however, these concentrations are below NAAQS standards (Allen and Doyle 1982). Local traffic also produces road dust during periods of dry weather. Other emission sources affecting air quality in the area include agricultural equipment, motorized vehicles, and trains. Sparse human development in the area has resulted in a dispersal of the number of emission sources, which subsequently have a minimal effect on air quality.

3.15.1.1 ATTAINMENT STATUS

Areas that violate federal and/or state air quality standards are designated as nonattainment areas for the relevant pollutants. This contrasts with areas which do comply with federal and/or state air quality standards, and hence are designated as attainment areas (i.e., areas that have attained compliance) for the relevant pollutants. Areas with insufficient data are designated as attainment/unclassified areas, and are treated as attainment areas under the CAA. Areas that were previously designated nonattainment and have demonstrated compliance with a NAAQS are designated *maintenance* for 20 years after the effective date of attainment, assuming they remain in compliance with the standard.



The air quality attainment status for the Project Area is either attainment or unclassifiable/attainment for each of the criteria pollutants (40 CFR 81.107). The closest designated nonattainment area from the Project Area for PM₁₀ is at Lame Deer, Montana, located approximately 170 miles southwest of the Project Area (USEPA 2012).

3.15.1.2 AIR QUALITY AREA CLASSIFICATION

The federal CAA contains requirements to protect and improve visibility in national parks and wilderness area in the country. In 1977, Congress designated certain national parks and wilderness areas as Class I areas, where visibility was identified as an important value. Congress also allows state and tribal authorities to designate other Class I areas. Currently, there are 156 Class I areas in the country. In Montana, the areas listed below have been designated as Class I areas (Montana Department of Environmental Quality [MDEQ] 2013):

- National Parks: Glacier and Yellowstone
- National Wilderness Areas: Anaconda-Pintler, Bob Marshall, Cabinet Mountains, Gates of the Mountains, Medicine Lake, Mission Mountains, Red Rock Lakes, Scapegoat, Selway-Bitterroot, and UL Bend
- Native American Reservations: Northern Cheyenne, Flathead, and Fort Peck

In 1982, the Tribes redesignated the FPIR from a Class II to a Class I airshed. Class I areas are areas of special national or regional natural, scenic, recreational, or historic value for which the New Source Review regulations provide special protection. Class I areas allow the smallest incremental growth or development and accommodate only a small degree of air quality deterioration. The Federal Land Manager (FLM), including the state or tribal governing body, where applicable, is responsible for defining specific air quality related values (i.e., flora and fauna, water, visibility, cultural-archeological and paleontological, and odor) for an area and for establishing the criteria to determine an adverse impact (USEPA 2013b). If the FLM determines that proposed source would adversely impact air quality related values in a Class I area, the New Source Review permit may not be issued.

3.15.1.3 EXISTING AIR QUALITY

Before redesignation as a Class I area, the Reservation had relatively higher levels of particulates and sulfur dioxides (Fort Peck OEP 2013). Ambient air quality monitoring was conducted at various times for various pollutants between 1980 through 1999. In February 2001, the USEPA Region VIII and the Tribes established a new Interagency Monitoring of Protected Visual Environment (IMPROVE) protocol site on the FPIR to monitor particulate matter emissions. The site is intended for long-term monitoring of PM₁₀, PM_{2.5} and visibility with sampling that begun in 2002. The monitoring station (FOPE1) is located within the Reservation (Fort Peck OEP 2013). Results of the monitoring data from this station, as shown in Table 3-9, indicate ambient air quality for PM₁₀ and PM_{2.5} are well below the NAAQS.

TABLE 3-9. 2005-2008 AIR MONITORING STATION ANNUAL AVERAGE MONITORING RESULTS

Pollutant	Measured, Mean Mass ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)
PM _{2.5}	4.057	12 ^a
PM ₁₀	8.383	150 ^a

Source: IMPROVE 2013

^aPrimary Standard

3.15.2 IMPACTS

3.15.2.1 NO ACTION

Under the No Action Alternative, primary air pollution associated with continued agricultural activities would include minor exhaust and dust emissions from vehicles associated with agricultural operations. Air quality is not expected to be measurably impacted under the No Action Alternative; impacts would be short-term and negligible.

3.15.2.2 ALTERNATIVE 1

Impacts to air quality would be similar under Alternative 1 to those discussed under the No Action Alternative. Conversion of undisturbed land (if leased or permitted for agricultural purposes) could increase the amount of minor exhaust and dust emissions. In addition, there may be dust impacts from the construction of associated agricultural improvements. However, air quality is not expected to be measurably impacted under Alternative 1; impacts would be short-term and negligible.

Each individual permit, lease, or associated improvement would be reviewed using a checklist (example provided in Appendix C) to determine whether or not its potential environmental impacts to air quality have been addressed in the PEA.

3.15.2.3 ALTERNATIVE 2

Impacts to air quality would be the same under Alternative 2 as those discussed under Alternative 1. The expansion of the buffalo herds would only cause a temporary increase in dust emission from the minor increase in traffic.

3.16 CLIMATE AND CLIMATE CHANGE

The following section provides information on the existing FPIR climate and climate change. The CEQ (2010) guidance recommends that the Federal government analyze the environmental effects of greenhouse gas (GHG) emissions and climate change when environmental effects of a proposed agency action are described in accordance with NEPA. Climate change issues arise in relation to the consideration of: the GHG emissions effects of a proposed action and alternative actions; and the relationship of climate change effects to a proposed action or alternatives, including the relationship to proposal design, environmental impacts, and mitigation and adaptation measures. The following section provides background information on climate, GHG emissions, and climate change.

3.16.1 EXISTING ENVIRONMENT

The northeast part of Montana where the FPIR is located is relatively flat, while portions of the rest of the state are mountainous. The climate of the region is typical of the wind-swept northern plains with cold winters and warm summers. Snow melts, runoff, and precipitation, which occur primarily during the spring results in the intermittent nature of some streams (Fort Peck Tribes 2014). The climate on the Reservation is classified as continental, and is characterized by moderately cold winters (average January minimums near 0 degrees Fahrenheit) with occasional cold periods falling below -40 degrees Fahrenheit. Summers are generally mild (averaging 80 degrees Fahrenheit during afternoon hours) with occasional periods of heat exceeding 100 degrees Fahrenheit. Low humidity, high temperatures, and moderate to strong winds cause rapid loss of soil moisture. Average annual precipitation in northeastern Montana varies from 12 to 14 inches (Montana Department of Natural Resources and Conservation 2013), however, Montana weather varies greatly due to large variations in elevation. Approximately 70 percent of annual precipitation falls as steady, soaking frontal system rain which occurs from April through September. Due to the dominantly heavy-textured soils, runoff is rapid, often exceeding 50 percent of the total precipitation. The average frost-free period is about 120 days (US Climate Data 2014).

Representative climate data for the Reservation are presented in Table 3-10 (Western Regional Climate Center [WRCC] 2013; High Plains Regional Climate Center [HPRCC] 2013).

TABLE 3-10. REPRESENTATIVE CLIMATE DATE IN THE VICINITY OF THE PROJECT AREA

Location/ Measurement	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Wolf Point, Roosevelt County (Period: 3/1/1905 to 3/31/2013)													
Avg Max. Temp.(°F)	23.5	31.0	42.1	60.9	71.1	80.1	88.8	86.3	74.5	60.4	41.4	27.0	57.5
Avg Min. Temp. (°F)	1.3	8.3	19.6	31.8	42.7	51.5	57.0	55.0	43.1	31.7	17.8	4.5	30.3
Avg Total Precipitation (in.)	0.38	0.29	0.50	0.72	1.91	3.36	1.92	1.75	1.34	0.70	0.33	0.34	13.54
Avg Total Snowfall (in.)	3.0	2.0	2.4	0.5	0.4	0.0	0.0	0.0	0.2	0.7	2.0	4.0	15.1
Avg Total Snow Depth (in.)	5	3	2	0	0	0	0	0	0	0	0	2	1
Bredette, Roosevelt County (Period:4/1/1950 to 2/28/2013)													
Avg Max. Temp.(°F)	20.2	26.5	37.9	54.9	67.1	76.1	83.7	82.9	70.8	57.1	37.7	24.8	53.3
Avg Min. Temp. (°F)	0.7	6.7	17.0	29.9	40.7	49.4	54.4	52.9	42.8	31.9	17.6	5.8	29.2
Avg Total Precipitation (in.)	0.37	0.24	0.47	0.88	1.96	2.72	2.07	1.55	1.13	0.70	0.35	0.33	12.77
Avg Total Snowfall (in.)	5.6	3.7	4.5	2.7	0.9	0.0	0.0	0.0	0.2	1.7	4.0	5.5	28.9
Avg Total Snow Depth (in.)	5	5	3	0	0	0	0	0	0	0	1	3	1



Medicine Lake (approximately 2 miles east of the Reservation), Sheridan County (Period: 1/1/19/11 to 3/31/2013)													
Avg Max. Temp.(°F)	19.7	26.1	37.8	56.1	68.5	76.9	84.3	83.7	71.8	58.4	38.7	25.7	54.0
Avg Min. Temp. (°F)	-3.0	2.9	14.6	29.3	40.6	49.8	54.3	52.2	41.9	30.8	16.5	4.2	27.8
Avg Total Precipitation (in.)	0.38	0.30	0.45	1.02	1.81	2.91	2.17	1.48	1.25	0.74	0.40	0.35	13.25
Avg Total Snowfall (in.)	5.8	4.0	4.3	2.7	0.2	0.0	0.0	0.0	0.1	1.0	3.5	5.	26.9
Avg Total Snow Depth (in.)	6	7	4	0	0	0	0	0	0	0	1	2	2
Culbertson (approx. 5 miles east of the Reservation), Roosevelt County (Period: 3/1/1905 to 3/31/2013)													
Avg Max. Temp.(°F)	21.4	27.3	40.1	58.0	69.6	77.4	85.6	84.6	72.7	59.5	40.1	27.1	55.3
Avg Min. Temp. (°F)	-1.8	3.6	15.8	29.1	40.0	49.1	54.0	51.5	41.2	30.3	16.4	4.4	27.8
Avg Total Precipitation (in.)	0.36	0.27	0.45	0.98	2.04	2.99	2.11	1.43	1.27	0.82	0.42	0.35	13.51
Avg Total Snowfall (in.)	5.3	3.0	3.	1.2	0.3	0.0	0.0	0.0	0.1	1.2	3.0	5.1	22.2
Avg Total Snow Depth (in.)	5	5	3	0	0	0	0	0	0	0	1	3	1

Source: HPRCC 2013.

Abbreviations:

Avg = Average

in. = Inches

°F = degrees Fahrenheit

3.16.1.1 CLIMATE CHANGE

The American Meteorological Society (AMS) refers to climate change as any systematic change in the long-term statistics of climate elements (such as temperature, pressure, or winds) sustained over several decades or longer. The AMS also indicates climate change may be due to natural external forcings, such as changes in solar emission or slow changes in the Earth's orbital elements, natural internal processes of the climate system, or anthropogenic forcing. The climate system can be influenced by changes in the concentration of various GHGs in the atmosphere that affect the Earth's absorption of radiation (AMS 2012).

The United Nations Framework Convention on Climate Change (UNFCCC) defined climate change as *...a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods* (UNFCCC 2009). In its most recent report (Fourth Assessment Report [2007]), the Intergovernmental Panel on Climate Change (IPCC) stated that warming of Earth's climate is unequivocal, and that warming is very likely attributable to increases in atmospheric GHGs caused by human activities. IPCC further stated that changes in many physical and biological systems, such as increases in global temperatures, more frequent heat waves, rising sea levels, coastal flooding, loss of wildlife habitat, spread of infectious disease, and other potential environmental impacts, are linked to changes in the climate system, and that some changes might be irreversible (IPCC 1990-2007).



The observed climate trends of the US Great Plains, focusing mainly on temperature and precipitation, as well as other climate features, include heat waves and extreme precipitation. Eight of the ten summers from 2002 through 2011 were above the 1901-1960 average. Northern states in the region have experienced the greatest increases in their long-term average temperatures, and freeze-free season length has been generally increasing since the early 20th century. Annual precipitation for the Great Plains was greater than normal during the last few years, except for 2011, and extreme cold and hot periods exhibit a large amount of year-to-year variability. The recent tendency toward fewer cold waves is more prominent in the northern Great Plains than in the south (Kunkel et al 2013).

3.16.1.2 GREENHOUSE GAS EMISSIONS

GHGs are expected to come from fossil-fuel fired emission sources (e.g., farm equipment, truck transportation of livestock, etc.) during the daily and seasonal farm operations, and the digestive process that is unique to ruminant animals called enteric fermentation. Nationally and historically, carbon dioxide (CO₂) emissions from fossil fuel combustion represented the largest source of total weighted GHG emissions from all emissions. Within the US and US territories, fossil fuel combustion from electricity generation, transportation, industrial, residential, and commercial uses accounted for 94 percent of CO₂ emissions (5,277.2 million metric tons) in 2011. The remaining 6 percent came from non-energy use of fuels and from other manufacturing and production sources (USEPA 2013c).

The principal GHGs are CO₂, methane (CH₄), nitrous oxide (N₂O), O₃, and water vapor. Because CO₂ is the reference gas for climate change, measures of non-CO₂ GHGs are converted into CO₂-equivalent (CO₂-e) values based on their potential to absorb heat in the atmosphere. GHGs occur naturally because of volcanoes, forest fires, and biological processes (such as breathing), and they are also produced by burning fossil fuels in power plants and automobiles and from industrial and agricultural processes, waste management, and land use changes.

Globally, ruminant livestock produce about 80 million metric tons of (CH₄) annually, accounting for about 28 percent of global (CH₄) emissions from human-related activities. (CH₄) emissions from a single adult cow may be a very small source by itself, emitting only 80-110 kilograms of (CH₄), but with about 100 million cattle in the US and 1.2 billion large ruminants in the world, ruminants are one of the largest (CH₄) sources. In the US, cattle emit about 5.5 million metric tons of (CH₄) per year into the atmosphere, accounting for 20 percent of US (CH₄) emissions (USEPA 2007).

CEQ (2010) provides the guidance on whether or not an activity is subject to GHG emissions accounting requirements. The reference point of 25,000 metric tons of direct CO₂e GHG emissions provides agencies with a useful indicator for agencies' action-specific evaluation of GHG emissions and disclosure of that analysis in their NEPA documents. Note that CEQ does not propose this reference point as an indicator of a level of GHG emissions that may significantly affect the quality of the human environment, as that term is used by NEPA, but notes that it serves as a minimum standard for

reporting emissions under the CAA. Evaluation of significance under NEPA is done by the action agency based on the categorization of actions in agency NEPA procedures and action-specific analysis of the context and intensity of the environmental impacts. In many cases, the GHG emissions of the proposed action may be so small as to be a negligible consideration.

The relationship of climate change effects to a proposed action and alternatives, including the relationship to proposal design, environmental impacts, and mitigation and adaptation measures should also be considered, per CEQ (2010) guidance. Climate change can affect the environment of a proposed action in a variety of ways. Climate change can increase the vulnerability of a resource, ecosystem, or human community, causing a proposed action to result in consequences that are more damaging than prior experience with environmental impacts analysis might indicate (CEQ 2010).

3.16.2 IMPACTS

Impacts to climate and climate change and variability within the FPIR expected from each alternative are described below.

3.16.2.1 NO ACTION

Under the No Action Alternative, there would be no impacts to the climate or climate change and variability. Because all of the cattle in the US emit about 5.5 million metric tons of tons of (CH₄) per year into the atmosphere, the GHG emissions of the proposed action is considered small and negligible. GHG emissions generated from the ongoing agricultural activities would continue to be limited due to the dispersed, minimal, and temporary nature of the emissions.

Future climate conditions anticipated in the Great Plains could affect the Agricultural Program with increases in mean annual precipitation and an increase in annual mean temperature throughout the Great Plains (northern portion) (Kunkel et al. 2013). Projected climate change is expected to have both positive and negative consequences for agriculture productivity in the Northern Plains, including the FPIR. For example, increases in winter and spring precipitation can benefit productivity by increasing water availability through soil moisture reserves during the early growing season, but could be offset by fields to wet to plant. Rising temperatures could lengthen the growing season, possibly allowing a second annual crop in some places and years. However, warmer winters can provide challenges, as pests and invasive weeds are able to service the warmer winters, and winter crops that emerge earlier are susceptible to spring freezes (US Global Change Research Program 2014).

3.16.2.2 ALTERNATIVE 1

Under Alternative 1, impacts to climate change would be the same as those discussed under the No Action Alternative. However, stocking rates specifically calculated for grazing units would lessen the amount of GHG emissions by limiting the amount of livestock allowed on rangelands.

As described in Section 3.16.1.2, the relationship of climate change effects to a proposed action and alternatives should also be considered. Both long-term climate change and short-term variability could affect the Agricultural Program with an increase in water availability, yet fields may be too wet to plant. Rising temperatures could lengthen the growing season, but pests and invasive weeds may be able to survive longer. However, each individual permit, lease, or associated improvement would be reviewed using a checklist (example provided in Appendix C) to determine whether or not its potential environmental impacts to climate change have been addressed in the PEA. Appropriate mitigation measures would be identified, as necessary to adapt to climate changes and variability.

3.16.2.3 ALTERNATIVE 2

Under Alternative 2, impacts to climate change would be the same as those discussed under Alternative 1. The increase in the number of wild buffalo (no more than 308 individuals) would lead to a negligible increase in (CH₄) emissions and proper stocking rates for the buffalo would be followed.

The increased wild buffalo herds could be impacted by climate change. However, these individuals are not expected to be any more impacted from climate change than under the No Action Alternative.

Climate change could affect the Agricultural Program under this Alternative, similarly to Alternative 1, within the buffalo rangelands.

4.0 CUMULATIVE IMPACTS

NEPA and CEQ regulations require the consideration of the cumulative impact of a Proposed Action. *Cumulative impact* is defined in the CEQ regulations as the impact on the environment which results from the incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (CEQ regulations 40 CFR Part 1508.7). The cumulative impacts analysis area varies by resource. It may be restricted to a specific area of the Reservation (for soil resources) or an entire watershed (for water resources); each resource is discussed below.

The Proposed Action permits farming/grazing of the Reservation acreage and an expanded wild buffalo herd, with incorporated stipulations. This alternative is basically a continuation of the status quo related to most resources, yet with more emphasis on stipulations for the protection of the entire environment, particularly for threatened and endangered species and water resources. Other impacts on and around the Reservation that could contribute to cumulative impacts may occur from oil and gas development, existing agricultural activities, residential development, and climate change. Exploration and production of natural gas has occurred in the general vicinity of the Reservation for more than 50 years, most importantly in the Poplar Dome oil fields. There are no other known major projects in the area that can be evaluated in conjunction with this project for cumulative effects. Note that the Proposed Action and associated mitigation measures identified are only enforceable by the BIA within the FPIR on lands held in trust for the Tribes and allottees, any use of these measures outside BIA's authority would be up to the entity with oversight/authority.

4.1 LAND USE

The Proposed Action would incrementally and cumulatively add to the impacts on land use from other past, present, and reasonably foreseeable activities on the FPIR. Additionally, ongoing oil and gas development in and around the Reservation would also impact land use. Cumulative impacts to land use from these actions could include (but are not limited to) an increase in the total amount of developed land on the Reservation, a reduction in the total amount of undisturbed land on the FPIR, and an increase in the total amount of land held in trust.

4.2 WATER RESOURCES

The Proposed Action would incrementally and cumulatively add to the impacts on water resource from other past, present, and reasonably foreseeable activities on the FPIR. Additionally, ongoing oil and gas development in and around the Reservation could also impact water resources. Cumulative impacts to water resources from these actions

could include (but are not limited to) an increase in the total non-source and source pollution to the Missouri River and smaller rivers and water bodies in the Reservation, particularly as a result of spills and discharges. .

4.3 VEGETATION, SPECIAL STATUS SPECIES AND NOXIOUS WEEDS

The Proposed Action would incrementally and cumulatively add to the impacts on vegetation from other past, present, and reasonably foreseeable activities on the FPIR. Additionally, ongoing oil and gas development in and around the Reservation and residential development could also impact vegetation. Cumulative impacts to vegetation from these actions could include (but are not limited to) vegetation disturbance, along with the spread or introduction of noxious weeds.

4.4 WILDLIFE, FISHERIES, THREATENED AND ENDANGERED SPECIES AND SPECIAL STATUS SPECIES

The Proposed Action would incrementally and cumulatively add to the impacts on wildlife, threatened and endangered species, and special status species. Cumulative impacts to wildlife and threatened and endangered species, including disturbance from activities near wildlife, degradation and loss of habitat (prairie, forested, and water resources), and loss of nests could occur from agriculture activities, oil and gas development, and residential development. These impacts would cumulatively impact such species.

4.5 SOILS

The Proposed Action would incrementally and cumulatively add to the impacts on soils from other past, present, and reasonably foreseeable activities on the FPIR. Cumulative impacts to soils could include an increase in erosion and disturbance to soils from agricultural activities and ongoing oil and gas development in and around the Reservation.

4.6 RECREATION

The Proposed Action would incrementally and cumulatively add to the impacts on recreation from other past, present, and reasonably foreseeable activities on the FPIR. Additionally, ongoing oil and gas development in and around the Reservation would also impact recreation. Cumulative impacts to recreation from these actions could include (but are not limited to) displacement of wildlife, displacement of hunters and fishers if any areas previously utilized by hunters or fishers become restricted due to agricultural development and/or oil and gas development.

4.7 VISUAL RESOURCES

The Proposed Action would incrementally and cumulatively add to the impacts on visual resources from other past, present, and reasonably foreseeable activities on the FPIR; however, some of the impacts could be positive. The increase in the wild buffalo herd would be a positive impact to visual resources. However, ongoing agricultural development and oil and gas development in and around the Reservation could negatively impact visual resources. Cumulative impacts to visual resources from these actions could include (but are not limited to) an increase in the industrialized nature of the FPIR due to the ongoing and expansion of oil and gas activities; a loss of natural landscape due to the conversion of undisturbed land to agricultural uses; and a positive return to a more historical setting in specific areas of the Reservation where the buffalo are located.

4.8 CULTURAL RESOURCES

The Proposed Action would incrementally and cumulatively add to the impacts on cultural resources from other past, present, and reasonably foreseeable activities on the FPIR; however, some of the impacts could be positive. Continued development (e.g., oil and gas and agricultural) in and around the Reservation could also impact cultural resources. Cumulative impacts to cultural resources from these actions could include (but are not limited to) inadvertent discoveries of cultural resources during surface disturbance and damage to or loss of cultural resources; however, the discoveries could also result in a positive impact in the generation of information about the location and nature of cultural resources.

4.9 SOCIAL AND ECONOMIC ENVIRONMENT

The Proposed Action would incrementally and cumulatively add to the impacts on the social and economic environment from other past, present, and reasonably foreseeable activities on the FPIR. Continued development (e.g., oil and gas, and agricultural) in and around the Reservation could also impact the social and economic environment. Cumulative impacts to the social and economic environment from these actions would be positive and could include (but are not limited to) continued and/or increase employment opportunities and income to the Tribes and allottees.

4.10 ENVIRONMENTAL JUSTICE

The Proposed Action would not incrementally and cumulatively add to the impacts on environmental justice populations from other past, present, and reasonably foreseeable activities on the FPIR. Cumulative effects from other activities in and around the Reservation are also unlikely to directly result in disproportionate impacts to environmental justice populations.

4.11 GEOLOGY, MINERALS, AND PALEONTOLOGY

The Proposed Action would incrementally and cumulatively add to the impacts on geology, minerals, and paleontological resources from other past, present, and reasonably foreseeable activities on the FPIR. Continued development (e.g., oil and gas and agricultural) in and around the Reservation could also impact these resources. Cumulative impacts to geology, minerals, and paleontology from these actions could include (but are not limited to) depletion of oil and gas reserves and damage to or loss of paleontological resources. However, paleontological discoveries could result in a positive impact in the generation of information about the location and nature of paleontological resources if paleontological resources are discovered during surface disturbance.

4.12 TRANSPORTATION

The Proposed Action would incrementally and cumulatively add to the impacts on transportation from other past, present, and reasonably foreseeable activities on the FPIR. Additionally, ongoing oil and gas development in and around the Reservation would also impact transportation. Cumulative impacts to transportation from these actions could include (but are not limited to) slight increases in traffic (both seasonal and year-round) throughout the Reservation. The increases in traffic could cause substantial localized impacts if traffic increases impact already heavily utilized roads and routes used throughout the Reservation.

4.13 NOISE

The Proposed Action would incrementally and cumulatively add to the impacts on noise from other past, present, and reasonably foreseeable activities on the FPIR. Additionally, ongoing oil and gas development in and around the Reservation would also impact noise. Cumulative impacts to noise from these actions could include (but are not limited to) slight increases in ambient noise throughout the Reservation, which could cause substantial localized impacts if located near houses, businesses, or other locations where people congregate.

4.14 AIR QUALITY

The Proposed Action would incrementally and cumulatively add to the impacts on air quality from other past, present, and reasonably foreseeable activities on the FPIR. Cumulative impacts from the Proposed Action and development to air quality could include (but are not limited to) minimum, temporary, localized impacts during short periods of agricultural improvements. In addition, cumulative impacts from oil and gas development could impact air quality through increased emissions.



4.15 CLIMATE AND CLIMATE CHANGE

The Proposed Action would incrementally and cumulatively add to the impacts on climate change from other past, present, and reasonably foreseeable activities on the FPIR. Cumulative impacts could include (but are not limited to) negligible increases in (CH₄) emissions from agricultural stocking. In addition, ongoing oil and gas development in and around the Reservation could also contribute to cumulative impacts by increasing total GHG emissions.

5.0 CONSULTATION AND COORDINATION

The CEQ Regulations under NEPA require that the lead agency (i.e., BIA) involve the public in the preparation of an EA or EIS. The *public* includes local, state, federal agencies, landowners, and other interested parties. The first opportunity for public involvement was at the beginning of the project during request for comments per the NOI. The BIA requested comments from the public about the proposed project during that 30-day NOI comment period; one comment letter was received on December 12, 2014.

During the process of preparing the draft and final PEA, BIA consulted with the USFWS for threatened and endangered species via email and telephone calls. USFWS concluded the informal consultation on February 11, 2015, with the BIA in regards to the Proposed Action.

5.1 Preparers of the PEA

An interdisciplinary team of natural resource specialists assisted in the preparation of this PEA under the supervision of the BIA Rocky Mountain Regional Office. The team that prepared this PEA is provided below in Table 5-1. The reviewers or individuals who provided technical input for the document are provided in Table 5-2.

TABLE 5-1. PREPARERS OF THIS PEA

NAME	ROLE/ SECTIONS PREPARED
Juli Anna McNutt	Project Manager
James Gleason/ Jana White	Quality Assurance
Juli Anna McNutt/Kurt Schweigert/Kara Mulvihill	Chapters 1 and 2
Kara Mulvihill	Land Use; Recreation; Visual Resources; Social and Economic Environment; Environmental Justice
David Cloutier/Juli Anna McNutt/Kara Mulvihill	Water Resources; Air Quality; Climate and Climate Change
Lydia Mullins/Juli Anna McNutt	Vegetation, Special Status Species, and Noxious Weeds; Wildlife, Fisheries, Threatened and Endangered Species, and Special Status Species
Danielle Tavis	Soils; Geology, Minerals, and Paleontology
Kurt Schweigert	Cultural Resources
James Gleason	Transportation; Noise
Brian Robeson	GIS Mapping

5.2 TECHNICAL ASSISTANCE AND REVIEW OF PEA

TABLE 5-2. INDIVIDUALS WHO PROVIDED TECHNICAL ASSISTANCE AND/OR REVIEW OF THE PEA

NAME	AFFILIATION
Melissa Passes	BIA, Rocky Mountain Regional Office, Supervisory Environmental Protection Specialist
Jarvis Gust	BIA, Rocky Mountain Regional Office, Regional Fish and Wildlife Biologist
Jo'Etta Plumage	BIA, Rocky Mountain Regional Office, Regional Archaeologist
Dave Hopkins	BIA, Rocky Mountain Regional Office, Rangeland Grazing Specialist
Matthew Lopez	BIA, Rocky Mountain Regional Office, Agriculture and Wildlife GIS
Anna Eder	BIA, Fort Peck Agency, Deputy Superintendent
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Myrna Walking Eagle	Fort Peck Tribes, Director of Natural Resources Department
Deb Madison	Fort Peck Tribes, Fort Peck Office of Environmental Protection, Environmental Programs Manager
Robert Magnan	Fort Peck Tribes, Director of Fish and Wildlife Department
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Paul Finnicum	Natural Resources Conservation Service, Poplar Field Office, Resource Conservationist
Brent Esmoil	USFWS, Deputy Field Supervisor, Montana ES Field Office

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APPENDIX A

FORT PECK LAND USE POLICY

FORT PECK TRIBES

LAND USE POLICY



December 2011

Fort Peck Tribes Indian Land Use Policy

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Cover photo courtesy of: http://www.glasgowmontana.com/gallery/fortPeckLakeDam/ft_peck_03



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I. INTRODUCTION

A. Administration

1. Administrative Power. The Program shall be administered under the direction of the Executive Board, with technical advice and assistance from the Bureau of Indian Affairs.
2. Committee Duties. The Committee shall be responsible for the initial review of all land transactions under the Program and shall submit its recommendations in writing to the Executive Board. The Committee will adhere to the rules and policies established by the Fort Peck Land Management Policy and will make no exception from these policies for any individual or individuals.

B. Authority

1. The Fort Peck Tribes derive the authority to supersede Federal regulations as outlined in the American Indian Agriculture Resource Management Act - 25 U.S.C. § 3702 & 3712.
2. All areas of Tribal Policy not explicitly covered in this Land Use Policy will be governed by the appropriate sections of the CFR.

C. Definitions

1. As used in this Land Management Program
 - (a) "Tribes" means the Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation.
 - (b) "Executive Board" means the governing body of the Tribes.
 - (c) "Committee" means the Land/Natural Resources Committee, or such other body, or delegate, as the Executive Board may designate.
 - (d) "Secretary" means the Secretary of the Interior or his authorized delegate.

- (e) “Superintendent” means the Superintendent of the Fort Peck Indian Agency, or his/her authorized representative.
- (f) “Agency” means the Fort Peck Indian Agency.
- (g) “NRCS” means the United States Department of Agriculture’s Natural Resource Conservation Service.
- (h) “Immediate Family” means the spouse, brothers, sisters, lineal ancestor, lineal descendant, or member of the household of an individual Indian landowner.
(See 25 CFR 162.101)
- (i) “Enrolled Members” Enrolled members of the Fort Peck Indian Reservation, which also includes all Tribal enrolled members employed by the Federal Government.
- (j) “Cropland” means land suitable for crop production.
- (k) “Program” means the Land Management Program.
- (l) “Tribal Land” means the surface estate of land or any interest therein held by the United States in trust for the Fort Peck Tribes.
- (m) “Trust Land” means any tract, or interest therein, that the United States holds in trust for the benefit of a tribe or individual Indian.
- (n) “Allotted Land” means lands owned by an individual(s) Indians.
- (o) “Fee Land” generally means lands owned by non-enrolled tribal members or non-Indians within the reservation boundary. Fee land can be owned by the Tribe within the Reservation.
- (p) “Allocation” the appointment of grazing privileges without competitive bidding to qualified livestock operators, including the determination of the place such livestock will be grazed.

- (q) “Qualified Operators” enrolled members of the Assiniboine and Sioux Tribes who are (I) at least eighteen (18) year old; (II) residing on or maintaining the bulk of their livelihood on the reservation; (III) who are assuming the financial risk in its entirety; (IV) are an Indian-owned economic enterprise; or (V) are the Fort Peck Tribes.
- (r) “Indian-Owned Economic Enterprises” means any Indian-owned (as determined by the Executive Board) commercial, industrial, or business activity established or organized for the purpose of profit, provided that Indian ownership constitutes not less than 51 percent of the enterprise.
- (s) “Timber Harvest” means the cutting, hauling, and use of timber deadfall or dead standing trees.
- (t) “Range Unit” a block of lands containing allotted and/or tribal lands, consolidated for the purpose of administrating grazing privileges.
- (u) “On-and-Off Grazing” fee patent, allotted, or tribal rangeland owned or legally leased by the permittee and grazed in common during the same season of use as lands permitted by the Fort Peck Agency.
- (v) “Animal Unit Month (AUM)” the amount of forage required to support one mature cow, with or without calf, under 6 months of age, for one month.
- (w) “Animal Unit (AU)” the conversion factor relating forage requirements by kind and class of livestock:

Mature Cow, w/Calf	1.20	AU
Yearling cattle	0.60	AU
Bulls	1.35	AU
Horse	1.25	AU
Buffalo	1.00	AU
Sheep	0.20	AU

D. Policy Updates

1. The Policy will be updated by the Tribal Natural Resource Department following passage of Resolutions modifying the Policy.
 - (a) The Policy will be held, updated, and maintained electronically by the Tribal Natural Resources Department.
 - (b) New hard copies of the Policy will be printed and disbursed to the Executive Board and any other Agency or Department requesting a copy on November 1 of every odd number calendar year.

II. AGRICULTURAL LEASING AND PERMITTING

A. General Provisions

1. Applicability of this section. This section is not applicable to leases acquired by competitive bidding. Competitive bid information is found in Section II.A.16 of this document.
2. Regulations. Leases of agricultural lands and assignment of permits shall be governed by the regulations in 25 CFR Part 162 and 166 except in cases of conflict with this policy, in which case the provisions of this policy shall apply.
3. Eligibility for preference right to lease. An applicant eligible for a preference right to lease agricultural land (a) must be an adult member of the Tribes who meets the definition of a Qualified Operator; (b) satisfy the Committee that the applicant is an experienced, bona fide farmer, or rancher, with the ability, financing and equipment necessary to operate the land covered by the application, or (c) in the alternative, an applicant that is just entering the farming and ranching business, must satisfy the Committee that he/she has the qualification, financing and equipment to ensure a reasonable prospect of success. All eligible lessees must ensure (1) that with the land covered by the application the applicant, together with all other persons signatory on the application, will not hold under lease more than 2,560 acres of tribal agricultural lands under preference rights provisions. For all Tribal leases obtained over the preference right provision quota of 2,560 acres a fair rental price

obtained through the competitive bid process will be assessed; (2) that the applicant personally, or through his immediate family and employees, will actively operate the leased land and (3) that no other person in the same household is an applicant for, or holds a non-competitive agricultural lease of Tribal lands.

4. Time for filing applications. Where the land is not covered by a lease, an application for a lease may be filed at any time. Where the land is covered by a lease, the application for a lease must be filed on or before April 1 of the year that the lease would expire.
5. Application preference. Preference shall be given to the person submitting the first application.
6. Preference to current lessee. Preference shall be given to the eligible tribal member who is the current lessee and has fulfilled the terms and conditions of his/her lease, permit or contract. Said lessees or permittees should be notified of this regulation prior to the expiration date of their leases, permits or contracts.
7. Conflict of preference rights. Where more than one tribal member applies for a lease to the same land, and the land is not covered by an existing lease, the award of the lease shall be made by the Executive Board on recommendation of the Committee. In making the award, consideration may be given to all factors arising from the Tribes' past experience with the competing applicants as lessees, and to the location of the applicant whose operations are closest to the land for which a lease is sought.
8. Delinquent debtors barred. No lease shall be issued to an applicant who is delinquent on any debts, penalties, or damages to the Tribes or the federal government.
9. Terms of lease. Leases for agricultural lands shall not exceed five years. Upon a showing to the satisfaction of the Committee that the land requires substantial capital investment before it can be successfully used and that five (5) years is inadequate to recover the investment, the lease may be for a term sufficient to recover the investment, but not to exceed ten years, provided that at the end of five years the rent shall be renegotiated.

10. Assignment of the lease. No leases or permits shall be assigned without approval of the Executive Board.

11. Conditions of the lease. In addition to such conditions as may be required by the Secretary that are not inconsistent with this Program, each lease of agricultural land shall be subject to the following conditions whether or not set forth in the lease instrument:

(a) All leases and/or permits will be made to a Qualified Operator.

(b) All lessees holding leases, permits and contracts shall comply with NRCS Stipulations.

(c) For Tribal members only, lease payments are due and payable each calendar year on November 15. A thirty (30) day extension period may be granted beyond November 15 with Executive Board approval. The Bureau of Indian Affairs policy will be enforced upon completion of the thirty (30) day extension period provided leases are not paid.

(d) Lessee must operate lease. The lessee or permittee personally, or through his immediate family, must actively operate the lease for agricultural purposes.

(e) Bonding Requirement

(1) Tribal operators who are a member of the Fort Peck Tribes, and are presently without an approved lease shall allow full participation in the cash bond procedure by any tribal operator upon renewal of tribal leases or as permitted by the Bureau of Indian Affairs.

(a) *The fee for the cash bond is \$0.45 per acre on farm land and \$0.30 per acre on grazing land; which is a 3 year advance on the affected leases, with fees to be set-aside and earmarked for conservation purposes.*

(b) *Bonding fee for water charges is at the rate of \$0.25 per acre.*

- (f) Sole use for agricultural purposes. The leasehold shall be used for agricultural purposes and for no other purposes.
- (g) Modification due to homesites. All agricultural leases and permits are subject to modification to allow for homesites for enrolled members. The current lease/permit holder shall be notified 30 calendar days prior to any preparatory work to accommodate a new homesite.
12. Treaty Rights. Enrolled members of the Fort Peck Tribes will adhere to the Bureau of Indian Affairs leasing stipulations to protect hunting and fishing rights and privileges.
13. Violation of subsidized tribal permits and leases. Any lessee of a tribal lease, or any permittee of a tribal permit who subleases, assigns, or otherwise transfers, or attempts to sublease or assign, or otherwise transfer, directly or indirectly, any of the lessee's or permittee's rights or benefits under the lease or permit, shall be guilty of a Class A offense.
14. Cancellation. A lease may be cancelled for violation of any of the conditions of this Program all of which are made a part of each lease, or of any of the material conditions of the lease, or of the regulations of the Department of the Interior relating to the use of the land, or of any law of the Tribes, or of the United States, relating to the use of the land.
15. Idle agricultural lands. The Bureau of Indian Affairs is requested to advertise all idle Tribal and Allotted farm and pasture tracts for lease rental.
16. Leasing of Land Through Competitive Bid
- (a) Conditions. The Superintendent of the Fort Peck Agency, with authorization of the Executive Board, shall advertise for lease Tribal land on the following conditions:
- (1) Any Tribal leases or permits cancelled as a result of violation.
 - (2) Any incomplete or idle tracts of Tribal or Trust land.

(3) All Tribal members will be granted the preference of meeting the high bid, provided they submit a token bid.

(4) Any Tribal member securing farm acreage as a result of this advertisement shall not deny their right of obtaining the allowable acreage permitted under this Land Use Policy.

(b) All lands purchased by the Tribes with FHA loan funds will be advertised and leased to the highest bidder.

(c) Lands purchased through Rural Development Funds. Any tribal member can meet the high bid on any bids submitted on lands purchased by the Tribes through Rural Development Funds.

(d) Tribal preference. Land purchased by the Tribes shall be awarded to the highest bidder with Tribal preference granted.

17. Change of Use. Lessee may not change the land use of a leased Tribal or Trust tract without prior approval from the Natural Resources Department. Applications submitted to the Natural Resource Department must include an approved Conservation Management Plan, developed in coordination with the NRCS, and a signed affidavit from the landowner agreeing to the proposed change in use. Applications submitted without the required material will be denied. The Natural Resource Department has the authority to approve or deny all applications to preserve the Tribal natural resource base.

B. Cropland and CRP

1. Rental. The minimum annual rental per acre for agricultural land leases shall be as follows:

(a) Dryland farm acreage. The relative productivity of the soils system, as computed using the USDA Soil Rental Rate will be used to determine the soil value. All Tribal land lease rates will be determined from the soil value assigned to the tract. The average Tribal member lease rate is 47% of the soil value and the non-Tribal lease rate is 80% of the value.

(b) Irrigable farm acreage. Lease rates will be based on soil classification for Tribally owned irrigated land based on soil classification. The relative productivity of the soils system will be used to determine Tribal land lease rates. The average Tribal member lease rate is 47% of the soil value and the non-Tribal lease rate is 80% of the value. All operation and maintenance charges associated with the tract shall be paid by the lessee.

(1) All funds derived from the difference between the rate of \$8.00 per acre and the soil classification rate be deposited in the Irrigation Improvement Fund and those funds will be used for purchase of irrigated Tribal land improvements and potentially irrigable land.

2. Pesticide Regulations:

(a) The Office of Environmental Protection has the authority to implement a pesticide regulatory program modeled off the EPA current pesticide program.

(b) Pesticide Code, implemented by the Tribal Office of Environmental Protection, must be adhered to on all tribal and trust lands within the exterior boundary of the Fort Peck Indian Reservation.

3. Beginning Farmer Program:

(a) Definition. An individual or entity, which is tribally enrolled, who has not operated a farm operation for more than 3 years.

(b) Requirements. A beginning farmer will be required to work with the Tribal Natural Resources Department, local NRCS, and/or the local County Extension agent to develop a profitable cropping system that protects the Tribes natural resources. The farmer will not be eligible for the Beginning Farmer Program until a final business plan is approved by the Tribal Natural Resource Department and local NRCS.

(c) Leases. A beginning farmer is eligible for reduced lease rates on Tribal cropland leases. The reduced rates apply only for the first three (3) years of the lease

agreement. The fourth (4th) and subsequent years' lease rates will be based on the soil rental rates which apply to all lessees.

- (1) Beginning farmers shall have preference in the leasing of all idle Tribal tracts.
- (2) All leases to beginning farmers will start at \$8.00 per acre plus the operation and maintenance cost of the tract for the first 3 years of the lease agreement.

C. Range

1. Grazing Fees

- (a) Reservation Minimum. Excluding Tribal lands reserved for allocation, the minimum grazing rental shall be \$15.75 per AUM. Tribal lands permitted under allocation shall be charged \$10.00 per AUM with \$1.00/AUM being set aside for range improvements and \$3.00/AUM being set aside for range land purchase. Rates will be reassessed following the completion of a new appraisal every five years. All fees shall be established and approved by the Executive Board.
- (b) Minimum Rental on Allocated Lands. With majority ownership approval, owners of allotted lands held in trust may stipulate a rate above the reservation minimum, if justified by above average value. They may also stipulate a lower rate if the permittee is a member of their immediate family. Owners will be given the opportunity to set rates during the scheduled reappraisal period. These rates must be specified in writing.

2. Grazing Season

- (a) Grazing permits shall be issued for a 5.5 month season beginning either May 1 and ending October 15 or beginning May 15 and ending October 31. Grazing prior to the general turnout date of May 1 or May 15 will be permitted only by written authorization from the Natural Resources Department, where management is sufficient to insure conservation of the range. Stipulations regulating grazing use for early turnouts will be made in writing and attached to the permit. Any and all adjustments in seasonal grazing or stocking rate must

meet or exceed all NRCS recommendations and be approved by the Natural Resources Department in writing in advance of the proposed adjustment as specified below.

(b) A grazing variance allowing grazing outside the traditional grazing permit time frame will be reviewed and approved on a case by case basis by the Natural Resources Department. The variance request must be supported by a conservation management plan and/or resource management system, developed in coordination with the NRCS and Natural Resource Department, for the lessee's operation and the Range Unit affected by the change. Applications for variance for the following practices will be accepted by the Natural Resources Department:

- (1) Deferment
- (2) Early turn-in
- (3) Late turn-out
- (4) Winter feeding areas
- (5) Calving areas

3. Term of Permit

(a) Grazing privileges are granted for a ten year duration.

4. Allocation

(a) Filing Deadline. Application for Allocation must be filed prior to the issuance of grazing permits.

(b) Joint Permittees. No more than (3) qualified operators may share an allocation. Additional operators may be approved at the discretion of the Tribes. Associations of enrolled Indian operators may be given allocations, provided that all members meet the qualification requirements defined in Section I, above. Bylaws of the associations shall include membership provisions, agreements on maintenance of improvement and service to livestock, and other

stipulations as required by the Tribes to insure proper use of the range and cooperation among association members.

- (c) Ownership. The permittee(s) having an allocation must own at least seventy-five (75) percent of the livestock allowed under allocation. Exceptions may be allowed at the discretion of the Tribes. Pasturing authorization for non-Indian livestock less than twenty-five (25) percent of the total herd shall be set at a minimum of \$18.00 per AUM and any pasturing authorization beyond the twenty-five (25) percent for the non-Indian cattle shall pay a minimum \$21.00 per AUM, which is subject to renegotiation by the Tribes and Agency. Charges for care of non-Indian livestock will be a matter of agreement between the cattle owners, but may not include compensation for use of the land, water, or forage. Non-Indian cattle must be approved in writing, via Pasturing Authorization.
- (d) Non-qualified Interests. Allocations will not be permitted to corporate interests, partnerships, or for cattle run on shares with non-qualified operators, except as specified in Section II.C.4.c.
- (e) Proof of Ownership. Applications for allocation must certify that they own or will own cattle sufficient to fill their allocations. Proof of ownership may consist of an IRS Form 1040 accompanied by Schedule F, bank statements, and other proof of ownership required by the Natural Resource Department. A “Bill of Sale” will not constitute proof of ownership. The cattle must be branded with the applicant’s registered Montana brand before they are permitted on the Range Unit, and each individual granted an allocation shall have his or her own brand.
- (f) Preference Rights. Where one or more qualified operators seek allocation for the same Unit, the Range Unit will be allocated by the Land Use Policy of the Tribes. Previous use of the Unit, the location of Unit in relation to the applicant’s operation, and past experience with the applicants will be considered in awarding the allocation. Exceptions may be approved at the discretion of the Tribes and Agency.
- (g) Final Determination. It is the intent of this Policy that allocation privileges be limited to individual enrolled tribal members of the Fort Peck Tribes. The

Committee shall make the final determination concerning all disputes arising from the qualifications of applicants for allocation.

5. Competitive Bids

(a) General Provisions. Grazing privileges not reserved for allocation in adherence to the Fort Peck Tribal Land Use Policy will be auctioned using sealed bids. Auctions will be advertised for thirty (30) days prior to the date of bid opening.

(b) Deposits. Bids submitted shall not require a bid deposit.

(c) Responsible Bidders. Responsible bidders must own at least fifty percent of the livestock under a competitive bid permit.

(d) Preference Rights for Qualified Operators. Qualified operators may meet the highest acceptable bid by non-qualified operators on range units where each has submitted a bid. Qualified operators seeking to exercise preference rights must notify the Superintendent in writing within ten (10) days following the bid opening. Where two (2) or more qualified operators having equal preference exercise this option, an oral auction will be arranged by the Superintendent. Preferences are as follows:

(1) First preference shall be given for qualified operators who have maintained a permit and fulfilled their obligations on the Unit over the past permit period.

(2) Second preference shall be given for qualified operators who do not have an allocation.

(3) Third preference shall be given for qualified operators who have an allocation on another Unit.

(e) Oral Auction. Where no preference rights are applicable, and where acceptable bids or equal value are submitted by two or more non-qualified operators, an oral auction will be held immediately following the conclusion of the regular bid opening.

- (f) Preference Rights for Non-qualified Operators. Where acceptable bids are received by two or more non-qualified operators for a unit, and where the previous permittee has submitted the lowest bid, and where the total difference between the bids is less than five (5) percent of the low bid, the bids will be declared of equal value. The Unit will then be awarded by oral auction.
- (g) Tribal Representative. A representative of the Tribes shall be invited to be present at all bid openings.

6. Modification of Permits

- (a) Transfer. Transfer or assignment of permits will be allowed only by written agreement, subject to approval of the Tribes and Superintendent.
- (b) Cancellation. Livestock operators who voluntarily cancel their permits must relinquish their privileges before February 1st for the grazing season beginning the following spring. Cancellation after the bills are mailed will be subject to interest penalty. Cancellation must be approved by the Tribes and Agency.
- (c) Non-use and Deferment. The grazing capacity of a permit may be reduced only where land is withdrawn from the Unit, or as required by the Superintendent to conserve the range. Livestock operators who desire to reduce their permitted numbers must relinquish their permits. These grazing privileges will then be auctioned by competitive bid.
- (d) Allocation During the Permit Period. Qualified operators who obtain an allocation during the permit period for a Range Unit permitted to a non-qualified operator must pay the existing bid rate on tribal and allotted lands. All grazing rental for qualified operators in excess of their quota shall be at least at the reservation minimum on all tribal lands.

7. Payment on Rental

- (a) Schedule. Payment of grazing rentals will be due by March 1st of the billing year. If payment is not received by March 1st of the billing year, the permit will be cancelled as outlined in 25 CFR 166 Subpart H. Livestock will not be permitted to enter the units before the bills are paid in full.

(b) Delinquencies. Livestock owners who are delinquent in payment of past rentals, penalties, or damages will not be apportioned grazing privileges through either allocation or competitive bidding.

8. Entry to Range Units

(a) Entry Permits. Livestock will not be permitted to enter the Range Units until an entry permit has been filed with the Natural Resources Department. This permit will specify the date of entry, the number, kind, and class of livestock to be grazed, and at the request of the Department, the brand and ownership of all livestock placed on the Unit.

(b) Crossing Permits. Crossing permits will be required to trail livestock across allotted and tribal lands in the Range Units. No permits are required for trailing across the reservation on established Rights-of-Way where the entire crossing takes less than one day. Where trailing occurs over more than one day, the livestock operator must notify the Superintendent and secure a crossing permit specifying an approved route of passage. The route will provide for over-night pasture on deeded lands outside the Range Units.

(c) Non-Indian Cattle Pasturing. A \$10.00 administration fee will be required to process pasturing authorization for the non-Indian cattle, to cover costs associated with the performance of these administrative duties. Fees will be paid to the Tribal Natural Resources Department.

9. Withdrawals and Inholdings

(a) Withdrawal. Lands withdrawn from the Range Units must be fenced separately, unless the owner of the land enters into an agreement, approved by the Executive Board and Superintendent, governing common use of the land. The Tribes reserve the right to withdraw Tribal lands for public purposes. The permittee will be assisted in obtaining access to grazing capacity equal to that of the land withdrawn from the Unit.

(b) Fencing Requirements. It is the responsibility of the persons withdrawing the lands from the Range Units for their own use, or for the leasing to operators

other than the permittee, to have them fenced. Fencing specifications must meet NRCS standards for three-strand barbed wire fence unless other livestock are proposed for grazing in the affected Unit in which case NRCS standards for that species of livestock will be required.

- (c) Deadline for Withdrawals. Requests for withdrawals must be made in writing not less than 180 days before the anniversary date of the permit.
- (d) Inholdings. Owners of all unfenced lands within the Units who graze cattle or lease grazing rights on these lands must enter into written agreements approved by the permittee and the Superintendent regulating common use. These agreements must include stocking rates, seasons of use, and responsibilities of the landowner regarding service to cattle, fences, and improvements within the unit. All unfenced lands within the Units including On-Off grazing and deeded lands, will be regulated by permit.
- (e) Removal of Trust. The consensus of the Tribes is that no allotted lands should be removed from trust status if such removal endangers the rights of the Tribes or owners of other allotted lands within the Units.

10. Range Improvements

- (a) Funding of Improvements. Permittee(s) may apply to use Range Improvement Funds, managed by the Natural Resources Department, to implement range improvements or provide for matching funds on EQIP projects within the Unit. All applications will be reviewed by the Natural Resources Department for approval or denial. The application must include an approved Conservation Management Plan and/or a Resource Management System, developed in coordination with the NRCS, for the permittee's operation and the Range Unit affected. Any application submitted without all pertinent information will be denied. The Natural Resources Department has the authority to approve or deny all applications for use of Range Improvement Funds by permittees. All decisions will be made based on the proposed improvement's overall benefit to the Tribal natural resource.

- (b) Depreciation of Improvements. Permittee(s) wishing to improve their Units may have the value of the improvement appraised, with depreciation in equal annual amounts over the life of the improvement as specified by NRCS or Farm Service Agency (FSA) projected life expectancies for improvements/practices. Depreciation will be deducted annually on December 31st. Following termination of the permit, the next permittee will be required to reimburse the previous permittee, in full, for the remaining value of the improvement. Valuation of the improvements and calculation of the expected project life must be registered with the permit in advance.
- (c) Permanence of Improvements. All improvements placed on the range units will be considered fixed to the land and property of the landowner, except where the right for removal is approved in writing. Written approval to remove improvements will be recorded with the grazing permit. No improvements may be removed without the approval of the Superintendent.
- (d) Fence Maintenance. It is the responsibility of the permittee to maintain boundary and cross fences and to prevent livestock trespass on adjacent lands. Where two or more range units share a common boundary, each permittee will assume the responsibility of maintaining the right half of the fence, as viewed facing the other unit. Where two or more operators share a unit, each will assume a share of the fencing responsibility proportionate with their permitted AUMs, assigned alphabetically running clockwise from the northwest corner of the unit. Fencing assignments will be shown on maps attached to the permits.

11. Other Regulations

- (a) Cemeteries. All permittees shall restrict livestock from grazing in cemeteries, graveyards or cemetery plots within the Units.
- (b) Hunting, Fishing, Wildcrafting, and Firewood. Tribal members may not be restrained from hunting or fishing, wildcrafting, or from collecting firewood on Tribal lands within the Units unless otherwise regulated within special management areas. Where these activities interfere unreasonably with the livestock operation, or where carelessness or wanton disregard for property

result from these activities, the permittee shall direct his/her grievance to the Committee, Superintendent, or other appropriate authority.

- (c) Modification of the Resolution. This resolution may be amended by the Executive Board to meet the needs brought about by natural disasters such as drought, fire, flood, etc. Range Units may be closed to public access during periods of extreme fire danger, and if necessary, livestock will be removed from the units as needed to protect the range.
- (d) Conservation Plan. 25 CFR 166.312 requires the completion of individual conservation plans for each Range Unit, prior to issuance of a permit. The conservation plan must be consistent with the Tribe's Agricultural Resource Management Plan and must address the permittee's management objectives regarding animal husbandry and resource conservation. The conservation plan must cover the entire permit period and must be reviewed by the Natural Resources Department on an annual basis.

12. Beginning Rancher Program

- (a) Definition. An individual or entity, which is tribally enrolled, who has not operated a ranch or livestock operation for more than 3 years.
- (b) Requirements. A beginning rancher will be required to work with the Tribal Natural Resources Office, local NRCS, and/or the local County Extension agent to develop a profitable livestock operation that protects the Tribes natural resources. The rancher will not be eligible for the Beginning Rancher Program until a final business plan is approved by the Tribal Natural Resource Office and local NRCS.
- (c) Leases. A beginning rancher is eligible for reduced lease rates on tribal range unit leases. The reduced rates apply for only the first three (3) years of the lease agreement. The 4th and subsequent years' lease rates will be based on the AUM rates which apply to all lessees.

D. Pasture and Hayland

1. Term of Permit or Lease

- (a) Pasture Lease. All pasture lease agreements shall have a minimum term of five (5) year duration.
- (b) Dryland Hay Permits. Dryland hay permits shall have a minimum term of five (5) year duration.
- (c) Irrigated Hay Permits. Irrigated hay permits for idle tracts within the Fort Peck Irrigation Project shall have a term of one (1) year duration with the permittee paying the annual O&M charge.

2. Rate Structure

- (a) Irrigable and sub-irrigated native hay lands. Not less than \$8.00 per acre plus all operation and maintenance charges, including any and all water charges.
- (b) Native grass hay. Hay permits shall be \$5.00 per acre plus all O&M charges, including any water charges, if applicable.

E. Timber Land

1. Permittee Identification

- (a) The Natural Resource Department will determine who is eligible to hold a permit.
- (b) The immediate family of the permittee, regardless of their enrollment, may assist the permittee with the wood cutting operation.
- (c) If the wood is to be cut and hauled by a non-tribal member, the permittee must be present during all cutting and hauling operations, and must have the permit in their possession, with exception of the disabled or elderly. With written approval by the Natural Resources Department, the permittee may be allowed to be absent during cutting and hauling operations.

2. Permit Issuance and Revocation

- (a) All individuals or organizations qualifying for timber cutting permits are required to obtain the appropriate approved permit prior to utilizing any forest product.
- (b) The Natural Resources Department will execute and issue paid permits.
- (c) Free use permits will be issued by authorized tribal personnel. Such permittees are normally issued only on idle Tribal lands. On the rare occasion that a permit is issued on a leased parcel, it will be the responsibility of the proposed permittee to contact the lessee as a matter of courtesy. However the courtesy contact is not mandatory.
- (d) Each permit shall have an ending date and permit number for accounting purposes. The requirements of a permit must be completed to the satisfaction of the Natural Resources Department before another permit will be issued to the permittee.
- (e) No permit shall be issued for the cutting of timber in a designated recreation area, ceremonial grounds, or other similar locations unless approved by the Natural Resources Department.
- (f) The holder of any permit must have the permit in his/her possession at all times when cutting or hauling permitted material.
- (g) Free use permits are issued as a service to meet the needs of Tribal members but must be executed consistent with sound silviculture and ecological principles that maintain and enhance productivity of timber stands and the land base.
- (h) By accepting any permit, the permittee and his/her associates shall be deemed to have consented to the jurisdiction of the Fort Peck Tribal Court for any violation of the terms of a timber cutting permit.

- (i) Permits are subject to limitations, temporary suspension, or termination due to road conditions and/or fire danger as determined by the Superintendent, Natural Resources Department, or the Executive Board.
- (j) The following people may revoke a timber cutting permit for any violation of permit conditions:
 - (1) Tribal Law and Order Officer
 - (2) BIA Rights Protection and Fire personnel
 - (3) Natural Resources Personnel
 - (4) Fish and Game Personnel
 - (5) Superintendent of the Fort Peck Agency
 - (6) Executive Board

3. Liability

- (a) The holder of a timber cutting permit, who violates any of the permit regulations, shall be liable under the Law and Order Code of the Fort Peck Tribes, and 45-6-101 Criminal Mischief, Montana Code Annotated, 1979.
- (b) The BIA and Fort Peck Tribes will not be liable for any actions of the permittee or his/her associates while operating under a permit.
- (c) When operating under a permit where the cutting and hauling area is not designated by the Natural Resources Department, the permittee or his/her associates shall be responsible for recognizing land ownership boundaries.
- (d) If the permittee or his/her associates damage any roads, bridges, culverts, ditches, fences, or other improvements in the permit area, or other such improvement in areas used to access the permit area, he/she shall replace or repair them to their original condition to the satisfaction of the Natural Resources Department of the permittee's expense.

(e) The permittee may be liable for any loss or damages incurred to resources such as cropland, pasture/rangeland, livestock, soils, and vegetation. This shall include littering and land or water pollution.

4. Operational Requirements

(a) No road construction will be allowed without prior written approval of the Natural Resources Department or Executive Board.

(b) Equipment requirements may be specified in each permit. Any use of mechanized skidding equipment must be approved by the Natural Resources Department before the permit is issued.

(c) The permit and hauling area will be kept clear of all litter and garbage at all times.

(d) Felled material and debris shall be removed from all access roadways from a point two (2) feet back of the upper slope to the top of the fill, or at least two (2) feet from the edge of the road where no fill exists. When operating on reservation roads, the permittee must ensure that the road is kept open at all times.

(e) All trees shall be cut below the lowest live limb and severed completely from the stump.

(f) Utilization standards such as stump height, top diameters, bucking lengths, and slash treatment will be specified in each permit and shall be enforced.

(g) Cutting wood along riverbanks (within 50-feet) or any other riparian area is prohibited in order to protect streambank stability and preserve the integrity of riparian areas.

5. Free Use Permits

(a) Free use permits will be issued using Timber Cutting Permit, form BIA-5331. A permit will be valid for a period not to exceed six (6) months. Exceptions will be permitted for the Elderly Assistance Program which will be allowed to obtain a

one (1) year permit. Permits will not be issued on allotments without written consent of the beneficial owners.

(b) Free use permits may be issued to:

- (1) Enrolled Tribal members who are eighteen (18) year of age or older;
- (2) Tribal organizations and enterprises, local schools, local non-profit organizations and missionary groups where use of the timber will benefit the Reservation and member of the Tribes, or will be used exclusively for improvements on the Reservation. Forest products removed under this authority cannot be sold or exchanged for other goods or services.

(c) The following may be harvested under a free use permit:

- (1) Small round-wood products such as fence posts, corral rails, or teepee poles, and firewood (dead and fallen wood only).
 - (a) *A maximum of 500 posts/poles/rails and five cords of firewood may be harvested; exception being the Tribal Elderly Assistance Program which will be allowed to cut up to but not exceeding ten (10) cords.*
 - (b) *Products must be for personal use only.*
- (2) Green house-log and green saw-log timber for personal use.
 - (a) *Tribal members may harvest a maximum of \$5,000 worth of logs under this authority.*
 - (b) *Free use permits will specify the species and types of forest products to be removed.*

6. Paid Permits

(a) General Stipulations

- (1) Paid permits subject to forest management deductions, as provided in 25 CFR 163.25 (c), may be issued only with the written consent of the beneficial Indian owners. Unless otherwise authorized by the Natural Resources Department, the stumpage value which may be harvested under paid permits in a fiscal year by any individual under this authority shall not exceed \$25,000.
- (2) All paid permits for the sale of saw-logs and related products must be approved by the Tribal Chairman and the Superintendent.
- (3) Paid permits shall be issued on Timber Cutting Permit, Form BIA-5331, for the sale of:
 - (a) *Small volumes of saw-timber*
 - (b) *Saw-timber from salvage*
 - (c) *Green and dry house-logs for commercial sale*
 - (d) *Utility poles for commercial sale*
 - (e) *Small volumes of firewood for commercial sale*
- (4) All individuals not qualifying for a free use permit, are required to obtain a paid permit or contract for the harvest of any forest product.
- (5) Paid permits for the sale of small round-wood products, small volumes of saw-logs, and small volumes of firewood may be issued to Tribal and non-Tribal members.

- (6) Stumpage payments will be made in advance of the approval of all permits and held in a special deposit account until the permit expires.
- (7) Paid permits may not be extended and no refunds will be made for the partial use of a permit. When conditions beyond the control of a permittee preclude the completion of a permit, the Natural Resources Department may modify or extend the permit, in writing, upon request of the permittee. This action must occur on or before the permit expiration date and must be conducted in the Tribe's best interest.
- (8) Permits for allotted lands must be approved in writing by a majority interest of the Indian beneficial owners.
- (9) Paid permits are issued under two situations as follows:
 - (a) *Negotiated Permits – A permit may be negotiated when the appraised value of the timber to the Tribes is small and a significantly higher value could not be obtained through formal advertisement. These permits are issued primarily to Tribal members. Negotiated rates will not be less than the appraised value of the timber products.*
 - (b) *Advertised Permits – Permit areas with significant value to the Tribes shall be advertised, and bids received in accordance with 25 CFR 163.15. Tribal members and non-members may bid on this type of permit. In the case where a non-member is the high bidder, any qualified bidder, that has submitted a qualifying bid for the permit who is also a Tribal member may secure the permit by matching the high bid of the non-member.*

III. SPECIAL MANAGEMENT AREAS

A. Buffalo Grazing Areas

1. Management Area

(a) Authority. All Tribal buffalo herds will be managed and overseen by the Tribal Fish and Game Department in coordination with the Department of Natural Resources.

(b) Boundary. Boundary information regarding Range Units occupied by the Tribal buffalo herd will be kept by the Natural Resources Department and made available upon request.

2. Restrictions

(a) Hunting. Hunting shall not be allowed within Range Units occupied by the Tribal buffalo herd.

(b) Brucellosis. All lessees operating a buffalo herd shall participate in the Montana State Brucellosis Eradication Program.

3. Stipulations

(a) Fencing. All Range Units occupied by buffalo shall be fenced as recommended by NRCS guidelines. All fences shall be inspected and approved by the Natural Resource Department prior to turnout.

(b) Grazing Schedule. Year round grazing will be permitted for the Tribal buffalo herd on occupied Range Units. Range Units under year round grazing shall be inspected annually to monitor range condition and health. Year round grazing privileges may be revoked by the Natural Resources Department if the Range Unit condition and health are detrimentally impacted as determined by Natural Resources Department staff during inspection.

B. Manning Lake Wetlands Tribal Wildlife Refuge

1. Management Area

(a) Authority. The Tribal Office of Environmental Protection shall have the authority to manage and maintain the lands within the Manning Lake Wetlands Tribal Wildlife Refuge.

(b) Boundary. The Manning Lake Wetlands Tribal Wildlife Refuge is comprised of all Tribal lands located within the E ½ of Section 11, Section 12, and the NE ¼ of Section 13 of T29N R53E, and within Sections 7, 8, 9, 17, 18, 19, and 20 of T29N R54E. Additional trust, allotted, and fee lands are included within the boundary. The Tribal Office of Environmental Protection shall maintain and manage current boundary maps.

2. Restrictions

(a) Hunting. Hunting shall not be allowed within the Refuge during the nesting season of local and migratory birds, defined as April 15-July 15.

(b) Haying. Haying shall not be allowed within the Refuge during the nesting season of local and migratory birds, defined as April 15-July 15.

(c) Grazing. Grazing shall not be allowed within the Refuge during the nesting season of local and migratory birds, defined as April 15-July 15.

C. Wetland Management Areas

1. Management Area

(a) Authority. The Tribal Office of Environmental Protection shall have the authority to manage and maintain the lands within the Wetland Management Areas.

(b) Boundary. The Tribal Office of Environmental Protection shall maintain and manage current boundary maps for all Wetland Management Areas.

2. Restrictions

- (a) Hunting. Hunting shall not be allowed within the Wetland Management Areas during the nesting season of local and migratory birds, defined as April 15-July 15.
- (b) Haying. Haying shall not be allowed within the Wetland Management Areas during the nesting season of local and migratory birds, defined as April 15-July 15.
- (c) Grazing. Grazing shall not be allowed within the Wetland Management Areas during the nesting season of local and migratory birds, defined as April 15-July 15.

IV. BUSINESS LEASING

A. General

- 1. All business leasing, permitting, contracting, disputes, and/or settlements shall be governed by the Fort Peck Tribes C.C.O.J. Title XXIV – Commercial Law.

V. HOMESITES

A. Inventory

- 1. The Committee shall prepare and maintain an inventory listing each lot owned by the Tribes located within any townsite on the Reservation. The inventory shall show with respect to each lot the legal description, the number of square feet, a general description of the improvements and the outstanding rights of occupancy.

B. Preference Right

- 1. Any adult enrolled member of the Tribes who is the economic head of the immediate family and who establishes by satisfactory proof the need for a homesite shall have a preference right to lease from the Tribes for homesite purposes and for no other purposes, the surface only of one town lot, or the surface only of a rural

tract of not more than 2.50 acres outside of any townsite or populated community. Where the need is justified the Committee may lease two town lots to a single applicant.

C. Homesite Lease Checklist

1. Before a homesite lease is approved the Homesite Lease Checklist must be completed in its entirety and submitted to the Office of Environmental Protection along with a completed septic permit.

D. Land Not Available For Homesite Leasing

1. The subsurface shall not be available for homesite leasing. The surface of land that has a special use value or a potential special use value for a public, commercial, business, industrial, mineral or other special purpose, shall not be available for homesite leasing.

E. Floodplains

1. All new homesites must comply with the Montana Floodplain and Floodway Management Act and ensure compliance with the requirements of the continued participation by the Fort Peck Indian Reservation in the National Floodplain Insurance Program. Land use regulations are to be applied to all 100-year floodplains within local jurisdiction as identified by current Flood Insurance Rate Maps (FIRM).

F. Land That Has Existing Leases For Farming or Grazing

1. All home site leases must contain a provision for the lessee to fence the acreage for a home site area.
2. The BIA has the authority to make home site suitability determinations and no home site application will be approved where the BIA or Land Office has determined significant impacts upon rangeland and farmland.

G. Scattered Homesites

1. The Fort Peck Tribes reserve the right to modify this lease or permit on Tribal Land to provide scattered homesites for their enrolled members.

H. Applications For a Homesite Lease

1. Application for a homesite lease shall be filed with the Agency and shall include all facts necessary to satisfy the requirement of this Program.

I. Term of the Homesite Lease

1. A homesite lease shall be for a term of not more than 25 years. Where a longer term is necessary to obtain mortgage financing for the construction of a dwelling on the lease, as through FHA, the lease term may be for twenty-five (25) years, renewable at the expiration thereof for not more than another 25-year term. The term of any homesite lease shall expire and the lease terminate, if the lease is not improved with a dwelling by the end of the first year, or an extension thereof. The Committee shall grant extensions liberally where actual construction has begun and the applicant shows a good faith intent to complete construction.

J. Home Site Lease Bonding

1. A tribal bonding account for homesite leases will be established and used until depleted before utilizing the agricultural bond account.
2. Homesite lease bonding at the rate of \$25.00 per lessee upon the execution of new leases will be required.
3. The Fort Peck Housing Authority will also be required to pay a bond for new leases.
4. The maximum amount of funds to be allocated from the tribal bonding accounts is \$250.00 per incidence homesite clean-up.

K. Conditions of the Homesite Lease

1. In addition to such conditions as may be required by the Secretary that are not inconsistent with this Program, each lease of a homesite shall be subject to the following conditions, whether or not set forth in the lease instrument.

- (a) Rent. The annual lease rental must be paid by the anniversary date of the lease.
- (b) Bonding. Lease bonding at the rate of \$25.00 per lessee upon the execution of new leases will be required. Additionally the Fort Peck Housing Authority will also be required to pay a bond for new leases.
- (c) Homesite use only. The lease may not be used for any purpose except a homesite.
- (d) Occupancy. The lessee or his immediate family must use and occupy the homesite as a home.
- (e) Maintenance, repair, etc. The lessee must maintain and keep in good repair without charge to the Tribes all Buildings, fences and other improvements, keep the premises in a safe and sanitary condition, protect the property from trespass, not use the property for any unlawful purpose, and not use the property to the detriment of, or damage to, or interference with the use of, other lands and property.
- (f) Ownership of structures and improvements on homesites. Subject to the prior rights of a mortgagee, buildings, or other structures, erected or placed by the lessee on the lease that are not attached, or connected, to buildings or other improvements owned by the Tribes shall be deemed the personal property of the lessee; Provided, that the lessee shall furnish a description of such buildings, preferable with a photograph, to the Agency and the Tribal Office promptly after completion of construction. The description shall be attached to and made a part of the lease. Upon expiration or termination of the lease, such buildings shall become the property of the Tribes unless all rentals due under the lease are paid and the buildings are removed within 120 days after the date of termination or an extension thereof. Except as noted in this subsection, all buildings or other improvements located or placed on the land shall become part of the realty and the property of the Tribes.

(g) Assignment or Alienation of Lessee's Interest. Subject to the prior rights valid mortgage, any assignment, sublease, rental or other transfer direct or indirect, of a lease, or of any interest in a lease shall be void and terminate the lease, without the prior approval of the Executive Board granted or such reasonable terms and conditions as may be appropriate.

(h) Transfer by Will, inheritance or operation of law. Any alienation, or transfer of the leasehold interest by Will, inheritance, or operation of law, shall terminate the lease, unless approved by the Executive Board on such reasonable terms and conditions as may be appropriate. In the event the lease is terminated by death, or if the lessee deserts the family, or disappears, the lessee's immediate family, if otherwise qualified, shall be given a preference to a lease for the unexpired portion of the lease term.

L. Rentals on Homesites

1. Rental to members - unimproved homesites. The annual rental for leases of unimproved homesites to members of the Tribes shall be not less than 5% of the estimated value of the homesite as of the date of the lease, or \$12 per year, whichever is higher provided that at the end of each 10-year period of the lease the value of the homesite, exclusive of improvements placed thereon by the lessee shall be re-determined and the rent adjusted accordingly. Rent shall be paid in 5-year increments at a rate of \$60 per 5-years up front prior to occupancy.
2. Rental to members - improved homesites. The annual rental for leases of improved homesites to members of the Tribes shall be fixed by the Committee, taking into consideration the estimated fair market rental value, the demand for the property and extenuating circumstances where the applicant is the occupant of the property and has invested money and time in its maintenance and repair. Rent shall be paid in 5-year increments up front prior to occupancy.
3. Rental to nonmembers. The annual rental for leases of improved homesites to nonmembers shall be the fair market rental value of the homesite as of the initial date of the lease or, in the case of unimproved homesites, 10% of the estimated value of the homesite as of the initial date of the lease, but not less than \$25,

provided that at the end of each 5-year period of the lease the value of the homesite, exclusive of improvements placed thereon by the lessee, shall be redetermined and the rent adjusted accordingly. Rent shall be paid in 5-year increments at a rate of \$125 per 5-years up front prior to occupancy.

VI. RIGHTS OF WAY

A. Regulations

1. Permission to traverse Tribal land, or to use Tribal land as a means of ingress and egress to other property, or to construct on Tribal land public highways, pipelines, power lines, telephone lines, communication lines, and similar uses shall be governed by 25 CFR, Part 169, except as modified by this Program.

B. Policy

1. The policy of the Tribe is as follows:
 - (a) Not to burden the Tribal land with easements and not to convey an easement, or other interest, in Tribal property unless absolutely essential to the need;
 - (b) When the conveyance of an easement is essential, to grant such an interest only for fair compensation, as herein defined, for the shortest possible period compatible with the intended use;
 - (c) No permission by the Tribes to use tribal land shall be deemed or construed as an easement, transferring an interest in tribal property, or in the nature of such an easement, unless the instrument of grant, or conveyance, bears on its face the Tribes' consent to that effect, and there is annexed to the instrument the resolution, or action, of the Executive Board authorizing the conveyance.
 - (d) The term of any easement shall not exceed 25 years and that period shall be deemed an extravagant maximum, and shall not be used with respect to tribal land except in the most unusual and exceptional circumstances and then only with the explicit consent of the Executive Board expressed by resolution that is made a part of and requisite to the validity of the instrument of conveyance.

(e) Where appropriate and necessary, the Tribes will grant revocable permits of ingress and egress across tribal land for use in connection with the permittee's stockraising, agricultural and residential purposes, but not for any other use, commercial, industrial, or otherwise, unless authorized by resolution of the Executive Board that is made a part of the revocable permit.

C. Revocable Permit for Ingress and Egress Across Tribal Land

1. Shall require the payment of an annual rental, no matter how modest, to preclude any claim of right under the law to traverse tribal land based on the doctrine of necessity, or use, or prescription, or adverse possession.
2. Shall require the permittee to post on the road or way of ingress and egress across the tribal land, a sign on which is marked out in letters of a size sufficient to make them obvious to the public, that the road or way of ingress and egress is on tribal land and is a private, not public road or way; and
3. Shall provide, that the permit is by sufferance, does not run with the land, is not assignable without the prior consent of the Executive Board by resolution, and is revocable.

D. Measure of Compensation

1. In measuring the compensation for an easement the evaluation shall be based on the value of the easement for the use requested, shall take into account (a) the diminishment in value to the affected remainder of the Tribes' property, (b) the nature of the use, (c) the extent of interference or inconvenience in the use of tribal property, (d) the savings to the applicant in title examinations, (e) the cost to the Tribes in reviewing the processing the application, (f) the cost to the applicant if an alternative route, not using Tribal land were selected, (g) the length of the term of the lease and (h) the diminishment in value of the consideration by reason of the inflation factor, and such other factors as may be appropriate.

VII. MINERAL LEASING

A. General

1. See 25 CFR 211 for Governing Mineral Leasing Policy

B. Lessee Development Restrictions

1. The mineral lessee or developer shall work with the surface owner(s), making a good faith effort to reach an agreement of compensation for surface disturbances associated with mineral development.
2. The mineral lessee or developer shall not restrict or significantly reduce the ability of the surface owner to profit from agricultural production on the affected tract.
3. The mineral lessee or developer shall notify the surface owner at least 30 days prior to moving in any equipment or causing significant disturbance of the surface.
4. Any surface facilities remaining following mineral development shall be fenced to prevent domestic livestock traffic through the facility. The cost of installing and maintaining the fence shall be the burden of the developer or mineral lessee.
5. Any harm done to domestic livestock or loss of livestock caused by equipment used in development, processing, or transportation of minerals leased shall be fully reimbursed by the mineral lessee or developer at fair market values as determined by the Fort Peck Tribes.

VIII. WATER RIGHTS

A. Fort Peck Tribal Water Code

1. The Fort Peck Tribal Water Code was established by Resolution 993-86-5 and shall govern all issues regarding the permitting, use, disputes, enforcement, and management of all water usage within the Fort Peck Reservation Boundary being applied to the Fort Peck-Montana Compact.

2. Applications for water permits shall follow procedures outlined in Chapter 4 of the Fort Peck Tribal Water Code.
3. All water permits shall be managed, maintained, and inspected as outlined in Chapter 6 of the Fort Peck Tribal Water Code.
4. During time of water shortage, drought, or dispute amongst permit holders, Chapter 8 of the Fort Peck Tribal Water Code shall govern.
5. The transfer of water rights shall follow the procedures outlined in Chapter 11 of the Fort Peck Tribal Water Code.

B. Drought Contingency Plan

1. During periods of declared drought the Executive Board shall use the Drought Contingency Plan for guidance in decisions regarding water rights and usage as it affects the Fort Peck-Montana Compact.
2. The Tribal Water Resource Office shall maintain a current copy of the Drought Contingency Plan at all times.
3. During periods of declared drought, the Tribal Water Resources Office shall provide technical advice to the Executive Board regarding all decisions on water rights and usage as it affects the Fort Peck-Montana Compact.

C. Irrigation Water Management

1. All water used for irrigation under the Compact within the reservation boundary shall be reported to the Tribal Water Resources Office.
2. The Tribal Water Resources Office shall request water delivery for every idle Tribal and Trust tract within the Fort Peck Irrigation Project one (1) time per year.

IX. LAND ACQUISITION AND TRADE

A. Land Consolidation Plan

1. The Executive Board shall only pursue the purchase and consolidation of lands within the exterior boundary of the Fort Peck Reservation.
2. The Executive Board shall work to minimize continued fractionation within the Reservation boundary.
 - (a) The Executive Board shall first encourage, promote, and assist in the sale of fractionated lands to enrolled members of the Fort Peck Tribes.
 - (b) The Executive Board shall not compete in the acquisition of fractionated lands with registered members of the Fort Peck Tribes unless it is explicitly in the best interest of the Tribes to acquire the land for the betterment of all Tribal members.
3. The Executive Board shall create a Consolidation Priority List of the fractionated land or areas of the reservation the Fort Peck Tribes intends to target for purchase or trade.
 - (a) The priority ranking is based upon the ability of the land use to have immediate return in investment to pay off any debt associated with the acquisition and provide income for future purchase.
 - (b) All purchases of land shall be within or tied to areas or land types identified on the Consolidation Priority List. Justification for deviation from the Consolidation Priority List shall be submitted into record with any purchases which do not pertain to the identified priority areas.
 - (c) All trades of land shall be within or tied to areas or land types identified on the Consolidation Priority List. Justification for deviation from the Consolidation Priority List shall be submitted into record with any trades which do not pertain to the identified priority areas.
 - (d) Pasture and Rangelands should be purchased as part of a package with dry or irrigated cropland when borrowing money to acquire such lands.

- (e) All newly acquired lands through purchase, trade, or gift will not be subject to tribal preference leasing. All acquired lands will be leased to the highest bidder. Tribal members will retain the ability to match any high bid offer.
- 4. The Executive Board can use funds from the Revolving Land Purchase Fund to acquire fractionated land. The Committee is bound to the restrictions of the Revolving Land Purchase Fund as outlined in Section VIII.C.5.
- 5. Any land trades or purchases completed by the Executive Board shall adhere to the following guidelines:
 - (a) The Fort Peck Tribes must be working toward obtaining at least 51 percent of the fractionated interest in tracts with a goal of 100 percent interest.
 - (b) The Fort Peck Tribes will purchase trust, restricted, or controlled lands at no less than fair market value with the consent of the owners of the interest, part or all of the interests.
 - (c) The Fort Peck Tribes has 180 days following an official showing of interest in a tract to offer fair market value and close the purchase. If the Fort Peck Tribes are not able to close the purchase within 180 days the tract shall be put back out for public bid.
 - (d) The Fort Peck Tribes may purchase all interests in a tract with the consent of the owners of undivided interests equal to at least 50 percent of the undivided interest in the tract.
 - (1) Interest owned by the Fort Peck Tribes in a tract may be included in the computation of the percentage of ownership of the undivided interests in that tract for the purposes of determining whether the consent requirement has been met.
 - (e) The Fort Peck Tribes may acquire fee lands that are deemed important for economic development, residential, commercial, agricultural, recreational, or for the purpose of consolidating Tribal land holdings.

(f) The Fort Peck Tribes may trade any or all interests of land for land of equal value for the purpose of consolidating Tribal land holdings.

- (1) Land traded to an allottee must be of equal or greater value than the land being acquired by the Tribes.
- (2) If the land being acquired is of greater value, then compensation must be provided to the allottee to make the trade equitable.
- (3) The Fort Peck Tribes may also choose at their discretion to trade any undivided interest in allotted lands to non-tribal members in exchange for lands for the purpose of consolidating tribal land holdings. The value of acquired lands must be at least 90% of the value of the lands being offered for lands in fee status.

B. Land Purchase Priority Plan

1. The first priority of the Fort Peck Tribes shall be to purchase fractionated trust lands. Trust lands shall maintain a higher priority than fee lands in the Land Purchase Priority Plan.
2. Land types shall be ranked for purchase as follows:
 - (a) Improved Irrigated Ground
 - (b) Potential Irrigated Ground
 - (c) Dry Land Crop
 - (d) Pasture
 - (e) Range Land
 - (f) Timber
3. Within each land type each parcel shall be ranked by Soil Class using the NRCS Soil Classification System. Parcels within the same land type shall be prioritized by Soil

Class with higher Soil Class parcels taking priority over other parcels of the same land type. NRCS Soil Classifications rank as follows:

- (a) Class I. Moderately Slowly, Moderately, and Rapidly Permeable, Well Drained Soils (over 20-inches deep);
- (b) Class II. Slowly Permeable, Well, and Moderately Well Drained Soils (over 20-inches deep);
- (c) Class III. Very Slowly Permeable, Fine Textured, Well Drained Soils (over 20-inches deep);
- (d) Class IV. Wet, Somewhat Poorly, Poorly, and Very Poorly Drained Soils (water table at less than 3-feet);
- (e) Class V. Well and Moderately Well Drained Shallow Soils;
- (f) Class VI. Excessively, Well, and Moderately Well Drained Saline and Alkali Soils (moderate to strongly saline and alkali);
- (g) Class VII. Soils with Surface Fragments Greater than 10-Inches;
- (h) Class VIII. Other Soils with Coarse Fragments (very cobbly, very flaggy, extremely gravelly, and extremely channery);
- (i) Class IX. Soils Subject to Damaging Overflow (occasionally and frequently flooded); and
- (j) Class X. Soils with Poor Available Water Capacity.

C. Land Purchase Fund

1. Irrigated Lands Fund

- (a) The Executive Board shall establish an Irrigation Lands Fund in an interest bearing account, separate of all other tribal accounts, with a financial institution that will allow them to manage the account for the purpose of improving or purchasing irrigable or potentially lands.

- (b) The Irrigation Lands Fund shall be funded by depositing the difference between the lease rate of \$8.00 per acre and the adopted soil classification rate on all irrigated Tribal tracts.
- (c) Funds within the Irrigated Land Fund shall only be used for the purchase of land or to provide for improvements to irrigated Tribal lands and potentially irrigable Tribal lands.
- (d) The Irrigated Lands Fund shall be managed by the Executive Board. All lands proposed for acquisition shall be reviewed by the Tribal Land Committee. The Land Committee shall provide a recommendation for purchase or a recommendation of denial for each proposed acquisition to the Executive Board. A recommendation for approval shall be consistent with the goals and objectives outlined in the Consolidation Priority List.

2. Range Purchase Fund

- (a) The Executive Board shall establish a Range Purchase Fund in an interest bearing account, separate of all other tribal accounts, with a financial institution that will allow them to manage the account for the purpose of purchasing new range lands.
- (b) The Range Purchase Fund shall be funded by depositing \$3.00/AUM on all domestic livestock run on Tribal lands.
- (c) Funds within the Range Purchase Fund shall only be used for the purchase of Tribal range lands which can be incorporated into an existing adjacent Range Unit or create a new Range Unit.
- (d) All range lands proposed for acquisition shall be inspected and inventoried by the Natural Resources Department prior to action by the Land Committee. The Natural Resources Department shall provide a recommendation for purchase or denial of each proposed acquisition to the Land Committee.

3. Range Improvement Fund

- (a) The Executive Board shall establish a Range Improvement Fund in an interest bearing account, separate of all other tribal accounts, with a financial institution that will allow them to manage the account for the purpose of improving existing range lands.
- (b) The Range Improvement Fund shall be funded by depositing \$1.00/AUM on all domestic livestock run on Tribal lands.
- (c) All decisions regarding allocation of Range Improvement Funds shall be made by the Director of the Natural Resources Department. The Natural Resources Department shall manage the Fund in a manner that provides the most benefit to the tribal natural resource. Funds shall only be spent on improvements to Range Units within the reservation boundary. Applications from permittees will be accepted and reviewed for approval or denial as outlined in Section II.C.10.a.
- (d) All carryover funds in the account at the end of the fiscal year will be allocated to repair or replace boundary fence on Range Units within the reservation boundary. The Natural Resources Department will identify and select reaches of boundary fence to be repaired or replaced.

4. Revolving Land Purchase Fund

- (a) The Executive Board will establish a revolving land purchase interest bearing account, separate of all other tribal accounts, with a financial institution that will allow them to manage the account for the purpose of land and mineral consolidation.
- (b) The Revolving Land Purchase Fund shall be funded through the difference between the \$8.00 per acre cropland lease rate and the NRCS soil rates.
- (c) The revolving land purchase account holding can only be used for the purchase of lands or minerals as set forth in Section VIII.B. of this document.
- (d) All income derived from the sale or lease of lands or mineral rights acquired through the Land Consolidation Plan process will be placed in the interest

bearing account. The funds acquired will only be used to repay any debt assumed with the purchase of land or mineral rights and for the purchase of future land or mineral holdings as described in Section VIII.B of this document.

X. AMENDMENTS

APPENDIX B

FORT PECK RESERVATION AGRICULTURAL RESOURCE MANAGEMENT PLAN

FORT PECK TRIBES



AGRICULTURE RESOURCES MANAGEMENT PLAN (ARMP)

March 2015

Fort Peck Tribes Agriculture Resources Management Plan (ARMP)

Prepared for: Fort Peck Tribes
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Appendix A Adopted Land Use Policy

Appendix B Map of Range Units

Appendix C NRCS Soil Health Scorecard

Appendix D Excel Workbook '05-'07 Pastureland

Appendix E Timber Harvest Permit

FORT PECK RESERVATION ARMP

Introduction

1.1 PURPOSE

This document is intended to create a management strategy and plan to govern the management and administration of Tribal lands and those held in trust by the Bureau of Indian Affairs (BIA). The goal is to incorporate local knowledge, history, traditions, and management strategies into an overall guidance document for Tribal and Trust lands within the Fort Peck Reservation. Incorporating local information and data in the Agricultural Resource Management Plan (ARMP) will lead to more local control of the agricultural resources on Tribal and Trust lands within the Fort Peck Reservation.

1.1.1 Mission Statement

The mission of the Assiniboine and Sioux Tribes is to protect and enhance the natural resources of the Fort Peck Indian Reservation in keeping with cultural and traditional practices. The Tribes will:

- Work together to promote agriculture by providing efficient, timely, and reliable services to the people, communities, industries, and other Tribal agencies.
- Protect, conserve, and maintain the highest sustainable productive potential of Tribal and Trust agricultural lands.
- Maximize revenues derived from Tribal natural resources while protecting their sustainability.
- Educate people on the services provided to the agricultural community and the services available to those starting in agriculture.

The ARMP will be managed and implemented to ensure that the Mission Statement is adhered to and that each statement is fulfilled to the best extent possible.

1.2 AUTHORIZATION

The Fort Peck Tribes derive the authority to supersede Federal regulations as outlined in the American Indian Agriculture Resource Management Act – 25 U.S.C. § 3702 & 3712. As outlined in Code, the BIA shall manage agricultural resources consistent with the Agricultural Resource Management Plan and the Integrated Resource Management Plan. Implementation of the ARMP will require coordination and cooperation from the BIA with the Fort Peck Tribes and their respective departments.

1.3 CONTRIBUTING MEMBERS

This document was created by the Fort Peck Tribes' Natural Resources Department through the coordination and cooperation of the following groups:

- Tribal Water Resource Department
- Tribal Minerals Department
- Office of Environmental Protection
- Fort Peck Landowners Association
- Fort Peck Community College
- Natural Resource Conservation Service
- Fort Peck Agency

Public comment and input was encouraged and taken at numerous points in the development of this document. The development of the ARMP was a collaborative effort by the previously mentioned parties.

Overall Management Goals

2.1 CRITICAL TRIBAL VALUES

In managing the agricultural resources on the Fort Peck Reservation it is important to identify critical Tribal values; ensure the ARMP does not conflict with critical Tribal values; and work to improve or enhance the critical Tribal values in the policies and management decisions outlined in the ARMP. The overall critical Tribal values are outlined below.

- Preserving the value of our farmlands and rangelands.
- Maximizing the beneficial use of the Tribal water rights allocation.
- Encourage ownership, stewardship, and management of lands within the Fort Peck Reservation by Tribal members.
- Protect and preserve cultural, historical, and archeological resources.

2.2 5-YEAR MANAGEMENT GOALS

The Tribes have determined the following to be legitimate and attainable short-term management goals for the agricultural resource.

- Improve the management strategy and tracking procedures for Pasture Leases to improve the forage quality.

- Create a Tribal-wide resource database to improve management of the agricultural resources, increase Tribal efficiency, and optimize revenue generation from Tribal and Trust tracts.
- Implement a systematic review and inspection plan for all Range Units and Pasture Leases.
- Implement a soil quality improvement strategy for all Tribal and Trust farmlands.
- Reduce the number of idle Tribal and Trust tracts within the Fort Peck Irrigation Project.
- Implement a lease program which assists new Tribal Farmers and Ranchers attain farmland and Range Units.
- Determine the feasibility of developing additional irrigation within the Reservation.
- Implement a noxious weed control and management plan.

2.3 10-YEAR MANAGEMENT GOALS

The Tribes have determined the following to be legitimate and attainable long-term management goals for the agricultural resource.

- Acquire targeted lands, in accordance with the Section IX – Land Acquisition and Trade of the Land Use Policy, which will add value to the Tribal agricultural resource. The Land Use Policy is included in Appendix A.
- Improve Range Unit forage condition while reducing club moss and noxious weed colonies.
- Improve Range Unit exterior boundary fence conditions.
- Develop water resources on Range Units to improve livestock and forage management through accessing the Tribal MR&I water pipeline network.
- Develop new irrigation within the Fort Kipp and Sprole areas.
- Improve the soil quality of all Tribal and Trust farmlands within the Reservation.
- Improve irrigation infrastructure and facilities condition within the Fort Peck Irrigation Project.
- Implement improvements on idle Tribal and Trust tracts within the Fort Peck Irrigation Project.
- Implement a water accounting system to track the point of use and quantity of water used under the Tribal water allocation.

- Implement a Timber Use Plan to maximize the beneficial use of Tribal and Trust timber lands.
- Create a competitive agricultural leasing environment in which Tribal members have an opportunity start new agricultural operations or grow existing operations.

Reservation Setting

3.1 PHYSICAL TRAITS

3.1.1 Reservation Boundary

The Fort Peck Indian Reservation is located in the northeastern corner of Montana. It is bordered on the west by Porcupine Creek, the east by Big Muddy Creek, and the south by the Missouri River. The northern boundary is located approximately 20 miles south of the Canadian border. The Reservation is 100 miles long and 40 miles wide and lies within the Missouri River drainage. It occupies portions of 4 counties: Roosevelt, Valley, Daniels, and Sheridan.

The Reservation is comprised of 2.1 million acres. Approximately 916,000 acres are held in trust for the Assiniboine and Sioux Tribes and their members. About 624,000 acres of rangeland are trust lands with 385,000 acres in Range Units and 238,500 acres in farm/pasture leases. The Range Units are comprised of allotted (trust) land and tribal land.

3.1.2 Landscape

The Fort Peck Indian Reservation lies in the Northern Dark Brown Glaciated Plains. Elevation ranges from 1,875 feet to 3,100 feet. Most of the inventoried Range and Pasture Units consist of level to steeply sloping upland glaciated plains. The landscape is frequently dissected by steep drainage ways and cobbled ridges.

A sheet of glacial ice covered most of the Fort Peck Indian Reservation in the recent geologic past. This sheet was over 1,000 feet thick and extended south beyond the present course of the Missouri River. As it retreated northward, the ice sheet left a mantle of till that averages 20 to 25 feet in thickness. As a result, gently sloping to steep, mostly very deep and well-drained, loamy and clayey textured soils are common across the Reservation. Some of the glacial till has eroded, exposing the sandstone and shale material. All of the exposed rocks are sedimentary. Marine sediment was deposited during the Cretaceous age as shale, siltstone, and sandstone. Unconsolidated alluvial deposits of gravel, sand, silt, and clay line the drainage ways.

There is an infrequent occurrence of springs, seeps and other areas with a seasonal water table close enough to the surface to influence plant composition and production on the Reservation. Lower landscapes also experience rare flooding events.

Floodplains represent nearly 10 percent of the landscape. These soils are nearly level and deep. Soils are well-drained, moderately well-drained, and poorly drained. The poorly drained soils are often salt affected. These soils generally remain in rangeland as they are too poor to farm. These areas are characterized by the following soil components: Harlem, Havre, Lohler, Lallie, and Nobe.

Small areas of overflow exist where salt and/or alkali accumulations are present. Overflow sites are areas that receive run-off moisture from uplands. These sites occur in small bands and patches associated with alkali basins and at isolated alkali seeps. Overflow sites are also found at the base of badlands erosional side-slopes, such as along the Missouri River floodplain. These areas comprise a very minor part of the Northern Great Plains, and this limited acreage may explain why little research has been published in this area.

Moderately steep to steep uplands, terraces, and outwash plains represent nearly 25% of the landscape. These shallow to deep, well-drained soils are formed in glacial till, outwash, consolidated shale, and weakly consolidated sedimentary beds. These areas are characterized by the following soil components: Tinsley, Cabba, Zahill, and Hillon.

Level to strongly sloping uplands, fans, and terraces represent about 65% of the landscape. Soils are deep and well-drained. They formed in glacial till, alluvium, outwash, and eolian deposits. These areas are characterized by the following soil components: Farland, Turner, Beaverton, and Williams-Zahill.

3.1.3 *Climate*

The Glaciated Plains are characterized by a semi-arid, temperate climate. Summers are generally warm, with frequent hot spells and occasional cool days. Winters are cold, experiencing frequent arctic air surges. Minimum and maximum temperatures range from less than -40 degrees Fahrenheit to greater than 100 degrees Fahrenheit.

Precipitation varies monthly. Mean annual precipitation ranges from 10 to 14 inches, with approximately 75% of the precipitation falling as steady soaking, frontal system rain in late spring to early summer. Summer rains are usually accompanied by thunderstorms. Winter snowfall is seldom heavy. Severe drought occurs, on average, two out of every ten years (Copper, et al. 2001).

The growing season on the Fort Peck Indian Reservation ranges from 105 to 125 days.

3.1.4 *Plants*

The historic climax plant community (HCPC) is the basis for plant community interpretations. The HCPC is determined by evaluating relic areas and other areas protected from excessive disturbance. The HCPC is comprised of a mixture of tall and medium height cool and warm

season grasses, native forbs, and native shrubs. About 80% of the annual production is from grasses and grass-like plants, most of which are produced during the cool season. Forbs contribute a smaller percentage of species composition, while shrubs make a minor component of total annual production.

The interpretive plant community is the Historic Climax Plant Community (HCPC). Cool season, tall and mid-grasses (bluebunch wheatgrass, green needlegrass, western wheatgrass, and thickspike wheatgrass) dominate the HCPC. Prairie junegrass is the most common shortgrass. Other shortgrasses and sedges include plains reedgrass, threadleaf sedge, and needleleaf sedge. Species such as western and thickspike wheatgrass and green needlegrass are able to out-compete bluebunch wheatgrass on ecological sites in Northeastern Montana. Blue grama is the only common warm season grass. Range inventories on Fort Peck and Fort Belknap Reservations (2001-2004) did not report any sideoats grama or little bluestem (also warm season grasses). Grasses represent about 80% of total annual production in the community.

Dotted gayfeather, American vetch, white prairie clover, and purple prairie clover are warm season forbs that commonly occur on these sites. American vetch and the prairie clovers are nitrogen-fixing species, and are also valuable forage producing plants. Groundplum milkvetch, scurfpea, and prairie thermopsis are lower-successional forbs that have the ability to fix nitrogen. White milkwort, biscuitroot, wild onion, and western yarrow may be present as minor components of the plant community. Forbs represent about 15% of total annual production.

Winterfat and Nuttall's saltbush are common warm and cool season shrubs, respectively. They are valuable forage for wildlife and livestock. Silver sagebrush and fringed sagewort, two additional warm season shrub species, may represent a minor component of the HCPC. One would not expect to find more than a trace of broom snakeweed and pricklypear cactus in the HCPC. Very few cool season shrubs grow on the site. Overall, shrubs account for about 5% of annual plant production.

Departures from the HCPC generally result from management actions, drought, colonization and recruitment of noxious weeds, and a change in natural fire regime. Under continued adverse impacts, vegetative vigor declines and lower-successional species gradually replace HCPC species.

This shift in species composition is most evident as deep-rooted cool season perennial grasses (green needlegrass, western wheatgrass, thickspike wheatgrasses) are replaced by short, warm season grasses (blue grama, sandberg bluegrass), fringed sagewort (a half-shrub), and forbs (western wallflower, scarlet globemallow, western yarrow, biscuitroot).

The dominance of these shortgrasses, non-nitrogenous-fixing forbs, and warm season half-shrubs disrupts ecological processes, impairs the biotic integrity of the site, and restricts the system's ability to recover to higher seral states. Thus, the site loses much of its resiliency.

3.1.5 *Animals*

Parts of the Reservation where HCPC occurs provide forage for mule deer and pronghorn throughout the majority of the year. However, most of the reservation is not in HCPC, so overall wildlife forage potential is limited by decreased production and reduced diversity of forbs and shrubs. Most deer use occurs along woody draws, coulees, badland range sites, and other ecological site borders.

The species diversity and cover associated with the HCPC provide habitat for sharp-tailed grouse and other upland birds. Primary use occurs along the ecotones, where grasslands transition to woodland draws and increased deciduous tree and shrub cover. However, most of the reservation has reduced quality habitat. Big sagebrush is rare on the Reservation, which limits the potential for sage grouse habitat. The few sage grouse that exist in the Glaciated Plains are usually associated with silver sagebrush.

Species diversity and litter provide favorable habitat for deer mice, rabbits, and other small mammals. Golden eagles, redtail hawks, and ferruginous hawks are common.

Sites that are characterized by communities in mid to early seral stages are less suitable for big game, upland birds, and small mammals. However, they are more suitable for prairie dogs. Prairie dog towns also have potential for use by burrowing owls, upland plovers, and other wildlife species.

3.2 WATER RESOURCES

Agriculture is the primary industry on the Fort Peck Reservation and water is key to the potential productivity of this industry. Surface water is scattered throughout the area in the form of perennial and intermittent streams, springs, and reservoirs. Livestock watering facilities were found throughout the Reservation, but the majority of spring developments were non-functional. Windmills were primarily non-functional, as were the majority of solar-powered wells. Most Range and Pasture Units rely entirely on intermittent and perennial streams and reservoirs for livestock water. Due to a lack of water sources, pastures are over-utilized around water sources and under-utilized 1.5 to 2 miles from water sources, and not utilized over 2 miles from water sources. Riparian areas were also overgrazed and often abused to the point of erosion and destruction of woody species.

3.2.1 *Hydrologic Setting*

The Missouri River borders the reservation on the south, Big Muddy Creek to the east, and Porcupine Creek to the west. Hydrologic conditions correlate to the state of rangeland health. Highly functioning plant communities under good management accompany sites with good hydrology. Canopy cover (grass, forbs, and shrubs) in such communities is greater than 90%. Plant cover and litter are adequate to optimize infiltration and minimize runoff and erosion. Sites in early or low seral states are generally considered to be in poor hydrologic condition.

3.2.2 *Fort Peck-Montana Compact*

The Fort Peck-Montana Compact, ratified by the Tribal Executive Board on April 29, 1985, is the governing document with respect to the development, diversion, and/or use of water within the Fort Peck Reservation. The Tribal Water Right grants the Tribes the right to divert annually from the Missouri River, tributaries, and groundwater beneath the reservation the lesser of (1) 1,050,472 acre-feet of water, or (2) the quantity of water necessary to supply a consumptive use of 525,236 acre-feet per year for the uses and purposes set forth in the Compact. The Tribal Water Right has a priority date of May 1, 1888 and is held in trust by the United States for the benefit of the Tribes.

The Tribal Water Right is one of the largest water rights in the United States on the Missouri River system while also being one of the earliest priority dates. These unique circumstances put the Tribes in a beneficial position with respect to development and beneficial use of water to serve tribal members and improve the agricultural economy on the Reservation. A large portion of the Water Right is being used to supply water for the Tribal MR&I Project as well as the Dry Prairie Rural Water Project located off the Reservation. Other large users of the Water Right are the Fort Peck Irrigation Project and private irrigation systems along the Missouri River.

The Tribal Water Code was developed through Resolution 993-86-5 to set in place a system for applicants applying for either ground or surface water rights within the Reservation under the Tribal Water Right umbrella. The Water Code also outlines provisions, procedures, and penalties for the reporting, documentation, and dispute resolution for all water rights within the Reservation. All permits and water rights applications and allocations are managed by the Tribal Water Resources Department. Moving into the future it is imperative that the Tribes implement a system to track and account for all water use on the Reservation to apply to the Compact. With large potential water development projects on the horizon and an elongated drought in the greater Missouri/Mississippi River Basin an accurate accounting of water will be imperative to maintain the current allocation in the Compact.

3.3 AGRICULTURAL RESOURCES

3.3.1 Croplands

Croplands comprise over 1.3 million acres within the exterior boundary of the Fort Peck Reservation. Broken into three distinct categories, croplands are identified as dryland, irrigated, or potentially irrigable land. Crops grown vary to an extent depending on the type of cropland but generally consist of small grains such as wheat and barley; lentils such as peas and beans; and forage crops such as alfalfa. The vast majority of cropland lies in the southern and eastern portions of the Reservation. Soils in these areas are generally better suited for crop production. Dryland acres are typically found off the Missouri River floodplain and in the elevated areas north of US Highway 2. Irrigated land is found along the Missouri River along the entire reach of the Reservation's southern boundary. Land identified as potentially irrigable is generally located in the southern and eastern corner of the Reservation along the Missouri River and Big Muddy Creek drainage.

Currently crop production makes up a majority of the local agricultural economy and drives a significant portion of the overall economy within the Reservation. Production of small grains, primarily grown on dryland farms, has steadily increased throughout the Reservation even as acres have been removed from production. Markets have remained relatively steady for small grains making that the primary crop produced. Increased production and the potential for an additional increase in production in the future have led to construction of a number of large grain terminals with unit train load-out capacity. Production numbers from the USDA National Agricultural Statistics Service in 2011 indicate that the Fort Peck Reservation and the counties it resides in was the highest producing area in Montana for spring wheat. Statistics from the USDA indicate spring wheat and small grain production are trending up on and directly adjacent to the Reservation.

Since the inception of the USDA's Conservation Reserve Program (CRP) over 200,000 acres have been signed up and removed from agricultural production. The CRP program paid landowners to remove unproductive fields or fields with poor or erosive soils from production and seed them back to native grass. The majority of acres signed up in the program remain in the program. Typically fields which have been enrolled in CRP remain in native grass and out of crop production even after they have left the program. These fields generally are used as range or pastureland after exiting the CRP program. Yearly signups and renewal cycles for land currently in the program make determining an exact acreage of land enrolled in the program different each year. CRP has had a drastic impact on agricultural production in the region through the removal of production acres however improved farming methods and increased efficiency have minimized the negative impact.

3.3.2 *Rangelands*

Range Units consist of multiple tracts of tribal and allotted land which have been put in Trust. These Trust tracts were grouped for land management purposes and are granted to lessees as single Units. A full map of the Range Units is provided in Appendix B. Rangelands have been grouped into 93 Range Units which comprise 371,062 acres of the Reservation. Most Range Units (91%) are 1,000 to 10,000 acres in size. Of these, 25 fall between 1,000 and 2,000 acres. The smallest Range Unit is 708 acres in size. The largest Range Unit encompasses 26,362 acres. Of the 93 Range Units, 26 include a single pasture. The remaining Range Units are divided into 2 to 13 pastures each.

Ranching makes up the second leg of the agricultural industry on the Reservation. Leasing of Range Units provides prime grazing for cattle producers through the summer months allowing a number of commercial cattle operations a place for grazing. Additionally, Range Units are used to operate the Fort Peck Tribal Ranch commercial cattle herd as well as the Tribal buffalo herd.

The Units are primarily leased by medium to large operations with herds well over 500 head. Most grazing permits are issued for 5.5 months, beginning May 15 and ending October 31. The lease agreements are 10 years in length and permit holders are required to maintain boundary and cross fences. At the time of the 2000-2001 inventory water developments and fence improvements were lacking and very few Range Units had grazing systems designed and/or implemented. Improvements to the Units have been made over the last decade but those improvements have been limited in nature and generally only occur if the lessee is enrolled in the NRCS EQIP program. In most cases the boundary fences on the Units are in poor condition and limited cross fencing is present.

In the 1980s, an extreme drought set back vegetative production and the rangelands have been experiencing gradual recovery ever since. To compensate for reductions in annual production, the BIA cut stocking rates in 1984 and reduced them again in 1988. Stocking rates have remained at reduced (1988) levels since that time. To properly manage rangelands, Tribal staff requested updated resource information. In 1996, the Fort Peck Tribal Department of Natural Resources contacted the Natural Resources Conservation Service (NRCS) Poplar Field Office with a request to complete a range inventory on 93 Range Units, encompassing 371,062 acres. This inventory was completed in 2001 and provided data for Range Units as discussed in this document. The original request for additional data grew into a comprehensive resource inventory of Range and Pasture Units for the entire Fort Peck Indian Reservation. The study and work done through this report have opened the possibility of increasing stocking rates on Range Units where it is determined to have no detrimental effect on the continued operational value of the Unit.

The various aspects and components of the Range Units in general and each Range Unit individually will be discussed in detail in subsequent sections of this report.

3.3.3 *Pasturelands*

Pasture Units are single-tract land classifications consisting of native grasses or alfalfa. Due to farm numbering practices by the BIA and FSA, multiple Pasture Units may have the same tract number, but one Pasture Unit is never comprised of more than one tract. Currently there are 2,315 Pasture Units throughout the Reservation ranging in size from one acre to 640 acres. In many cases Pasture Units consist of land which was once farmed and then reseeded to native grasses or alfalfa. The majority of the Pasture Units are not located in the hills or breaks but on more gradual and gentle lands.

Pasture Unit leases are granted on an annual basis and carrying capacity is determined by acreage as opposed to stocking rate as used on Range Units. Pasture Units are generally grazed or hayed depending on the operator. Due to the uncertainty of the short-term leases, permit holders generally stock Pasture Units to the limit and graze until the feed is gone, seeking a different Pasture Unit to lease the following year. There is little to no incentive for lessees to utilize proper grazing management procedures or invest in range improvements on the Pasture Units. Given the number of Pasture Units without functional fences and without water availability, it appears that many lessees utilize the Pasture Unit in conjunction with other property, either deeded or leased. Production from Pasture Units is limited and sporadic in nature due to the lease structure and volume of tracts to supervise.

Pasture Units are discussed in further detail in subsequent sections of this report.

3.3.4 *Timberlands*

Timberlands make up approximately 9,000 acres within the Reservation, primarily along the Missouri River floodplain and other major tributaries flowing through the Reservation. A Riparian Hardwood Inventory of the Fort Peck Reservation was completed in 1993 by a collaborative group of resource conservation organizations. The inventory was then used to complete an official Forest Plan which was adopted in March 2002 by the BIA and Tribes. Information regarding timberlands throughout this document primarily comes from the two documents referenced above.

Currently there is no commercial timber production occurring within the Reservation. Timberlands are used for hunting, firewood gathering, grazing, wildlife production, recreation, and cultural resources currently. The most common hardwood species is the plains cottonwood found primarily along the banks and floodplain of the Missouri River. Box Elder and Green Ash are also present but to a limited extent throughout the floodplains of the river and major tributaries. Timber harvest does occur on a small scale throughout the Reservation to provide firewood for tribal members. Timber harvesting on Trust and Tribal lands is monitored through a Timber Permit process administered through the Natural Resource Office.

Vegetation with the riparian hardwood forest on Trust lands is dominated by tall trees and tall shrub overstory. Medium height shrubs and native grasses make up most of the understory. Trees in the tall vegetation layer have an average canopy cover of 29%. Trees in the medium and short vegetation layers were less common, with 4 and 1% canopy cover, respectively. Shrubs had the greatest canopy cover of the four lifeforms on the Reservation having 12% canopy cover in the tall layer, 40% in the medium layer, and 13% in the short layer. Native grasses were not observed growing in the tall vegetative layer, but they had 26% canopy cover in the medium layer and 15% in the short layer. Forbs had the least total canopy cover of the four lifeforms, not being present in the tall layer, having 13% canopy cover in the medium layer, and 7% in the short layer.

3.4 LOCAL TRIBAL ECONOMY

3.4.1 Agricultural Impacts

The local economy on the Fort Peck Reservation and that along the Missouri River west of the Big Muddy Creek is heavily dependent on agriculture and agricultural production. The agricultural industry drives a majority of business within the region, whether it is direct agricultural production such as sale of commodities or in-direct transactions such as equipment, chemical sales, fuel sales, etc. Economic conditions in the area, with exception to oil production in far eastern Montana, largely follow the trends and market prices of the commodities produced in the area like small grains and cattle. New markets for agricultural production are present now within and around the Reservation.

Extensive research and investigation has been done on the potential for bio-fuels refining as well as high-value cash crop production within the Reservation. Emerging markets are largely still forage and feed based and marketed either locally or within Montana. Working with federal and state agencies, local farmers are now incorporating oil seed crops in their crop rotations in dry land applications. The Tribes is actively pursuing opportunities in bio-fuel production and have invested considerably in studying the potential for production within the Reservation boundary. Construction of a local bio-fuel refining facility would drastically change local agriculture markets and provide alternatives to local producers while encouraging oil seed crop production.

Two large grain unit-train elevators have been built within fifty miles of the Reservation. Both facilities were constructed due to increased demand for American small grains from foreign markets in Southeast Asia. North central and northeast Montana is currently targeted from increased production of small grains such as spring wheat and durum. Experts forecast small grain production from northeast Montana, including the Fort Peck Reservation, to continue to increase for the foreseeable with modifications in farming techniques.

3.4.2 *Current Agricultural Base*

Crop production within the Reservation primarily consists of small grains harvested from dryland areas. According to the USDA National Agricultural Statistics Service the geographic area including and surrounding the Reservation statistically ranks as the top producing area in Montana for hard red spring wheat. Winter wheat production in the same region also ranks amongst the top in the state according to the same source. Spring and winter wheat are the primary small grain crops produced through the Reservation with durum, barley and feed grains also contributing to small grain production.

Wheat prices have remained steady in recent years helping to maintain a stable market for commodities produced within the Reservation. Over the last decade droughts both in the United States and in other grain producing countries have caused both domestic and international grain markets to increase commodity prices due to shortages in supply. Overall, the northeast corner of Montana and the Reservation has been isolated from drought and has taken advantage of an increase in market prices. Production numbers have remained steady with moderate growth in the area however avenues to market are currently changing. Small local elevators are now being replaced with large scale commercial elevators capable of loading out 110-car unit trains for shipping. In the near future there will be five large commercial elevators operating either within the Reservation boundary or within a 25-mile radius. Market access for grain growers is currently at an all-time high for producers within the Reservation.

Pulse crops are currently used in rotation on dryland fields to rotate out wheat while allowing natural nitrogen infusion into soils. Peas, lentils, beans, and mustard are common pulse crops found on the Reservation. Generally harvested as seed crops, pulse crops have a limited market locally. Main markets for sale of these crops are elevators in central North Dakota and Great Falls, Montana. Shipping and transportation costs weigh heavily on pulse crops harvested for seed however in recent years market prices have maintained at levels sufficient to cover additional costs associated with bringing product to market. Peas and lentils are also hayed and used as feed for livestock herds in the area as well. The nutritional values of these crops make them a reasonable source of feed for wintering cattle herds in the area. Pulse crops continue to be a niche crop included in crop rotations in the area. A substantial increase in production of these crops is unlikely until markets or avenues to market are established closer to the Reservation. Until that time pulse crops provide as much or more value in the benefits they supply to soils when included in crop rotations.

Hay production has been a staple of crop production on the Reservation for decades. Alfalfa and grass hay make up the majority of hay produced within the Reservation and surrounding areas. Barley, oats, and millet are also grown for hay primarily to feed local herds of livestock through the winter. Alfalfa is the primary commercial hay crop produced on the Reservation and sold as high-quality feed for commercial herds. Droughts in other regions of the country have driven up

alfalfa hay prices over the past ten years. Local and regional commercial herds and feedlots have been the primary market for alfalfa hay. However dairy farms along the east coast and in the mid-east along with cattle and horse ranches in the southern US have become primary target markets in recent years. Premiums are paid for certified alfalfa hay and in some cases “pre-bloom” hay with increased protein levels. Native grass hay from Pasture Units, old CRP fields, and fields seeded to native grass make up a large portion of hay production on the Reservation. Grass hay is generally sold locally for livestock herds within or adjacent to the Reservation and not marketed on a large scale due to a lower nutritional quality. Grass hay is vital to commercial livestock herds, both large and small, within the Reservation to feed through the winter and spring.

Oil-seed crop production was once a viable market and maintained a measurable market share within northeast Montana and the Reservation. Markets however have retracted and contracting facilities for production acres have drastically reduced acres under contract. During the 70’s and early 80’s Culbertson operated one of the five oil seed crushing facilities in the US. Crops such as canola were locally grown supplying a large portion of the feed stock for the facility. However markets have changed and the Culbertson crushing facility has now been mothballed largely eliminating the market for oil seed crops in the area. As previously noted, the Tribes are actively pursuing bio-fuels production facilities to relocate on the Reservation. This will be discussed in more detail in subsequent sections of this document.

3.4.3 Potential Markets

Irrigation within the Reservation has created the potential for additional cropland markets within the area. Local producers and the Tribes have actively pursued additional markets. Because the largest production base is dryland production there are limitations for expansion of current markets.

Oilseed crop production is a potential market which the area has proven itself as a proven producer of such crops. Currently there is no active facility within 300 miles of the Reservation to market oilseed crops. Neighboring Canada continues to be one of the largest producers of oil seed crops such as canola and safflower in the world. Canadian production of oilseed crops generally results in exports to Asian markets for consumption or oil extraction. The US also imports oilseed from Canada to facilitate bio-fuel production along the west coast and in the Midwest. Few elevators in Montana buy and sell oilseed reducing market access for these crop in Montana. Canadian elevators in Saskatchewan actively market oilseed however exports fees, taxes, and transportation costs make it cost prohibitive for producers within the Reservation.

Currently tax incentives and public grant funding for crushing and refining facilities for bio-fuels are expiring and not actively being renewed. Focus in the US has shifted from bio-fuel subsidies to federal deficits and balancing the federal budget. Few facilities have been successful in the Rocky Mountain Region in attempting to process or produce bio-fuels. The Tribes have

identified a potential location for a bio-fuels facility east of Wolf Point near the Macon area where a previous refinery was located. Multiple private investors and companies have had discussions with the Tribes regarding the site and partnering potential in a refining facility. Due to regulatory restraints and emission limits interested parties and the Tribes have targeted a 20,000 barrel per day bio-diesel refinery for the Reservation. Because of the location feedstock for the facility is not the primary concern. Local and regional capacity for producing oilseed crops far exceeds the demand a facility of this magnitude would require. Additionally, proximity to Canadian markets also drives down the feedstock cost for a potential refinery. Potential off-take/sales markets are available for a bio-diesel facility located on the Reservation. Due to federal and tribal policy mandating the purchase of bio-fuels for vehicle operation if available, a significant volume of product would be purchased to serve the tribal and federal fleet. The Tribes have a unique opportunity to capitalize on bio-fuel production within the Reservation even with a shift away from federal subsidies. Location of the facility in a proven oilseed producing area, proximity to Canadian markets, and a substantial local sales market for bio-diesel make construction of a facility on the Fort Peck Reservation an attractive option. If developed this could open the door for hundreds of thousands of dryland production acres to have access to another product market. Introduction of a new oilseed market in the area would introduce millions of dollars into the local economy and substantially diversify the production abilities of local producers.

Croplands

4.1 DRYLAND

Dryland production accounts for the overwhelming majority of crop production within the Reservation. With over one million acres of active or potential production within the Reservation dryland farming makes up a majority of the local economy.

When the Reservation was established each enrolled member was allotted 120 acres of dryland production ground. The allotment was intended to be farmed by the allottee for production and consumption to support the family. Up until the last three decades these lands had been passed down from generation to generation and maintained in the original family. In most cases lands were left to multiple members of the family creating fractionated ownership on the majority of allotted acres. Over the last three decades there has been a shift from owner operated acres to either leasing or outright sale of allotted lands to both enrolled and non-enrolled members of the Tribes. Due to input costs and ongoing costs associated with farming, the majority of original allotted families now either lease their lands through the BIA or private leases. Larger operators now lease or control most farmable dryland acres and have incorporate them into large blocks to increase efficiency in farming operations.

Originally during the early 1900's nearly every farmable acre was broken up and placed into production. Productive and unproductive acres both were farmed for decades, eliminating native grasslands and vegetative cover for the soils. From this practice the region has suffered substantial losses in topsoil and degradation in overall soil health. Over the last three decades portions of the historically farmed dryland acres have been removed from production and returned to native grasslands through the USDA CRP program. The original goal of the CRP program was to reduce and minimize soil erosion created from farming practices in unproductive or highly erodible areas. Under the program landowners were paid to take land out of production and reseed it to native grasses, reducing the likelihood of erosion and restoring native habitat. Over the last two decades the USDA has maintained approximately 175,000 acres of CRP within the Reservation (data.gov, Sept 26, 2013). This trend has reduced the overall acres in dryland production within the Reservation however production has remained the same and slightly increased.

4.1.1 *Management Goals*

The overall goal in management of Tribal and allotted dryland acres is to improve the soil quality and stability so as to build a solid foundation for production into the future. The future of dryland production within the Reservation will rely in large part on the engagement of producers and the Tribes in actively promoting and engaging in Best Management Practices to improve soil health. Management goals laid out in this section reflect basic soil health improvement practices established by state and federal agencies. Due to the lack of cumulative data available the primary goal for the Tribes should be establishing baseline data for all Tribal and allotted tracts.

Much of the actively farmed dryland acres within the Reservation have experienced erosional degradation to the topsoil in some form. Topsoil depths in the northern half of the Reservation average approximately 3-6 inches in depth while averaging approximately 6-12 inches in depth along the Missouri River bottom and major tributaries. Erosion in most cases has left either clayey or sandy soils exposed for the receiving seed bed. In these cases reestablishment of topsoil will be an extremely lengthy process requiring implementation of multiple soil health BMPs.

Organic matter present in the soils has historically been low due to continuous cropping over the last two decades. Similar to topsoil organic matter present in soils is generally higher along the Missouri River bottom and major tributaries. The introduction of no-till farming practices have helped start to reverse the trend by allowing organic matter left post-harvest to decompose into the topsoil generating additional organic matter in the topsoil horizon. Methods such as chemical fallowing and reseeding into stubble are now being implemented in areas across the Reservation. Additionally, introduction of crop rotation plans and the inclusion of pulse crops or nitrogen infusing crops are methods promoted by state and federal agencies to increase organic matter as well as improve overall soil health.

A notable side effect from topsoil erosion is the increase in soil pH and alkalinity. Exposure of clayey soils in some areas has increased the presence of pH and alkaline afflicted soils. Clayey soils naturally retain more mineral deposits such as salts in rainwater or runoff due to the tight pore spaces in the soil. Additionally, clay soils create a natural capillary action with groundwater or subsurface moisture pulling water to the surface. Once water is pulled to the surface carrying the minerals or salts it retains the soils dry out and the remaining mineral salt deposits are left at the surface of the soil horizon or within the active root zone. High salt retention leads to high pH readings in soils and high alkalinity, both of which have a negative impact of the growth potential in the soils. Soil pH and alkalinity are crucial components to maintaining and improving soil health in dryland production acres.

Best Management Practices for use in dryland farming acres varies widely due to site conditions, soil conditions, and farming practices. For specific BMPs applicable to each tract it is recommended to engage the local NRCS soil conservationist for development of a comprehensive soil health improvement plan and farm plan. General BMPs available for implementation may include but are not limited to the following:

- Reduce tillage to protect existing soil organic matter
- Avoid soil compaction
- Implement cover crops for erosion reduction
- Develop comprehensive crop rotation plan for implementation
- Leave harvested crop residue for decomposition and organic matter improvement
- Manage pests and nutrients efficiently, avoiding overuse of chemical application
- Diversify cropping system by including pulse crops or nitrogen infusing crops

The techniques outlined above are applicable for both dryland and irrigated tracts within the Reservation boundary. Each tract is unique in its soil health and condition and should be evaluated and treated as such. The BMPs outlined are general improvement practices applicable to every tract, specific practices for each BMP suggestion can be developed to fit the site conditions. Coordination with NRCS staff for implementation of each BMP is suggested for maximum effectiveness and production increase.

4.1.2 *Management Issues*

Currently there is no active database or baseline data on soil quality and health for the majority of Tribal and allotted dryland tracts within the Reservation. Without the establishment of baseline data it is difficult to determine fair market value to set a baseline lease rate for these tracts. Existing lease rates are not based on soil type or soil quality to determine market value. This process has created an environment in which it is difficult to determine if the lease rate is

competitive or under market value. In a number of cases the lease rates for tracts is likely undervalued for the soil quality of the tract. Similarly, lessees have no basis to determine whether their lease rates are commensurate with the quality of the land. Lack of an outlined process for determining soil health and quality to set baseline lease rates is the primary management issue for Tribal and allotted dryland tracts.

There is no evaluation or enforced requirement for the submittal of a crop rotation plan or farm operations plan with the execution of a lease. Upon leasing a Tribal or allotted tract the lessee is not required to submit an approved or reviewed crop rotation plan for the tract for the first three years let alone the duration of the lease. No assurance is made that the operations of the lessee will not have a detrimental effect on the soil quality or health, effectively leaving a tract in worse condition reducing future lease value. Additionally, there is little tract history for the Tribes, allottee, or lessee to review crop rotations, farming practices, or potential pest or fungus problems. When a lease structure is driven by lease rate it often times has a long term detrimental effect to the overall soil quality and health. Acquisition of information and requirement of lessees to plan puts an impetus on evaluating and managing soil quality and health over the duration of the lease and for future lessees.

4.1.3 *Improvement Recommendations*

The following provides basic improvement recommendations which should be implemented by the Tribes and BIA to improve overall soil health and productivity of Tribal and allotted dryland tracts. These recommendations are not all inclusive however provide a general framework for implementing a beneficial program for improving soil quality.

- All dryland tracts would benefit from a baseline soil health scorecard being completed upon all new leasing of the tract. Each scorecard should be maintained on file with its respective tract for comparison of improvement or degradation of soil health upon termination of the lease.
- Incentives should be considered for inclusion in all new leases for implementation of soil health BMPs to improve the overall soil health upon termination of the lease. Incentives could include the following:
 - Lease payment reductions
 - Lease term extension options without competitive rebid
 - Preferred lessee status with the Tribes for other lands (This would require negotiation with BIA staff and potentially Resolution action to develop.)
- Require or incentivize completion of a farm management plan by each lessee which would include:

- Soil health baseline development
- Development of soil health BMP plan to be implemented over the duration of the lease
- Crop rotation plan outline over the duration of the lease
- Require completion of a soils health scorecard prior to termination of all leases.

Implementation of a Soil Health Scorecard Program with the lease program should be of highest priority and the easiest to implement. Gathering baseline data on each dryland tract can only be done with the cooperation of the lessee and operators within the Reservation. Coordination with the lessee on the completion of the scorecard both prior to leasing and upon completion of the lease will help establish a soil quality data base which can be monitored and used for targeted approaches to soil health improvement. The information collected should be maintained on record with each tract so it can be used to value the productivity of the land and determine baseline lease rates at fair market values. It is important to consider an incentive program to get buy-in from lessees and participation in the data collection. A copy of the Soil Health Scorecard developed by local NRCS soil conservationists is included in Appendix C.

4.1.4 *Areas of Interest*

At this time there are no specific areas of higher importance within the Reservation boundary. Improvement to soil health will be beneficial to allottees and the Tribes regardless of the location. At which time future market opportunities are developed, specific areas of interest targeted for improvement may develop. This section of the document should be revisited and revised upon the development of alternative markets for dryland producers such as oilseed or pulse crop seed.

4.2 IRRIGATED

Irrigated acres account for only a small portion of the total Tribal and allotted tracts. Irrigation is limited to the areas along the Missouri River bottom along the southern boundary of the Reservation. Currently the only irrigated Tribal and allotted tracts are located within the Fort Peck Irrigation Project (FPIP). There is no current irrigation in place on individual Tribal or allotted tracts outside of the FPIP boundary.

When the Reservation was established each enrolled member was allotted 40 acres of irrigable acres. The allotment was intended to be farmed by the allottee for production and consumption to support the family. These tracts traditionally have been passed down from generation to generation and maintained in the original family. Again most tracts were left to multiple members of the family creating fractionated ownership on the majority of allotted irrigable acres. A large percentage of irrigable tracts have been sold by allotted members over the last two decades to non-tribal operators. The Tribes have actively engaged in reacquiring fee lands within

the Reservation boundary, especially within the FPIP. The Tribal Farm and Ranch owns a significant block of land within the FPIP which it irrigates to raise alfalfa and grain feeds for the Tribal livestock herd.

The FPIP was built by the BIA and put into operation in the 1930s in concert with the construction of the Fort Peck Dam. Because the dam drastically changed the natural spring floods that irrigated the bottom lands within the Reservation the FPIP was built to create irrigation to benefit the Tribes and its enrolled members. The FPIP is a 21,000 acre gravity irrigation system with two large pump stations, one located at Frazer and one at Wiota. The Frazer Unit consists of approximately 13,000 acres while the Wiota Unit consists of approximately 8,000 acres. The FPIP was built as a flood irrigation system using contours to irrigate each field. The irrigation delivery system has had significant improvements but little since the 1980s when the pump stations were upgraded. Irrigated tracts within the FPIP have in large part been improved through land leveling and gated pipe installation. However, the vast majority of Tribal and allotted tracts leased within the FPIP have not been improved since its construction. These tracts are typically contour flood irrigated with native grasses or alfalfa in production. Some tracts are either not irrigable or aren't currently irrigated due to their condition and lack of production.

4.2.1 *Management Goals*

The overall management goal for irrigable Tribal and allotted tracts within the FPIP is to improve the land value by improving on-farm irrigation for each tract. Whether you're inside or outside of the Reservation boundary irrigable land demands premium lease rates in northeast Montana. Irrigable acres are few and far between and have the potential for producing high yields and high value crops. The soil quality and soil health is generally high for Tribal and allotted tracts within the FPIP however the on-farm infrastructure and portions of the delivery infrastructure are in severe disrepair.

The FPIP has taken an active role in improving deteriorated portions and sections of the delivery system. Over the last six years over \$1.5 million dollars has been spent on repairing structure, upgrading pump stations, and lining delivery canals. However, the deferred maintenance estimate remains in excess of \$50 million dollars for the delivery system. Pump station improvements were completed in 2013 ensuring a reliable delivery source for the foreseeable future. The delivery system remains operational and in fair condition in most areas. Turnouts and headgates to fields, particularly to Tribal and allotted tracts, are in fair to poor condition and in need of replacement. Drains gathering irrigation runoff are overall in poor condition with ponding and clogging being prolific in the Frazer Unit. The FPIP has started a maintenance and replacement program for culverts and field turnouts. Additionally, delivery improvements such as canal lining are taking place. Improvements to the FPIP infrastructure are crucial to on-going success and continued operation of irrigated lands. Due to the increasing deferred maintenance

budget it will be impossible for the FPIP to bring the system to good condition without substantial infusions of Federal money.

Over the last twenty years substantial improvements have been made in on-farm irrigation within the FPIP. In some cases lessees have leased Tribal or allotted ground and paid for on-farm improvements such as land leveling, delivery improvements, and drain improvements. These leases have resulted in idle tracts not only becoming productive but an overall increase in the land value due to irrigation improvements. Lessees have used the NRCS EQIP program to cost share on-farm improvements and offset the capital cost associated with improving the lands. EQIP dollars are available for on-farm improvements with a cost share of 50/50 matching contribution. Specific Indian Earmark set-aside funds are available through EQIP to reduce the competitive pool and fund improvements on Tribal and allotted lands. However in recent years producers have turned away from leasing idle tracts and using the EQIP program to fund improvements due to two factors. The first factor is the increased cost of construction and capital requirements for the remaining tracts. The remaining idle tracts are generally the worst remaining and require the most capital infusion to implement land leveling or irrigation improvements. Secondly, the Tribal lease program will only issue a ten year maximum lease making it difficult to recoup the capital outlay and make profit on the tract. The combination of these two factors has created an environment in which lessees are cautious of undertaking the task of improving the remaining unimproved and idle tracts.

4.2.2 *Management Issues*

There are currently no incentives in place to attract lessees to lease idle tracts within the FPIP and carry the capital cost for improvements. Lessees have moved away from the lease and improve model due in large part to the Tribes limiting the lease period to a maximum of ten years. Capital cost models for implementing on-farm improvements show that it takes 7-8 years before the debt service on the capital outlay is paid. That leaves only two to three years remaining for profitability on the tract. Once the term of the lease expires there is no further guarantee that the operator who paid for the improvement will be able to secure the lease again to make profit from his capital investment in the tract. This uncertainty has all but halted an operator from investing significant capital in idle Tribal and allotted tracts.

Currently the lease process allows for hay permits on idle tracts within the FPIP. These hay permits allow an operator to select tracts with good stands of native grass, lease them for one season at markedly low rates, and hay the tract with no long term commitment. The current system encourages operators to seek out idle tracts and make short term gains without investing in the long term operation of the tract. With no obligation for future years operators are allowed to make management decisions which at times have a detrimental effect on the tract and its value in future years. The program short-circuits the leasing process and allows for poor stewardship of the land without penalty.

The Tribes do not have a program in place to assure that each Tribal and allotted tract within the FPIP has the headgate opened and irrigation run at least once each season. To qualify for NRCS EQIP funding the applicant is required to prove that the tract has been irrigated at least two of the last five years. Because many of the remaining Tribal and allotted tracts have been idle for years it will be nearly impossible to prove irrigation history and qualify for EQIP funding for on-farm improvements. Without EQIP funding the capital cost exceeds the ability of an operator to recoup his investment and make a return on that investment. Record keeping of irrigation history of each tract and the annual application of water to each tract is imperative for the future use of EQIP funding to improve the value and productivity of Tribal and allotted tracts within the FPIP.

4.2.3 *Improvement Recommendations*

The following provides basic improvement recommendations which should be implemented by the Tribes and BIA to improve the value and production of the irrigable Tribal and allotted tracts within the FPIP. These recommendations are not all inclusive however provide a general framework for implementing a beneficial program for improving idle tract values.

- Modify the Hay Permit process to require an operator to sign a minimum of a three year operational permit.
- Incentivize lessee investments in idle tracts to improve on-farm irrigation infrastructure. These incentives could include the following:
 - Lease payment reductions
 - Lease term extension options without competitive rebid
 - Implementing a 15-year lease term for idle tracts planned for improvement
 - Preferred lessee status with the Tribes for other lands (This would require negotiation with BIA staff and potentially Resolution action to develop.)
- Implement an idle tract operations program in which every Tribal and allotted idle tract is irrigated or attempted to be irrigated a minimum of one time each irrigation season.
- Implement a field headgate and field drain culvert replacement program. Replace each field headgate and drain culvert during construction work on adjacent canals and laterals.

4.2.4 *Areas of Interest*

The entire FPIP, shown on Exhibits 1 and 2, has been identified as an area of interest in the existing Tribal Land Acquisition and Consolidation Plan adopted by the Council in 2012. Because irrigable land is valuable in the region the Tribes are focused on improving the operation and condition of the FPIP and tract within it. Working with the BIA and local water users, the Tribes are actively engaging in implementing infrastructure improvement projects throughout the FPIP. The Tribal Farm has implemented numerous on-farm improvements and

turned what was an undervalued portion of the FPIP into one of the most productive areas within the system. Using that same process and methodology the Tribes intend and should focus on slowly working through the remaining idle Tribal and allotted tracts within the FPIP. These tracts are the easiest areas within the Reservation to improve land values and revenue generation due to their access to irrigation water. Additionally, with the use of the NRCS EQIP program and other state funding sources there is funding available for completion of these projects at reduced costs.

4.3 POTENTIALLY IRRIGABLE

The Reservation has a number of potentially irrigable acres within its boundary along the Missouri River. Currently all potentially irrigable acres are either dryland farmed or covered in timber. Acres identified as potentially irrigable are typically within a two mile radius of a stable and consistent water supply which can be accessible for irrigation. With the Missouri River serving as the southern boundary of the Reservation nearly the entire southern portion of the Reservation falls within the potentially irrigable buffer zone.

As discussed in previous sections the FPIP is located in the western portion of the Reservation serving essentially Wolf Point all the way west to Nashua. Substantial private irrigation has been developed by enrolled families along the Missouri River southwest of Poplar and more south east of Brockton developed by non-enrolled members. The remainder of the Missouri River bottom remains dryland farmed or leased to local operators. Soils along the river bottom are generally in good condition and consist of silty clays or silty sands. Production in these areas is above average for dryland production in the same area outside of the irrigable buffer. This in large part is due to improved soil condition and soil health. Areas within the irrigable buffer are the highest in demand for leasing within the Reservation due to their production under dryland conditions.

After construction of the Fort Peck Dam the State of Montana and the Fort Peck Tribes entered into the Fort Peck Tribes-Montana Water Compact. The Compact grants the Tribes a water right of up to two million acres-feet of instream flow from the Missouri River. The water outlined in the Compact is intended for use in municipal water supply, irrigation, supply to the FPIP, and water rights for enrolled members. It's managed by the aggregate amount of water used by the Tribes or enrolled members within the Reservation boundary. Currently there is no accurate estimation of the volume of water used by the Tribes and its members. The Tribes have not accurately accounted for all water development within the Reservation and the aggregate water use. The Tribal Water Resource Office is developing a water rights tracking and monitoring program to determine the amount of water currently used under the Compact and the volume of water remaining for additional development. This information will be vital to the Tribes in pursuing future irrigation development within the Reservation boundary.

Potentially irrigable acres, in aggregate, have the potential to dramatically increase the local economies on the Reservation if developed. Acres are currently leased at dryland rates and produce slightly above average dryland production rates. Development of irrigation on an individual tract can increase its value and lease rate nearly threefold. Additionally, irrigation will increase the productivity of the tract up to fourfold. The increase in both lease rates and production would have a measurable positive impact on the Tribes and the local economy.

4.3.1 Management Goals

The overall goal on potentially irrigable lands is to systematically develop new irrigation and improve the value of Tribal and allotted tracts in the areas identified. Irrigation development in the areas identified will not only increase land values but also agricultural production in the area.

4.3.2 Management Issues

The primary hurdle for future irrigation development on potentially irrigable lands is the severe fractionation of ownership in allotted lands. As discussed in previous sections fractionated ownership has become prevalent in allotted lands. Generations have passed in which owners have passed land down to their kids and now those kids have passed it down to their kids. In some extreme cases one forty acre tract can have up to fifty listed owners. For the BIA and Tribes to act on behalf of the aggregated ownership group of that tract at least 51% of the ownership stake must agree and sign over authority to the Tribes for management and operation. In most cases this fractionated ownership stretches not only off the Reservation but typically out of the State making acquiring the necessary approvals and signatures from owners extremely difficult. The Tribes have and are exploring options for making management decisions on behalf of owners of fractionated tracts however the legal hurdles associated with the process have been difficult. The Tribes has explored outright purchase of fractionate tracts as well. Purchase of these tracts provides a number of benefits, not the least of which is a clean title. However purchase of each fractionated tract within the potentially irrigable areas is not likely leaving the same problem to manage. Until the BIA and Tribes develops a legal procedure to make decisions on behalf of ownership of fractionated tracts it is unlikely that further irrigation development will occur.

4.3.3 Improvement Recommendations

The following provides basic improvement recommendations which should be implemented by the Tribes and BIA to improve the potential for future irrigation development of Tribal and allotted tracts. These recommendations are not all inclusive however provide a general framework for implementing a beneficial program to move towards future development.

- Actively encourage enrolled members to purchase fractionated tracts.

- Pursue Tribal acquisition of fractionated tracts in the North Sprole and Fort Kipp project areas.
- Work with the BIA to develop a management strategy for decision making authority for fractionated tracts.
 - May include setting a benchmark for fractionation at which point the BIA and Tribes determines that the aggregated ownership cannot make educated decisions.
 - May be triggered by lack of ownership activity in management decisions for the property over a set period of time or idle tract stance for a set duration to trigger Tribal management control.
- Incentivize investment from enrolled and non-enrolled members alike in irrigation development. Those incentives may include but are not limited to.
 - Increased lease terms
 - Priority status for release of the property or lease extension options
 - Reduction in lease rate during irrigation development and for the first five year of operation under irrigation

4.3.4 *Areas of Interest*

The Tribes have investigated two large areas for potential irrigation development on the eastern end of the Reservation. The North Sprole Irrigation Area and the Fort Kipp Irrigation area have been targeted by the Tribes and local operators as prime areas for irrigation development. Exhibits 3 and 4 show the locations of the areas of interest and the theoretical boundaries each project would have. Preliminary studies have been completed on both sites with Engineer's Estimates of capital costs and life cycle costs. Both areas meet the criteria for potentially irrigable land and currently experience above average yields under dryland production due to soil quality and health.

The North Sprole Irrigation Area is located between Poplar and Brockton with the north and south boundaries being the Missouri River and US Highway 2. Extensive research and preliminary work has been completed on the potential project. The layout is proposed to consist of over forty irrigation pivots and pipeline supply networks feeding the system. Two pump station sites were proposed off of the Missouri River to potentially feed the system. The area would be run and the irrigation system managed by the Tribes allowing local operators to lease acres irrigated under pivot. The project has stalled out due in part to the capital cost of building the system. The Tribes at this point do not have the capital to fund a project of this nature and have not found a suitable private partner to work with in developing the area. This area is of high importance for future development of agriculture within the Reservation and is high on the priority list for implementation by the Tribal Council.

The Fort Kipp Irrigation Area is located south to southeast of Fort Kipp on the far eastern boundary of the Reservation. This project was investigated in 2011 with a private irrigation development company, Agri-Industries from Williston, ND. The proposed layout consisted of 10-12 pivots supplied by a central pipeline system with one pump station site along the Missouri River servicing the system. Similar to the North Spole project the system would be operated by the Tribes and irrigated acres would be leased to local operators under a competitive lease process. The original structure of the project with Agri-Industries involvement would have had Agri-Industries financing the pivots for the Tribes with eventual transfer of ownership to the Tribes after debt service was paid. The project eventually was tabled due to the difficulty in gathering the volume of signatures for the fractionated ownership of the allotted tracts included in the project. The project still remains viable and is of high priority to the Tribes however until issues with fractionated ownership of the land can be resolved its completion will be difficult.

Rangeland

5.1 OVERVIEW

5.1.1 Land Cover/Use and Ecological Sites

The two land unit types inventoried for this study were Range Units and Pasture Units. Range and Pasture Units are vastly different in size, type of use, and maintenance. Whereas Range Units are generally large expanses of rangeland, capable of sustaining livestock herds for an entire grazing season, Pasture Units are more localized and purpose-specific plots of land. Range Units on the Fort Peck Reservation range in size from 708 to 26,362. Pasture Units range from less than an acre to 640 acres.

Pasture Units are single-tract land classifications. Multiple Pasture Units may have the same tract number, but one Pasture Unit is never comprised of more than one tract. Pasture Unit leases are granted on an annual basis and carrying capacity is determined by acreage as opposed to stocking rate. Due to the uncertainty of the short-term leases, permit holders generally stock Pasture Units to the limit and graze until the feed is gone, seeking a different Pasture Unit to lease the following year. There is little to no incentive for lessees to utilize proper grazing management procedures or invest in range improvements on the Pasture Units. Given the number of Pasture Units without functional fences and without water availability, it appears that many lessees utilize the Pasture Unit in conjunction with other property, either deeded or leased.

5.1.2 Woodlands

Woodland canopy was reported in the Pasture Unit study, but excluded from Range Unit reports. In total, 10,144 acres of woodlands were mapped in Pasture Units. All woodlands occurred along the Missouri River. About 76% of these acres were mapped as “light canopy” with a suggested

stocking rate of 0.35 AUMs/acre. Remaining acres were mapped as “heavy canopy” with a suggested stocking rate of 0.25 AUMs/acre.

Many of the woodlands were not grazed by livestock. Woodlands mapped as “heavy canopy” were often unfenced and did not have livestock water developments. Most of the woodland units that were grazed by livestock were grazed during the winter months. These units were often contiguous along the river, with a fence separating them from cropland to the north. Livestock usually had access to the river for water. Cottonwoods, ash trees, and buffaloberry provided excellent shelter for livestock. Smooth brome grass was the dominate grass species in the woodlands. In 2007, brome grass production approached 6,000 lbs/ac on woodland acres, but this value may have been artificially high due to abnormally high production in 2007.

5.1.3 *Fence Conditions*

1,631 miles of fence were recorded over the course of the three-year inventory of Pasture Units. Fence lines were plotted by driving Pasture Unit perimeter on an ATV and logging points through GPS. An average of data from the two study periods revealed that most (75%, 1,218 miles) of the fence lines are in fair condition, with only 15% (248 miles) in good condition and 10% (165 miles) in poor condition. Classifications were based on visual observation of the fence. The classification “good” refers to fences with at least four tight strands of barbed wire and solid fence posts. A fence in good condition was presumed to be cattle-tight. “Fair” condition refers to fences that could be improved, but are capable of retaining cattle under normal grazing conditions. “Poor” condition fences are characterized by broken-wire and fallen posts. “Poor” condition fences would not hold cattle under normal grazing conditions. Some Pasture Units have good fences on three sides and a dilapidated fence (with open gates) on the fourth side. In such situations, it is presumed that the neighboring land owner or lessee shares forage or water across property boundaries. Some Pasture Units are also inclusions in large pastures or fields and are not fenced from adjacent property.

The percentage of fences in “good” condition was notably higher in the 2006-07 inventory than the 2005 study. This is believed to reflect differences in evaluation by data collectors rather than any significant difference in fence quality from the eastern to western portion of the Reservation. Fence data from the 2005 and 2006-07 inventories is available in chart form on page 15 of the 2006-2007 Pastureland Inventory (Lacey & Ayers 2007). Page 14 of the same document provides a map of the Reservation with the distribution of fence lines.

The percentage of fence types was not reported in 2005. In the 2006-07 inventory, data collectors found that 98% of the 835 miles recorded was barbed wire fence. The remaining 2% consisted of electric fence. Although less than 15 miles of electric fence were mapped, many miles of electric wire were found lying on the ground or hanging from old barbed wire fences. Woven wire (net-

wire) fencing was uncommon and occurred only in short reaches. Generally, woven wire was used to reinforce existing barbed wire fences near corrals or working pens.

Fence lines in the Range Units were recorded on the maps at the end of the Unit Profiles. Total miles of fence were not reported, nor were the fence types or conditions of fences. Data collectors in Range Units reported, frequently, that cross fences would allow for better rangeland management practices, primarily in helping to implement a rotational grazing system. In Range Units where cross fences were in place, it was often reported that gates were left open to allow livestock to utilize water from adjoining pastures.

5.1.4 *Water Developments*

Water availability is a limiting factor on most of the Reservation. In both Range and Pasture Units, land degradation was reported around water sources and lack of water developments restricted the use of some grazing units. Some operators have compensated for water deficiencies by hauling water to their livestock.

Approximately 353 water developments were recorded on Pasture Units. Developments consisted of 152 reservoirs/stock dams, 82 stock tanks and troughs, 51 wells, and 67 other improvements. The breakdown of water developments in Pasture Units is available in more detail on page 17 of the 2006-2007 Pastureland Inventory (Lacey & Ayers 2007). The condition of water developments was also recorded in 2006-07. Over half of the water developments were reported as fair or poor condition. A map showing the distribution of water sources in Pasture Units across the Reservation is available in the 2006-2007 Pastureland Inventory, page 18. During both the 2005 and 2006-07 contracts, some potential water sources were not mapped because of the difficulty in determining their reliability during dry years.

Water availability impacted season of use and livestock distribution in most Range Units. As range trend information shows in the Range Unit Profiles, pastures are being abused around water sources and under-utilized where feed is greater than 1.5 miles from water. Six of the Range Units are enrolled in the Environmental Quality Incentives Program (EQIP). These Range Units have water developments in place, are currently developing water sources, or have plans to develop water. Several Range Units have nonfunctioning tanks, reservoirs, wells, and/or windmills in place.

Grazing capacity in the Range Units was calculated with and without additional water development. In some cases, the grazing capacity of the pasture was predicted to more than double with additional water sources. By developing water sources such that livestock are always within 1.5 miles of water, grazing distribution will be improved, decreasing the occurrence of localized over and under-grazing.

5.1.5 *Season of Use*

Range Units receive seasonal use. 73 of the 93 Units are grazed 5.5 months per year. One Unit is grazed for ten months consecutively and this unit is degraded from the near-constant use. Five units are grazed for less than five months per year and four are grazed for more than six months. For most units (65 of the 93), the season of use extends from May 15 to October 31. Lessees in eleven units turn livestock out between March 1 and May 1. Thirteen lessees turn livestock onto their units between May 25 and June 5. One lessee turns livestock out on August 23. All livestock are out of the Range Units by November 30, with the exception of the 10 month season of use lessee who runs from May to March. Eleven lessees remove livestock from the Range Units between mid-August and October 31.

5.2 STUDY RESULTS AND DISCUSSION

5.2.1 *Similarity Index*

Similarity index to historic climax plant community is defined as the present state of vegetation on an ecological site in relation to the historic climax plant community for that site. It is expressed as the percentage, by weight, of the historic climax plant community present on the site. The similarity index to historic climax provides a measurement of change that has taken place on a site. It is the result of how climate and management activities have affected the plant community on a site (NRCS 2003).

Similarity indices averaged 38% on the Range Units. A detailed account of similarity indices for each ecological site is provided (by Unit) in the Range Unit Profiles.

Similarity indices were comparable in Pasture Units across the Reservation. More than 64% of the acres inventoried across the Reservation had similarity indices of less than 35%. Only a small portion of the acreage of Pasture Units (10-17%) reported similarity indices over 45%. No acres were inventoried with a similarity index greater than 75%. The divergence of the present plant communities from the historical climax plant community (HCPC) raises a serious concern.

Similarity indices are higher on steep (run-off) sites than gently sloping (normal and run-in) sites. This disparity is believed to be due to higher livestock use on gently sloping sites and lesser use on steep sites. Soil moisture availability is higher on run-in and, to a lesser extent, normal sites than on run-off sites. Increased soil moisture allows plants to retain a heightened level of moisture in their tissues for a longer period during the growing season. Livestock prefer these more palatable plants, particularly later in the grazing season when the steeper sites are drying out. Even early in the growing season, livestock, particularly cattle, will avoid steeper terrain. Additionally, water developments on the Reservation rarely occur on run-off sites. Most are located in coulees or on normal sites.

The disparity in similarity indices between normal and run-off sites indicates that current livestock grazing programs are adversely impacting rangeland. Available data suggests that past and present land management practices have and are adversely affecting the HCPC in many of the Range and Pasture Units.

5.2.2 Forage Production

Total annual production averaged 789 lbs/ac on Range Units.

Production was lowest on dense clay sites and highest on wet meadow and overflow sites. Forage production includes only the portion of the total plant production that livestock eat. Annual forage production values followed total annual production, except on wet meadow and overflow sites. The presence of snowberry on these sites greatly decreased the pounds per acre of available forage. Annual forage production on Range Units averaged 652 lbs/ac during the study period.

Forage production was generally lower on the Pasture Units than on the Range Units. Average annual forage production on Pasture Units was 907 lbs/ac across all sites. The weighted average for annual forage production on Pasture Units was 941 lbs/ac. Forage Production on most of the Pasture Units is estimated to be at 1/3 to 1/2 of its potential.

5.2.3 Rangeland Health

The 17 indicators of rangeland health (USDI and USDA, 2000) were evaluated at each of the sampling locations by comparing “on site conditions” with the conditions described in the NRCS’s Ecological Reference Area Worksheets.

58 of the 93 Range Units included rangeland health summaries. Of these 58, most (81%) had a degree of departure from the ecological site descriptions of “none to slight” for soils. Hydrology was slightly worse, with 67% of the Range Units recorded as having a degree of departure of “none to slight.” The remaining 33% had a “slight to moderate” degree of departure. Of the three factors, biologic health was worst. Only 17% of the 58 Units studied had a degree of departure that was “none to slight.” Most (71%) had a degree of departure of “slight to moderate” and 12% had “moderate” departure from the ecological site description.

In most Pasture Units, the degree of departure from ecological site descriptions and/or ecological reference areas was “none to slight” or “slight to moderate” for rills, water flow patterns, pedestals, bare ground, gullies, wind scouring, litter movement, soil surface resistance to erosion, soil surface loss, compaction layer, plant mortality/decadence, litter amount, and invasive plants. However, degree of departure from ecological site descriptions and/or ecological reference areas were frequently “moderate to extreme” or “extreme” for plant community composition and distribution relative to infiltration and runoff, functional/structural groups, annual production,

and reproductive capability of perennial plants. The “moderate to extreme” departures in the western ½ of the Reservation were largely attributed to the dominance of dense clubmoss and blue grama. The “moderate to extreme” departure in the eastern ½ of the Reservation was more often attributed to the loss of a significant functional group (such as tall, cool-season bunchgrasses) or a decline in total herbage production, than to dense clubmoss coverage.

5.2.4 *Trend*

The direction of change in ecological status observed over time is an extremely critical consideration in pasture and rangeland management on the Fort Peck Reservation. Trend allows managers to adapt practices, based on potential future changes, to meet long-term objectives. Trend requires data and/or observations at two or more points in time. Because trend is calculated in this report based on data and observations made at a single inspection, it should be considered “apparent trend.”

Trend on 61% of the Pasture Units in the eastern 1/3 of the Reservation and 58% in the western 2/3 was not apparent. In the Range Units, trend was not apparent on approximately 75% of the acres. Apparent trend was moving away from the historic plant community on 36% of the Pasture Unit acres in the eastern 1/3 of the Reservation, 7% in the western 2/3, and 6% of the Range Unit acres. Apparent trend was moving toward the historic plant community on 2% of the Pasture Unit acres in the eastern 1/3 of the Reservation, 35% in the western 2/3, and 19% of the Range Unit acres.

Limited herbage production, lack of litter, and a loss of tall bunch grasses from the plant community are major concerns in many pastures.

5.2.5 *Suggested Stocking Rates*

Stocking rates were calculated for each tract and ecological site within each Range Unit and each ecological site within each Pasture Unit. Ecological site and rangeland health impacted stocking rates. Rates were highest for overflow and wet meadow sites. Generally, higher stocking rates are expected on normal sites (clayey, silty, and sandy) and lower rates are expected on run-off sites (steep, dense clay, gravel, and shallow).

Pasture Unit data may deviate from normal test samples due to a different sampling protocol. Study plots and transects were located in areas of light grazing, which tended to be higher on steep and shallow sites. Normal sites were typically more heavily grazed.

Suggested stocking rates in 2006 and 2007 tended to be slightly higher than the suggested stocking rates made in 2005. The lower stocking rates in 2005 may be a reflection of higher clubmoss densities that occur in the western half of the Reservation. Suggested stocking rates are based on a one-time appraisal of vegetation and soil conditions. They should be treated as

starting points and adjusted over time using additional data. Stocking rates for Pasture Units were calculated by ecological sites. One Pasture Unit may contain numerous stocking rates pertaining to different sites within the boundary. These stocking rates and total AUMs per Pasture Unit can be found in Appendix D: Excel workbooks “Pasture Units 2005” and “Pasture Units 2006-2007.”

5.2.6 Range Improvements

Range improvements (fences and water developments) were sparse on Range and Pasture Units throughout the Reservation. Some lessees on Range Units are enrolled in the Environmental Quality Incentives Program (EQIP) and have made or are making improvements through the NRCS’s help. Because Range Units are leased under a ten-year contract, lessees have more incentive to improve and manage their leased grounds than lessees of Pasture Units.

5.2.6.1 RECOMMENDATIONS

- Both Range and Pasture Units would benefit from an increased investment in fence and water maintenance and development.
- Fences are needed to control the timing, distribution, and number of livestock grazing per pasture. Most Range Units have operable boundary fences, but lack sufficient cross-fencing to allow for a rotational grazing system.
- Pasture Units are often included in other property and have no boundary fences or have dilapidated fence lines. Pasture Unit lessees indicated that the current leasing situation is not conducive to fence maintenance and construction.
- Water developments, like fences, would improve livestock grazing distribution and allow regions where water is a limiting factor to be grazed during various seasons and for longer periods.
- Additional water developments are needed to facilitate a livestock grazing program. However, as with fences, lessees on Pasture Units lack incentive to invest private capital in constructing additional water developments on Tribal lands.
- Increasing the length of Pasture Unit leases to at least 5, and preferably 10 years, would increase incentive for investing in and maintaining improvements.
- Lease incentives or cost shares to lessees who build or maintain improvements could also provide the necessary impetus for range improvements.

5.2.7 Noxious Weeds

Noxious weeds were far more common in the Pasture Units than the Range Units. There may be several explanations for this difference. Pasture Units are smaller, disjointed, and scattered across the Reservation. Many of the Pasture Units border and/or include roads, public areas, and buildings. These high-use areas have greater exposure to noxious weed contamination and, due to degradation, higher susceptibility. In addition, the small size of Pasture Units allowed data

collectors to check each Unit more thoroughly for noxious weeds. Data collectors working in the Range Units were less likely to discover all of the noxious weed patches in the Unit while running transects.

Noxious weeds appear to be an increasing resource problem. Canadian thistle was the most commonly occurring noxious weed, with a particularly large infestation in Tract T268 (Chelsea SW Topoquad). Most of the 108 patches of Canadian thistle recorded in Pasture Units were on overflow sites or along the edges of cropland.

Leafy spurge patches were found in 49 locations within the Pasture Units and 6 locations in the Range Units. Although most patches were relatively small and could be effectively controlled with an herbicide treatment program, the infestations along the Poplar River (in Windy Butte Topoquad) are extremely serious. Most of the infestations did not appear to have been treated.

5.2.7.1 RECOMMENDATIONS

- For effective weed control, the Fort Peck Tribal Natural Resource Department should map the locations of all noxious weeds and develop a Noxious Weed Management Plan. In addition to the map, the plan should include strategies for controlling infestations.
- A noxious weed education awareness program should be initiated and/or strengthened.
- Cost share programs to assist weed control efforts by lessees and private landowners should be evaluated on a species-by-species basis.
- The advantages and disadvantages of contracting noxious weed control programs with independent contractors and/or surrounding counties should be evaluated with respect to a noxious weed control program implemented and conducted by the National Resources Program Office.
- It may be beneficial for the department to establish, build, fund, and operate its own noxious weed program.

5.2.8 Dense Clubmoss

Dense clubmoss (*Selaginella densa*) is a native, perennial, evergreen forb of the spike moss family. It forms dense mats that are generally less than one inch in height. Clubmoss, a pteridophyte, reproduces by spores, rather than seeds. Its root system is shallow, but extensive, and allows the plant to absorb most of the moisture from storms with ¼ inch or less precipitation (Lacey & Ayers 2007; Lacey et al. 1995). Distribution of clubmoss ranges from the Alaska panhandle to northwest California and east to the Dakotas. It is most common on the mixed-grass rangeland of Montana, Alberta, Saskatchewan, and North Dakota (Brewer 2005).

Dense clubmoss has no forage value for livestock and little to no forage value for wildlife (Crane 1990; Lacy et al. 1995).

Heavy infestations of dense clubmoss create barriers on the soil surface that inhibit water infiltration, forage yield, and biological diversity. Clubmoss impedes plant succession by limiting the ability of other species to establish (Brewer 2005). A dense clubmoss/blue grama sod, like that found on the Fort Peck Reservation, is highly resistant to plant succession. When historic climax plant communities cross the threshold to lower successional states that are characterized by 25% or more dense clubmoss cover, a steady state is reached. Each of the primary processes: 1) hydrology (capture, storage and redistribution of precipitation), 2) energy capture (conversion of sunlight to plant and animal matter), 3) nutrient cycling (cycling of nutrients through the physical and biotic components of the environment), and 4) community dynamics (the collection of organisms that exist in any locality) has been degraded beyond the point of self-repair (within a reasonable length of time). While a clubmoss-invaded or clubmoss-dominated needle-and-thread/blue grama community is resistant to further deterioration (including the establishment of invasive species), it also lacks the resiliency to return to the historic climax plant community. Thus, plant succession on 45,000 clubmoss-infested acres is not expected to occur without significant management inputs.

On the Fort Peck Reservation, clubmoss density contributed to the lack of species diversity and limited new plant growth on both Range and Pasture Units. Clubmoss cover exceeded 30% on nearly 40% of the inventoried Pasture Unit acres and 50% of the Range Unit acres. Consequently, conversion of solar energy to plant production, water and nutrient cycling, and community dynamics are impaired on nearly half of the inventoried acres.

Dense clubmoss cover tends to decrease eastward from Porcupine Creek to the Big Muddy. Clubmoss canopy cover was highest in Pasture Units located in the western 1/3 of the Reservation, much reduced in pastures located in the middle 1/3 of the Reservation, and lowest in pastures located in the eastern 1/3 of the Reservation. Only 9% of the acres inventoried in the eastern 1/3 of the Reservation had clubmoss cover greater than 30%. About 62% of acres in the same region reportedly had less than 10% clubmoss cover (Lacey & Ayers 2007). This trend in clubmoss cover distribution is consistent with research at Montana State University (Payne, Taylor and Whitmer, 1967). Long-term trend data on ground cover and vegetation composition are needed to provide cause-and-effect relationships for the higher canopy classes of clubmoss cover in the western third of the reservation.

There was no apparent correlation between heavy livestock use over large areas and high clubmoss cover or between light livestock use and low clubmoss cover. Although dense clubmoss infestations are sometimes linked to recent grazing management practices, no evidence of this association was found in Valley County (Lacey & Ayers 2007). This is consistent with Brewer's (2005) article, claiming that grazing timing, intensity, and frequency have little impact on clubmoss infestations. It is likely that dense clubmoss has been prevalent for centuries in some areas of the Reservation.

Clubmoss was more predominate on the normal sites than run-in or run-off sites. Cover on normal sites was generally highest on medium-textured soils (silty) and lowest on the large-textured soils (sandy). It frequently occurs with blue grama (Lacey et al. 1995). There is a strong negative correlation between dense clubmoss cover and ground cover by other vegetation or litter (Crane 1990).

5.2.8.1 MANAGEMENT OPTIONS FOR DENSE CLUBMOSS

Grazing/Trampling:

The weak root system of dense clubmoss is easily disturbed by livestock hooves. While low stocking densities and continual grazing may lead to an increase in dense clubmoss cover (due to minimal ground surface disturbance and continual pressure on key species), high stocking densities and seasonal grazing may be an effective tool for dense clubmoss control.

In a study by Kilian, Johnson, & Nelson (2009) “hoof action” was reportedly more effective at short-term reduction in dense clubmoss ground cover than treatments with an aerator. In their study, aeration resulted in a 70-72% reduction in dense clubmoss cover, whereas “hoof action” produced a 93% reduction. The “hoof action” treatment was conducted by confining 244 cattle on a 2-acre plot for 24 hours. Mechanical treatment was conducted by making one pass with an AerWaytm aerator on one acre and two passes with the same aerator on a second one-acre plot.

Dense clubmoss cover increased on grasslands in southern Alberta under a rotational grazing system, but decreased under a continuous grazing system of the same intensity (Smoliak 1960). Crane (1990) also reported that dense clubmoss decreases under grazing pressure due to trampling. In a 4-year study in Montana, clubmoss on a control site decreased from 21 to 17.6 percent during a period of normal rainfall compared to the site grazed by sheep, which decreased from 15.1 to 7.1 percent.

Vogel and Van Dyne (1966) found that clubmoss cover decreased more on grazed areas than protected areas in their study. High levels of dead clubmoss contributed to litter cover on the grazed site.

Fire:

The role of fire in maintaining the historic climax plant communities is not fully understood. Historic fires, ignited by lightning and Early Americans, are theorized to have burned these lands on a natural interval of 5-7 years (Frost 1998). The 18th century “active use” of fire has evolved to an effort to minimize burning. Present fire ecology is, therefore, an aberration from historic fire regimes that characterized the Reservation.

Evidence of wildfire reducing or eliminating clubmoss has been found in north central Montana, where sites had adequate fuel to maintain a fire (Lacey & Ayers 2007). In southwestern Manitoba, fire significantly reduced dense clubmoss cover. Only minimal recovery of the species was observed in the subsequent three growing seasons (Shay et al. 2001). Reintroduction of a fire regime may be beneficial to the environment in helping to control clubmoss density and facilitate plant succession. Currently, however, plant growth in clubmoss dominated communities is inadequate to carry fire.

Mechanical:

Studies show that mechanical treatment can be effective in controlling clubmoss cover. Mechanical treatments include disking, harrowing, chiseling, manure treatment, and reseeded. Most treatments effectively decrease dense clubmoss for the long-term. Dense clubmoss does not readily reestablish on sites treated by mechanical means. Dolan & Taylor (1972) found that 30 years after mechanical treatment was applied, the species still had not recovered its pre-treatment density, vigor, or basal ground cover. Mechanical treatment for clubmoss is being applied on some lands on the Reservation with good to excellent results (Lacey & Ayers 2007). For optimum long-term results, a proper grazing management regime should be implemented following treatment.

Chiseling is currently the most common method of treating large infestations of dense clubmoss. Chiseling, as shown in two independent studies in Montana, significantly decreases the surface ground cover of dense clubmoss and increases the total productivity of the site by allowing establishment of other species (Brewer 2005; Lacey et al. 1995). In short-term results, it was found that spring treatment reduced dense clubmoss ground cover more and enabled more grass production than fall treatment. Spring chiseling reduced clubmoss cover from 48% (before treatment) to 24% (after treatment); while fall chiseling reduced clubmoss cover from 48% to 31%. Brewer (2005) also tested the impact of chiseling at different angles and found that, while positioning the Aerator at 10 degrees provided better clubmoss cover reduction, it also caused the most ground surface disturbance, resulting in reduced grass production. Chiseling is most successful on productive sites that are limited by blue grama, clubmoss, and other shallow-rooted species. As of 1995, the net value of chiseling varied from \$8 to \$38 per acre, depending on grazing management practices (Lacey et al. 1995).

Fertilizer:

Treatment with fertilizer has been utilized to increase the competitiveness of taller species and thereby negatively impact dense clubmoss. Success, however, is largely dependent on precipitation. Mulching has been found to nearly eliminate dense clubmoss in some situations (Crane 1990). Manure application reduces dense clubmoss cover, with little discrepancy between

treatment intensities (Dolan & Taylor 1972). Fertilizer treatment has been effectively used in the past (Crane 1990), but was not referred to in recent scientific literature.

Chemical:

Chemical control has been used effectively in the past (Crane 1990), but is not referred to in recent scientific literature.

5.2.8.2 RECOMMENDATIONS

- The Tribal Natural Resources Office should explore the viability of different management options for clubmoss cover on the Fort Peck Reservation.
- Implementing a fire regime in coordination with improved grazing practices is the preferred method of controlling clubmoss cover in this region.
- The use of high stocking rates and rotational grazing on tribal lands has the potential to disturb clubmoss establishment without negatively impacting desirable vegetation. Research shows that sheep are more effective than cattle at disturbing the clubmoss through hoof action.
- Establishment of more intensive grazing management would provide opportunity to increase stocking density to increase disturbance of clubmoss through hoof action. Increased grazing management would also provide periods of growing season deferment that would favor establishment of desirable species in areas of disturbed clubmoss crusts.
- The Office should also evaluate cost-share opportunities for mechanical treatment. As with fire, mechanical treatments should be followed by a well-managed grazing protocol, which allows the establishment and regeneration of desirable species.
- The Office should initiate an educational effort to better inform ranchers about the benefits of mechanically treating suitable sites where clubmoss cover exceeds 25%. Demonstration projects and tours should be key components of the educational effort.
- To ensure that control efforts and grazing practices are conducive to the removal of clubmoss and improvement of historic range plants, the Fort Peck Tribal Natural Resources Office should establish a monitoring program.

5.2.9 Prescribed Grazing

Rangeland health is a concern across the Reservation. Similarity indices, which are comparisons of the present plant community to the historic climax plant community, were less than 35% on 43% of the Range Unit acres and 70% of the Pasture Unit acres. Many departures from climax appear to be a result of livestock grazing (past and/or present).

Suggested stocking rates are about 1/3 to 1/2 of the ecological potential on Pasture Units. These suggested rates are based on a one-time assessment of soil and vegetation conditions and should be regarded as starting points. Because proper stocking is a prerequisite to proper range

management, Range and Pasture Unit stocking rates should be adjusted to the proposed levels. Resource conditions should be monitored over time and stocking rates adjusted on the basis of progress toward specific goals and objectives.

Prescribed grazing (using livestock grazing for weed control and encouraging growth of desirable species) can be a powerful and inexpensive tool for rangeland management. The effectiveness is relative to the timing, intensity, and frequency of use (Rinella & Hileman 2009).

The absence of adequate water sources and cross-fencing on Range Units and the absence of water and boundary fences on Pasture Units are restrictive factors in land management practices. Water development and fence improvements should be priorities in managing these lands. Only in the presence of adequate water and fences can grazing systems be implemented that promote rangeland health.

5.2.9.1 RECOMMENDATIONS

- On Range Units and larger Pasture Units, a grazing system should be developed and maintained to promote rangeland health.
- Where prescribed grazing is not practical (small Pasture Units, units without adequate water or fences), proper stocking rate and season of use should be established and enforced. Prescribed grazing and proper stocking rates would allow native plants opportunities to regain vigor following defoliation, thereby facilitating plant succession.
- The similarity index and 17 rangeland health indicators suggest that grazing management should be more pro-active on both Range and Pasture Units.
- Prescribed grazing systems should be implemented where practical.
- Prescribed burning may be used in conjunction with grazing to mimic natural fire regimes across the Reservation.

5.2.10 Deferred Grazing/Dormant Season Use

Most Range and Pasture Units on the Reservation have poor species composition and low plant vigor, particularly on sites where dense clubmoss is predominant. Grazing information was not available for Pasture Units, but grazing permits for the Range Units indicated that the range is being grazed annually throughout the growing season. Two thirds of the Range Units are grazed consistently from May 15 to October 31. Of the remaining 29 Range Units, 28 are grazed during June, the most productive month for plant growth in Northeastern Montana. Only one Range Unit limits grazing to the dormant season (August 23 to October 31).

Range condition on sites that have been intensely and heavily grazed in the past can improve under livestock grazing, but condition improves more rapidly when protected during the growing season (Vogel & Van Dyne 1966). Continually grazing rangeland during the growing season limits the reproductive potential of desirable species. Perennial grasses are particularly sensitive

to growing season use by cattle, because cattle select grasses over forbs and shrubs (Kirby et al. 1986). Annual production is not immediately impacted by grazing during the growing season. In fact, plants will experience a short term increase in vegetative production under grazing (Nelson et al. 2006). However, repeated use of range pastures during the growing season limits seed production. This repeated restriction on reproductive potential results in a long-term decrease in desirable species.

If allowed time for recovery, regeneration, and establishment of a seed base, range plants can withstand a high level of grazing intensity. Rotational grazing systems that alternate season of use in each pasture may aid this process (Branson & Miller 1981). Additional, longer grazing periods, and thus longer deferments, promote secondary succession in key species better than numerous short grazing periods at the same stocking rate (Reece et al. 1996).

Deferred rotation grazing stems from the rotational grazing concept in which livestock are moved from pasture to pasture as proper or full use is attained. Under deferred rotation grazing, grazing on at least one pasture each year is deferred until key species have produced seed. Order of pasture use is changed annually or biannually to ensure that no pasture is grazed during the same period every year (Jefferies 1970).

5.2.10.1 RECOMMENDATIONS

- Make dormant season grazing available by offering extended season of use on lease contracts.
- Provide incentive for lessees to implement a rotational grazing system which defers grazing on at least one pasture each year.

5.2.11 Summary/Recommendations

Ecological condition and trend of upland range sites has improved significantly on much pastureland since the 1980s. Native plant communities are still generally intact and the presence of noxious weed is relatively low across the reservation. However, dense clubmoss has invaded thousands of rangeland acres and presents both a barrier to a return to the historic climax plant community and a buffer against further rangeland degradation and weed infestation.

Many Range and Pasture Units require additional livestock water sources and fencing to improve livestock distribution and allow for varied season of use.

Riparian vegetation has been negatively impacted by season long grazing. Trend in riparian area and woody draws is a significant resource concern. Development of riparian pastures and implementation of a riparian grazing program would benefit riparian areas. Short-term exclusion of livestock from riparian areas will bring about rapid recovery of stream function and habitat quality.

Present salt and mineral placement (adjacent to water) is likewise poorly executed. Good range management principles are lacking on most Range and Pasture Units.

Proper range management dictates that animal numbers must be controlled, season of grazing regulated and varied annually, and livestock properly distributed throughout pastures. Observing these principles of range management would prevent further rangeland health deterioration attributed to overstocking, overgrazing, overutilization, and over-rest. Under good management, desirable forage plants would receive ample recovery time for growth, reserving residues to survive drought or winter desiccation, leaving sufficient litter for soil surface cover, and retaining robust above and below ground biomass. Each of these factors is critically important to maintaining or moving toward HCPC.

Utilizing cross-fences, water developments, and salt and mineral placement to encourage better livestock distribution would be a valuable start to improved rangeland management.

Varying season of use and managing for weeds and clubmoss cover are also important management tools. Deferred rotation grazing, which puts at least one pasture per Range Unit into rest or dormant season grazing use each year, would greatly improve the condition of the rangelands.

5.3 RANGE UNIT GOALS & OBJECTIVES

The following goals and objectives are divided into six units: management goals, management objectives, 10 year management tools, 5 year management tools, 2 year management tools, and 1 year management tools. Management goals identify desired outcomes for the Fort Peck Reservation as they relate to the rangeland. Goals are broad ideas without timeframes. Management objectives identify quantifiable, tangible steps that should be taken to meet goals. Objectives should have timelines. Action items are specific tasks that facilitate accomplishment of goals and objectives.

5.3.1 Management Goals

- Provide a stable economic base for the Tribes.
- Provide economic stability for Tribal livestock owners.
- Manage for sustainable resource conditions.
- Manage for sustainable water quality.
- Manage for sustainable wildlife production.
- Manage for sustainable fisheries.
- Provide revenue from grazing lands to Tribes and Allottees.
- Maintain wildlife habitat and wildlife populations.
- Stabilize Tribes' income from Range and Pasture Units.

- Provide opportunity for sustainable livestock production for tribal members.
- Nurture a strong local economy.

5.3.2 Management Objectives

- Improve forage production for livestock by 20% in 5 years.
- Improve rangeland health to functioning condition on 70% of rangeland in 10 years.
- Improve 80% of riparian areas to Proper Functioning Condition in 10 years.
- Control club moss on 50% of infested acres in 10 years.
- Manage invasive species so that new infestations are treated within 1 year and old infestations treated to reduce risk of spread within 5 years.
- Maintain or improve fences to functioning condition in 5 years on Range Units and on Pasture Units with more than 75 AUMS.
- Maintain or improve water developments to functioning condition in 5 years on Range Units and on Pasture Units with more than 75 AUMS.
- Develop program to provide additional flexibility in lease terms within 10 years.
- Increase revenue from Range Units and Pasture Units by 20% in 5 years and 40% in 10 years.

5.3.2.1 ACTION STEPS FOR EACH OBJECTIVE

(A) IMPROVE FORAGE PRODUCTION

- Control of club moss and noxious weeds will create the fastest response for forage production.
- Development and repair of livestock drinking water sources will allow use of currently unused forage.

(B) IMPROVE RANGELAND HEALTH

- Implementation of a managed grazing program will provide opportunity for improved rangeland health.
- Improving rangeland health will require control of timing and intensity of grazing.
- Providing a rotation of growing season deferment will provide opportunity for increased vigor and reproduction of desirable perennials.
- Develop and maintain water sources for livestock to encourage more even distribution of livestock across Range and Pasture Units.
- Improve and develop new boundary and cross-fences for better livestock management and for the implementation of an effective rotational grazing system.

(C) IMPROVE RIPARIAN AREAS

- Inventory riparian areas to determine current condition.
- Identify factors that prevent areas from functioning.
- Develop plan to address factors reducing riparian function.

- Maintain, repair, or build fences that provide grazing deferment in riparian areas.
- Develop and implement grazing strategy for riparian pastures.
- Provide protection for riparian areas by drawing livestock away from stream corridors with alternative water sources, salt and mineral placement, and cross fencing.

(D) MANAGE/CONTROL DENSE CLUBMOSS

- Establish a dense clubmoss monitoring program to ensure that control efforts and grazing practices are conducive to the removal of clubmoss and improvement of historic range plants.
- Develop clubmoss control project.
- Determine criteria to evaluate need for clubmoss control, criteria to determine what treatments are appropriate for specific conditions.
- Develop protocol that will allow targeted grazing intended to break up club moss.
- Implement and maintain clubmoss control program, including mechanical treatment and grazing practices that encourage reestablishment of native perennial grasses.
- Initiate an educational effort to better inform ranchers about the benefits of mechanically treating suitable sites where clubmoss cover exceeds 25%.
- Implement demonstration projects and tours as key components of the educational effort.

(E) MANAGE INVASIVE SPECIES

- Implement and maintain a noxious weed control plan.
- Map the locations of all noxious weeds and develop a Noxious Weed Management Plan.
- Develop strategies for controlling infestations.
- Develop a noxious weed education awareness program.
- Participate in cost-share programs to assist weed control efforts by lessees and private landowners should be evaluated on a species-by-species basis.
- Evaluate advantages and disadvantages of contracting noxious weed control programs with independent contractors and/or surrounding counties should be evaluated with respect to a noxious weed control program implemented and conducted by the National Resources Program Office. It may be beneficial for the department to establish, build, fund, and operate its own noxious weed program.

(F) MAINTAIN OR IMPROVE FENCES

- Inventory current fence condition.
- Determine budget to improve non-functioning fences.
- Develop plan to cost share fence repair.

- Develop plan to include fence maintenance into lease program.
- Improve and develop new boundary and cross-fences for better livestock management and for the implementation of an effective rotational grazing system.

(G) MAINTAIN OR IMPROVE WATER DEVELOPMENTS

- Inventory current conditions of water developments.
- Determine budget to improve non-functioning water developments.
- Develop plan to cost share water development.
- Develop plan to include water development maintenance into lease program.

(H) DEVELOP FLEXIBILITY INTO LEASES

- Provide opportunity for flexibility in seasons of use.
- Develop plan for each pasture within a Range Unit or Pasture Unit to receive periodic grazing season deferment.
- Change lease contracts to make dormant season grazing available on Range Units and Pasture Units.
- Determine protocol to allow additional flexibility to lessees as to when grazing can occur.
- Extend the period when grazing can occur while reducing the time that grazing does occur in a given year.
- Allow use of multiple pasture units to be used in conjunction to provide a grazing rotation during the grazeable period of the year.

(I) IMPLEMENT MANAGEMENT PLANS ON RANGE UNITS AND PASTURE UNITS WITH MORE THAN 75 AUMS

- Inventory Range Units and Pasture Units.
- Establish working group with Tribe and NRCS to develop grazing plans.

(J) INCREASE REVENUE FROM RANGE AND PASTURE UNITS.

- Encourage and maintain wildlife habitat and opportunities for revenue from hunting and fishing.
- Develop partnership arrangements with lessees/permittees, BIA, and other parties to establish conservation plans, cost share approaches, and other measures to encourage lessees and permittees to take greater responsibility for weed control, range improvements, and other measures, such as additional stipulations to lease/permit renewal terms to promote overall improvements.
- Provide opportunities for tribal members and families who aren't current lessees and permittees to become operators.
- Develop a comprehensive record of all Pasture Units, lessees, acreages, and health assessments.

- Verify boundaries and improvements on Pasture Unit tracts and group into larger management units where feasible.
- Establish a Pasture Unit naming system which distinguishes distinct units.
- Write medium to long-term (3-10 year) lease contracts for the Pasture Units once appropriately divided and grouped.

5.3.3 [Ten-Year Management Actions](#)

- Assess current rangeland health, state of improvements, and grazing plans for Range and Pasture Units.
- Review the management plan for Range and Pasture Units on the Fort Peck Reservation.
- Evaluate whether goals are being met and/or if further adjustments need to be made in plan implementation to see that lessees are working toward the betterment of the Units and making the recommended changes.
- Determine whether an additional incentive program is necessary to encourage lessees to work toward the outlined management goals.
- Reassess the management plan and make additional recommendations and/or changes to the goals section based on improvements or lack of improvements made in the past ten years.
- Develop grazing management plan for 10-year Range Unit lease. Determine what improvements and treatments are needed for the property and write into the contract.
- Reallocate 10-year leases (for Range Units) based on the conditions of the contract and how those conditions are being met.

5.3.4 [Five-Year Management Actions](#)

- Evaluate the condition of rangeland, state of improvements, and grazing plans for Range and Pasture Units.
- Determine if lessees are meeting the requirements and conditions of lease contract. Where lessees fall short, action should be taken to revoke short-term leases or recommend operational adjustments.
- Remap the location of noxious weeds. Reassess areas of concern where noxious weeds occur and determine plan of action in continued control and eradication of noxious species. Provide direction to lessees for noxious weed control where needed.
- Reassess clubmoss control practices and determine which treatment methods appear most cost effective. Make treatment recommendations for clubmoss control accordingly.
- Evaluate the effectiveness of the clubmoss education program and adjust accordingly.

5.3.5 [Two-Year Management Actions](#)

- Review lease/permit stipulations so as to encourage operators to take greater responsibility, while accessing NRCS and/or BIA technical assistance and other financing tools to promote improvements.

- Assess the condition of boundary and cross fences on Range and Pasture Units.
- Assess the condition of water improvements and determine where further improvements are needed.
- Assess the health of riparian corridors and develop grazing options that consider these regions.
- Collect data to evaluate the effectiveness of clubmoss control treatments.
- Collect data to document the effectiveness of noxious weed control treatments.

5.3.6 [One-Year Management Actions](#)

- Meet with operators to determine areas of concern, analyze lease contract terms, and review grazing plans.
- Monitor grazing practices and ensure a deferred rotation grazing system is in place and stocking rate recommendations are being met and adhered to.
- Monitor the presence and development of range improvements and noxious weed and clubmoss control efforts on Range and Pasture Units.
- Reevaluate lease rates.
- Adjust billing to reflect the level of cooperation by lessees in improving the rangelands. (Implement/utilize the incentives program).
- Maintain rural water system and erosion prevention.
- Inspect 20% of the Pasture Units (alternating which Units are inspected annually). Collect field studies to ensure that contract conditions are being met.

5.4 **AGRICULTURAL MANAGEMENT UNIT PROFILE**

5.4.1 *Range Unit Profiles*

1. Unit title
2. Ownership
 - a. Acreage
3. Authorized Trust Land Use
 - a. Total number of months grazed
 - b. On date and off date
 - c. Number of AUMs stocked (as based on BIA permit)
4. Calculated Grazing Capacity
 - a. Without water improvements
 - i. Total AUMs/Range Unit
 - ii. AUMs/pasture in Range Unit
 - b. With water improvements
 - i. Total AUMs/Range Unit
 - ii. AUMs/pasture in Range Unit
5. Unit Description
 - A. Ecological Interpretations
 - i. Water

- ii. Site 1 Description
- iii. Site 2 Description
- iv. Vegetation
 - a. Key management species
 - b. Increasesers & invaders
 - c. Dense Clubmoss cover
- v. Noxious weeds
- vi. Transect Table
 - a. Transect Number
 - b. Range Site
 - c. Total Production
 - d. Forage Production
 - e. Stocking Rate
 - f. Similarity Index
 - g. Initial Trend
 - h. Plant Community
- vii. Trend
- viii. Rangeland Health
 - a. Soils
 - b. Hydrologic cycle
 - c. Plant community
 - *Chart
- ix. Total Available Forage
- B. Range Improvements
- C. Management Issues/Guidelines
- 6. 10 year Management goals
- 7. 1-3 year Management goals
- 8. Similarity Index/Trend Map
- 9. Plant Community/Clubmoss Cover Map
- 10. Grazing Permit

5.4.2 Range Units

The Range Unit Profiles provide detailed information concerning each of the 93 Range Units on the Fort Peck Reservation. Each Profile includes the following information: 1) total acreage; 2) current authorized trust land use as listed on the grazing permit; 3) grazing capacity with and without water improvements, as calculated by the NRCS, for the entire Range Unit and, where appropriate, pastures within the Range Unit; 4) unit description detailing the ecological information gathered by the NRCS in the rangeland inventory; 5) 10 year management goals; 6) 1-3 year management goals; 7) similarity index/trend map; 8) plant community/clubmoss cover map; and 9) grazing permit.

All Range Unit Profiles follow the same template, but information was not always available to complete every section. Inventory data for several units was incomplete, inconsistent, or mixed

with data from other units. The inventory data used for these profiles was gathered by the NRCS in 2000 and 2001; the report and maps were completed in 2003.

AUMs per pasture were determined by estimating the percentage of total acreage occupied by each pasture and multiplying that value by total AUMs. Due to a lack of GIS data documenting pasture boundaries and acreages and linking that information to stocking rates, per pasture AUMs are estimates based off of maps provided by the NRCS. There is no guarantee that the fences mapped on the NRCS maps in 2003 are still intact or functional. There may also be more fences today, particularly on the Units enrolled in the EQIP program. Field verification should be conducted, particularly on Range Units where stocking rates vary significantly between pastures. The figure provided ascribes the same stocking rate to each pasture. Without further study and GIS information, a more accurate value cannot be attained.

Lease/Permit Transactions

Range Units, unlike Pasture Units, are comprised of various grouped tracts. Because Range Units are larger and are leased under a ten-year contract, lessees have more incentive to manage their leased Units for long-term sustainability. Grazing fees on Range Units are issued by AUM.

Pasture Units lack the incentive-based structure of Range Units. Many Pasture Units are too small to manage independently and must be managed with the adjoining property. Often, the Pasture Units are not fenced separately from neighboring pastures. Leases are issued annually and grazing fees are determined on a per acre basis. A lessee pays the same fee whether the pasture is stocked with 10 AUMs, 100 AUMs, or 0 AUMs. Incentive is, therefore, high for lessees to overstock units and desert the lease the following year.

Fixed costs have no bearing on optimum grazing levels (Workman 1986). Optimum grazing levels for lessees decreases when fixed costs are converted to variable costs. With variable costs, there comes an economic incentive to graze at the level where marginal cost is equal to marginal revenue. A reduced stocking rate becomes the economic optimum under the variable cost system. This strategy was detailed by Whitson and Ragsdale (1976). Converting from a fixed (per acre) grazing fee to a variable (per AUM) fee and extending leases from one-year contracts to a minimum of three years would encourage better stewardship and range management practices.

Pastureland

6.1 OVERVIEW

Pasture Units are small (less than 640 acre) units within the Fort Peck Reservation that are leased out annually. A total of 2,315 Pasture Units were inventoried; 980 in 2005 and 1,335 in 2006-2007. The large number of Pasture Units made it impractical to develop management plans for

each unit. Instead, units were grouped into land use categories and further divided by size and stocking rate into classifications with similar units. Each classification was then assigned a set of generalized land management recommendations.

The three land-use categories identified for these Pasture Units were: rangeland, cropland, and improved land. The acreage of each Pasture Unit devoted to rangeland, cropland, and/or improved land was calculated as a percentage of total acreage.

The category “rangeland” includes all Pasture Units inventoried as 100% rangeland. These Pasture Units were treated as grazing lands and received a full inventory, including clubmoss cover, similarity index, and stocking rates. 1,567 Pasture Units were comprised of 100% rangeland. These Pasture Units were further sorted by carrying capacity, such that approximately 100 Pasture Units fell under each category. Management recommendations are provided for Units with similar acreage and AUMs.

“Cropland” refers to all Pasture Units that were inventoried as being entirely devoted to crop production. In 2006-07, “out acres” (acres occupied by out-buildings or other man-made facilities) and “go-back acres” (abandoned cropland) were included as cropland. 112 Pasture Units (40 in the western 2/3 of the Reservation and 72 in the eastern 1/3) qualified as cropland. “Cropland” pastures did not receive a full inventory. Categories like clubmoss cover, similarity index, and stocking rate were irrelevant on these acres.

“Improved” lands refer to Pasture Units that were seeded to introduce species for tame pasture or CRP. Inventory data is often only partially complete on these units, relative to how the pasture was seeded and what it was being used for. Clubmoss cover was generally absent on these lands. Stocking rates were determined on some improved pasture in the 2005 study, these pastures were listed independently. For the sake of consistency, improved pasture stocking rates should not be included with AUM calculations for rangeland pastures. 83 of the 2,315 Pasture Units were listed as “improved.” Only 16 of these Pasture Units occurred in the western 2/3 of the Reservation, the remaining 67 were found in the eastern 1/3. This may be due to differences in discretion between data collectors.

Not all Pasture Units were devoted to a single use class. Many Pasture Units included two land use types and some encompassed all three. These Pasture Units were further divided into the following categories: “range and cropland”, “range and improved land”, “cropland and improved land”, and “rangeland, cropland, and improved land.”

11 Pasture Units in the 2005 data and 18 Pasture Units in the 2006-07 data had rangeland, cropland, and improved acreages that did not add up to the total acres for the Pasture Unit. Some of these problems were obvious data entry errors. Changes were made to these Pasture Units to correct for different acreages where possible. All changes were recorded in red print for tracking

purposes. The data remains unchanged in the Access database. With the corrections in place, only five Pasture Units could not be categorized. These five (3 from 2005 and 2 from 2006-07) showed no acreage under total acres and each category. Pasture Units with incomplete and corrected data require field verification to determine where the fault in the data occurs.

The following table (Table 1.1) shows the divisions of Pasture Units into categories:

Table 1.1 – Pasture Unit Categories

	2005 (West 2/3)	2006-07 (East 1/3)	Totals
100% Rangeland	690	877	1567
100% Cropland	40	72	112
100% Improved Pastureland	16	67	83
Range and Cropland	150	242	392
Range and Improved Pasture	68	42	110
Crop and Improved Pasture	1	17	18
Range, Crop, and Improved	12	16	28
Uncategorized	3	2	5
Totals	980	1335	

After Pasture Units were divided into the seven categories: “rangeland”, “cropland”, “improved pastureland”, “range and cropland”, “range and improved pastureland”, “crop and improved pastureland”, and “range, crop, and improved pastureland”. Pasture Units with some percentage of rangeland were further divided by carrying capacity. These Pasture Units were grouped into the following divisions: 0-4 AUMs, 5-6 AUMs, 7 AUMs, 8-13 AUMs, 14-19 AUMs, 20-35 AUMs, 36-75 AUMs, and >75 AUMs.

The following tables (2.1 and 2.2) show the breakdown of Pasture Units with rangeland into different carrying capacities:

Table 2.1 – Pasture Units Western 2/3 of Reservation

Number of Pasture Units 2005 (Western 2/3 of Reservation)					
AUMs	Rangeland	Range/Crop	Range/Improved	Range/Crop/Improved	Total
0-4	25	22	3	2	
5-6	48	6	3	0	
7	40	9	2	0	
8-13	141	38	6	4	
14-19	93	23	7	1	
20-35	163	38	22	1	
36-75	157	14	15	2	
>75	23	0	10	2	
	690	150	68	12	920

Table 2.2 – Pature Units Eastern 1/3 of Reservation

Number of Pasture Units 2006-07 (Eastern 1/3 of Reservation)					
AUMs	Rangeland	Range/Crop	Range/Improved	Range/Crop/Improved	Total
0-4	80	35	11	1	
5-6	137	16	3	0	
7	172	8	0	0	
8-13	117	42	8	2	
14-19	98	28	4	1	
20-35	99	46	9	6	
36-75	107	56	5	5	
>75	67	11	2	1	
	877	242	42	16	1177

Table 2.3 – Pasture Units on Fort Peck Reservation

2005-2007 Totaled Pasture Units on Fort Peck Reservation					
AUMs	Rangeland	Range/Crop	Range/Improved	Range/Crop/Improved	Total
0-4	105	57	14	3	179
5-6	185	22	6	0	213
7	212	17	2	0	231
8-13	258	80	14	6	358
14-19	191	51	11	2	255
20-35	262	84	31	7	384
36-75	264	70	20	7	361
>75	90	11	12	3	116
	1567	392	110	28	2097

1,236 Pasture Units currently provide less than 20 AUMs of livestock grazing (59% of Pasture Units). It is not practical or economically feasible to initially devote management efforts to areas with such small potential for economic improvement. Efforts should be focused initially on the 116 Pasture Units (5.5% of total) that provide more than 75 AUMS.

In the long term, a more sustainable management strategy would be to group the Pasture Units into larger management groups, similar to the groupings for the Range Units. The current number of Pasture Units prevents any sort of organized management. Many of the challenges faced on the Pasture Units could be better addressed if the tracts were grouped into management

units with 1,000 or more AUMs per unit. Addressing these challenges would become feasible and allow the Pasture Units to become a tool for meeting overall goals and objectives.

Pasture Units do not have a reliable naming system. The unique number for each Pasture Unit is the number assigned to the Unit when the data was entered in Access. For 2005 data, this number is titled simply "ID" and the values range from 6 to 1029. In 2006-07 data, the unique value is titled "PastureID" and the values range from 1032 to 2384. For further identification, each Pasture Unit ID is accompanied by the corresponding topoquad, field ID, tract ID, township, section, and range. Township, section, and range were excluded from the excel spreadsheets, but are available on the access database and can be exported to excel and linked to the data there.

Tract numbers are not unique to Pasture Units. In multiple cases, one tract number will pertain to numerous Pasture Units in various topoquads throughout the Reservation. 40 tract numbers appeared in both the 2005 and 2006-07 data sets. These tract numbers are identified in an Excel document with the corresponding topoquad and field number for further review. In most cases, different entries for the same tract number have unique data entries. Occasionally (for example T6060), two entries will have the same acreages and most of the same inventory data, indicating that the site may have been inventoried twice, once in each collection period, and given unique pasture and field IDs in each study.

Repeated tracts are listed in the Excel Workbook "Pasture Unit Summary." Three sheets are devoted to repeated tracts. The first sheet lists tracts that appear in 2005 data and again in 2006-07 data. The second sheet lists tracts that repeat within 2005 inventory data. The third sheet lists tracts that repeat within 2006-07 data. Due to expected data entry errors it is likely there are more repeat tracts that did not appear when the data was sorted by tract number. Pasture Units with same tract numbers should be reviewed and given unique identities for future identification and management purposes.

Pasture Unit information is divided into three Excel workbooks. The "Pasture Unit Summary" workbook, as previously mentioned, includes repeat data and Tables 1.1, 2.1, and 2.2. The "Pasture Units 2005" workbook lists all Pasture Units inventoried in the western 2/3 of the Reservation on the first sheet. Subsequent sheets divide Pasture Units into land use categories and then AUMs per land use category. The third workbook, "Pasture Units 2006-07", is structured after the 2005 data.

All Excel data was queried in Access and exported to Excel for processing and review. The original Access database remains intact and unchanged.

Data collectors in 2005 and 2006-07 reported that the maps of ecological sites supplied by the BIA were at times inconsistent with study results. According to instruction, no changes were made to ecological sites on the maps, despite the fact that the new NRCS ecological site key

characterized sites differently. Sites along the Roosevelt and Sheridan County line were most noticeably questionable. Silty-steep sites in this location were mapped in the same tract of land as sites mapped as clayey-steep. The only discrepancy was the site's position north or south of the county line. Due to the mapping situation, the analysis of Similarity Index values and concurrent stocking rate values is weakened.

6.1.2 RECOMMENDATIONS

- Data indicates that Pasture Units on the Fort Peck Reservation require better documentation, organization, and management.
- Pasture Units require some form of unique identification for reference purposes and tract numbers should not be relied on as identifying values.
- Permit holders indicated that there is little to no incentive for investing in Pasture Units through range improvements, water development, and grazing management practices. The current one-year leases discourage permit holders from managing for long-term forage productivity and rangeland health. Likewise, the acre-based lease system does not mandate that permit holders stock Pasture Units according to the carrying capacity of that Unit. Permit holders seek the short-term benefit by overstocking the lease and seeking new leases the following year. With no guarantee of a long-term contract there is no incentive for long-term planning.
- Prior to developing grazing plans for the 2,315 Pasture Units, an effort should be made to ground verify the GIS data. Where feasible, Pasture Units should be grouped to form larger Units, as was done with Range Units. An identification system should be implemented to name each Pasture Unit (as grouped) and lease contracts should be written for those larger units. The current one-year, acre-based, fixed cost lease system should be disbanded and replaced by longer term (3-10 year), variable fee (per AUM), lease contracts.

Timberland

7.1 FUEL AND ENERGY

Timberlands are generally located along the Missouri River bottom and along its major tributaries. Timbered areas consist primarily of large cottonwood trees and smaller brush such as Russian Olive trees. The intent during the original allotment was to provide each family enough timber on their lands to build homes and/or provide a fuel source for heating during the winter. Local timber was intended to be harvested for wood fuels for homes and to be used in tribal ceremonies and tribal history.

The existing timber stands within the Reservation is not large enough for any commercial operations or to support a large biomass boiler. The commercial production potential within the

Reservation is limited to nonexistent. The primary focus for the existing timberlands remains to produce local firewood for enrolled members. The Tribes uses a timber permit program to permit timber harvest on Tribal and allotted tracts.

7.1.1 Management Goals

The overall management goal for timberlands is to maintain a sustainable stand of timber for use by enrolled members. Timber within the Reservation is important for local enrolled members both as a fuel source for heating of homes and as a cultural resource. Wood stove heating provides winter heat for numerous homes throughout the Reservation. Access to local timber provides these households with substantially reduced heating costs in an area of elevated poverty levels. Additionally, enrolled members use harvested timber for cultural ceremonies and in the reconstruction of culturally important facilities for these ceremonies. Harvest of local timber is important to maintaining the accuracy and traditions passed down from generation to generation in these ceremonies.

7.1.2 Management Issues

There currently is no inspection process or inventory process in place to identify and grade existing stands of timber. Members submit a permit for timber harvest generally identifying the location of the stand they intend to harvest with the Tribes. There is no evaluation of the site prior to timber harvest or following harvest to ensure that the permit was followed, proper site cleanup occurred, and identifying the condition of the remaining stand. The permit, included in Appendix E, outlines basic information to be filed and tracked but due to staffing concerns little follow through is done once it is processed.

7.1.3 Improvement Recommendations

The following provide basic improvement recommendations which should be implemented by the Tribes and BIA to improve overall timber stand within the Reservation. These recommendations are not all inclusive however provide general framework for implementing a beneficial program for improving and sustaining timber quality and quantity.

- A timber inspection process should be implemented to document stand health and quantity in areas targeted for harvest.
- The timber permit process should include a pre- and post-harvest assessment of each site to track and quantify the resource and its condition. The assessment should include the following:
 - Site accessibility
 - Timber stand health, pre and post
 - Site conditions and safety concerns
 - Estimated period of growth required before allowing subsequent harvest

7.1.4 *Areas of Interest*

There have been no established areas of interest in timberlands at this time. Timberlands are currently not a priority for operation, management, or acquisition by the BIA or the Tribes. In the event that this situation changes this section of the ARMP should be updated.

EXHIBITS



EXHIBIT #1

**Fort Peck Tribes
Agricultural Resource Management Plan
Fort Peck Irrigation Project
Wiota Unit**

REVISIONS	
Date	By



WWC ENGINEERING
1275 MAPLE STREET, SUITE F
HELENA, MT 59601
(406) 443-3962

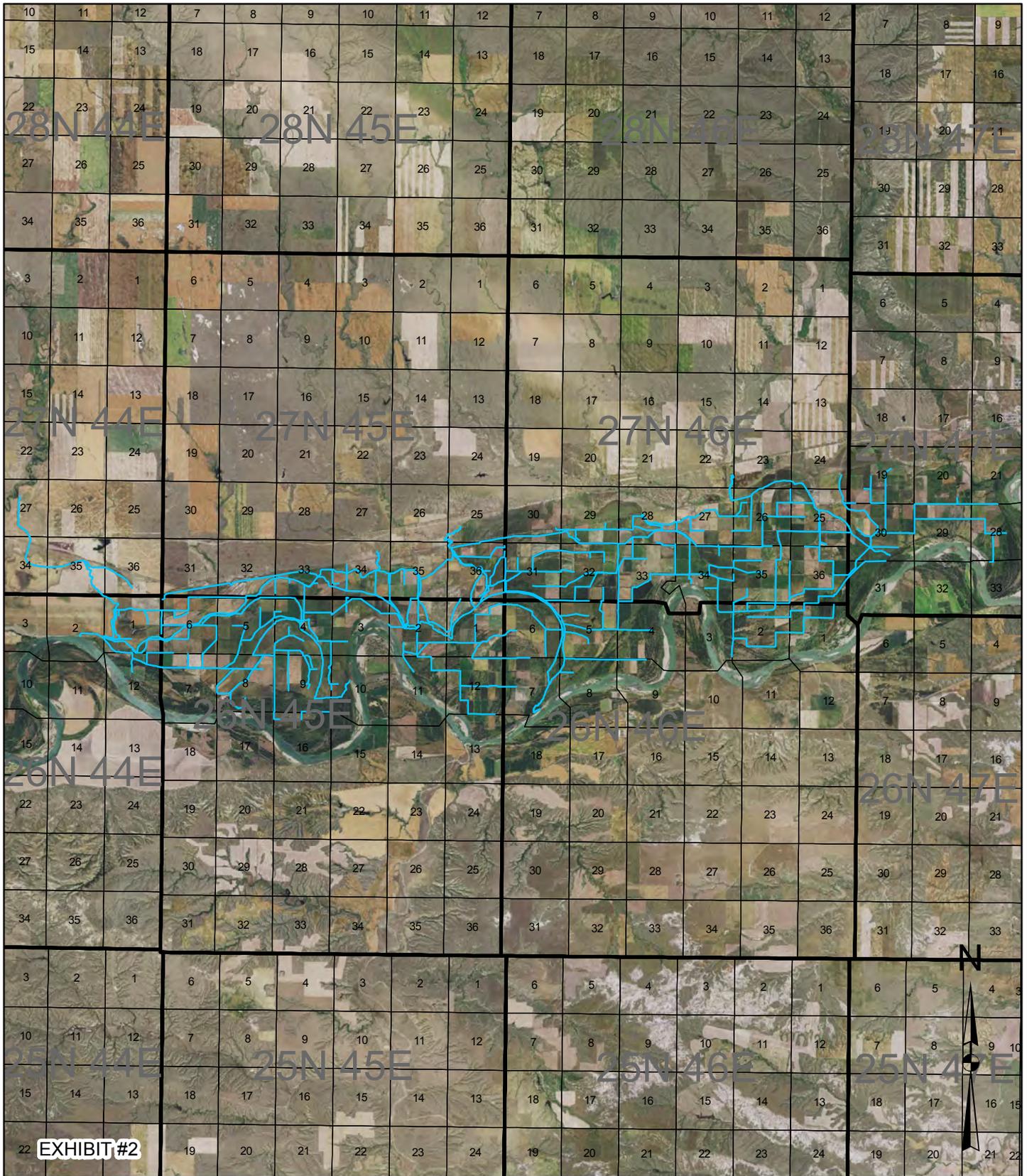


EXHIBIT #2

**Fort Peck Tribes
Agricultural Resource Management Plan
Fort Peck Irrigation Project
Frazer Unit**

REVISIONS	
Date	By



WWC ENGINEERING
1275 MAPLE STREET, SUITE F
HELENA, MT 59601
(406) 443-3962

File: _____ Drawn By: RDN Checked By: STH Date: 2/25/15 Scale: NTS

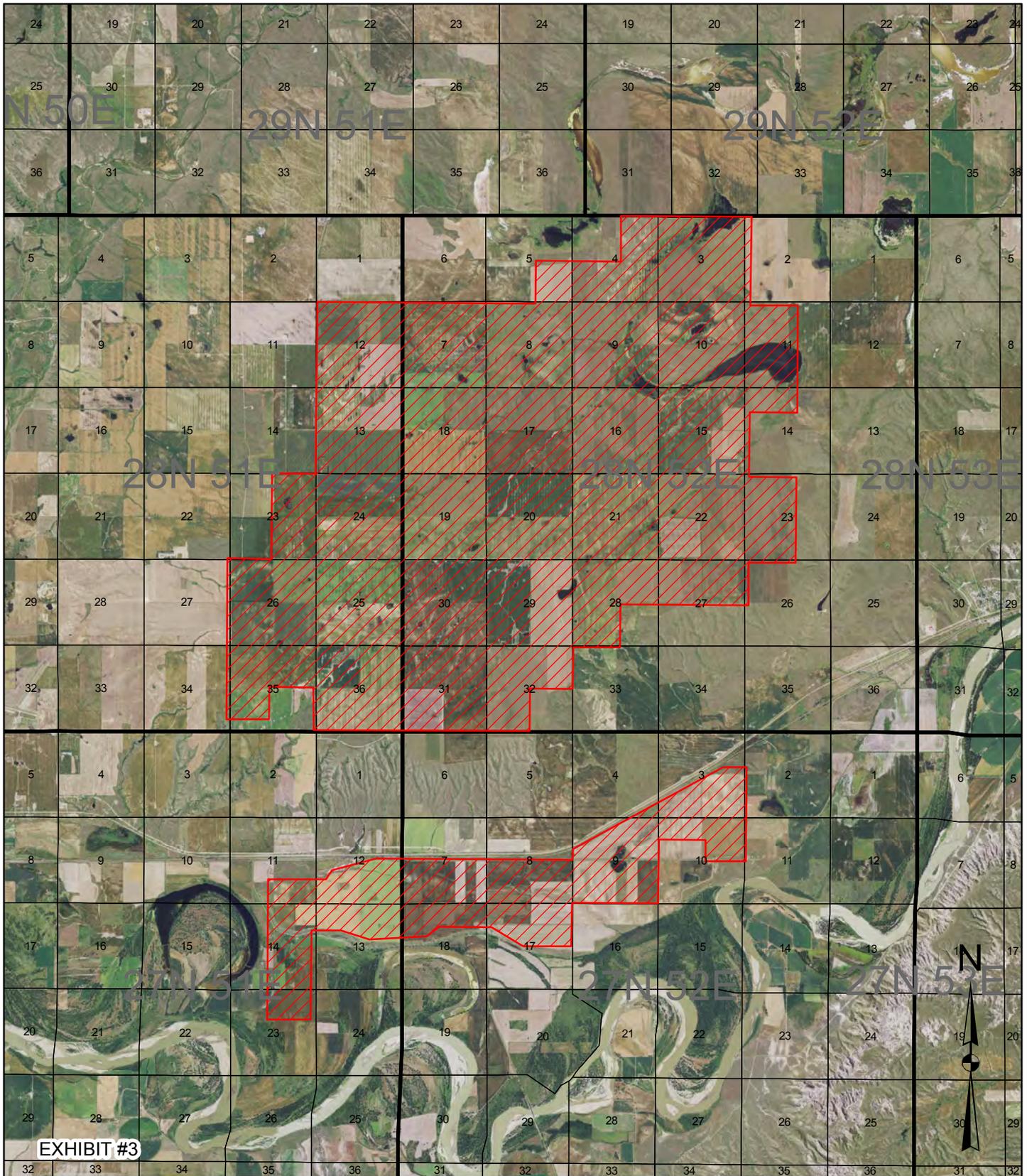


EXHIBIT #3

**Fort Peck Tribes
Agricultural Resource Management Plan
North Sprole Irrigation Area**

REVISIONS	
Date	By



WWC ENGINEERING
1275 MAPLE STREET, SUITE F
HELENA, MT 59601
(406) 443-3962

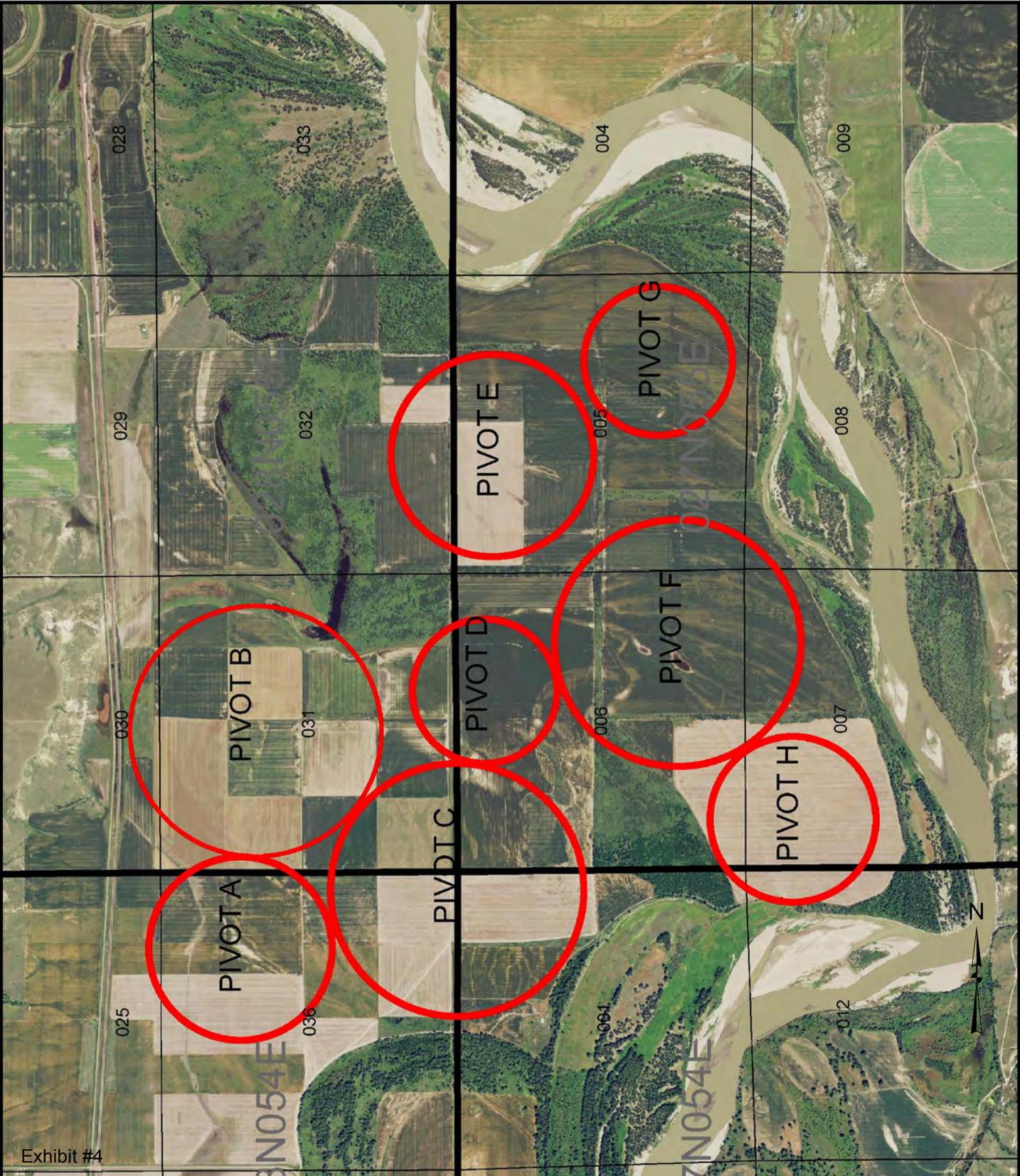


Exhibit #4

**Fort Peck Tribes
Agricultural Resource Management Plan
Fort Kipp Irrigation Project**

REVISIONS	
Date	By



WWC ENGINEERING
1275 MAPLE STREET, SUITE F
HELENA, MT 59601
(406) 443-3962

APPENDIX C

ONSITE NEPA DOCUMENT CHECKLIST EXAMPLE

EXAMPLE
ONSITE NEPA DOCUMENT CHECKLIST

Fort Peck Indian Reservation

Range Unit:

Previous NEPA document that applies:

		Yes	No
1	There are ground disturbing activities not described in the previous NEPA document.		
2	Construction of improvements is not being constructed as described in the previous NEPA document.		
3	Will fences impede wildlife movement?		
4	Will people be impeded from accessing usual gathering, hunting or fishing areas?		
5	Will usual travel routes be blocked?		
6	There are effects to surface and/or groundwater resources that are not described in the previous NEPA document.		
7	This action will affect a species listed or proposed, or its critical habitat listed under the Endangered Species Act.		
8	This action will affect properties listed or eligible for listing in the National Register of Historic Places.		
9	This action would have an adverse effect on unique geographic features, such as wetlands, wild or scenic rivers, refuges, floodplains, streams or rivers, or prime farmlands.		
10	This action threatens to violate federal, state, local, or tribal law or requirements imposed for protection of the environment.		
11	This action will have a disproportionately high and adverse effect on low income or minority populations.		
12	This action will limit access to, and ceremonial use of Indian sacred sites on federal lands by Indian religious practitioners, or significantly adversely affect the physical integrity of such sacred sites.		
13	This action will contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area, or may promote the introduction, growth, or expansion of the range of such species.		

A “Yes” to any answer will require further analysis of the environmental impacts in an Environmental Assessment pursuant to the National Environmental Protection Act.

Preparer’s Name and Title _____

Superintendent Concurrence: _____ Date: _____

APPENDIX D

SITE-SPECIFIC CONSERVATION PLAN EXAMPLE

**Conservation Stewardship Program
Conservation Performance Summary Report**

Application Number: 1000023345

Applicant: John Doe

Date: 3/4/2015

Geographic Area Ranking Pool:

MilesCityArea_ Agricultural Lands - General

Signup Number: CSP-2015-1

Conservation Performance

Application Information for Payment Calculations:

	Acres	Existing Activity Points	Additional Activity Points*
Cropland	181.8	393.01	13.23
Pastureland	19.2	196.01	22.25
Rangeland	482.8	170.01	32.06

* Cropland - Does not include the Resource Conserving Crop Rotation Conservation Performance Points

Conservation Performance Ranking Score	
Ranking Factor 1	27.31
Ranking Factor 2	103.61
Ranking Factor 3	152.57
Ranking Factor 4	69.73
Ranking Factor 5	0
Final Ranking Score	353.22

Application Ranking Information:

	Cropland, Pastureland, Rangeland
Total Acres	683.8
Conservation Performance Ranking Score	353.22

Stewardship Threshold Requirements Met:

Priority Resource Concerns	Applicable Priority	Cropland		Pastureland		Rangeland	
		Time of Application	End of Contract	Time of Application	End of Contract	Time of Application	End of Contract
Air Quality		Yes	Yes	Yes	Yes	Yes	Yes
Animal	X	Yes	Yes	Yes	Yes	Yes	Yes
Energy		Yes	Yes	Yes	Yes	No	No
Plants	X	Yes	Yes	Yes	Yes	No	No
Soil Erosion	X	Yes	Yes	Yes	Yes	Yes	Yes
Soil Quality	X	Yes	Yes	Yes	Yes	Yes	Yes
Water Quality	X	Yes	Yes	Yes	Yes	Yes	Yes
Water Quantity		No	No	No	No	Yes	Yes

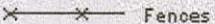
Existing Activities			
Conservation Performance Levels			
	Cropland	Pastureland	Rangeland
Air Quality	30.33	18.33	11.33
Animal	84.67	39.67	39.67
Energy	11.00	5.00	1.00
Plants	27.67	16.67	16.67
Soil Erosion	66.67	36.67	31.67
Soil Quality	90.00	28.00	26.00
Water Quality	71.67	46.67	38.67
Water Quantity	11.00	5.00	5.00
Existing Activity Points	393.01	196.01	170.01

Additional Activities			
Conservation Performance Levels			
	Cropland	Pastureland	Rangeland
Air Quality	1.40	2.02	2.61
Animal	4.11	4.55	6.95
Energy	2.93	3.60	5.34
Plants	3.34	4.71	6.89
Soil Erosion	0.00	1.64	2.56
Soil Quality	0.30	1.26	2.74
Water Quality	1.15	3.87	4.37
Water Quantity	0.00	0.60	0.60
Additional Activity Points	13.23	22.25	32.06

Activity Summary									
Code	Unit	Activity Name	Total Applicable Amount	Fiscal Year 1	Fiscal Year 2	Fiscal Year 3	Fiscal Year 4	Fiscal Year 5	Total Amount
Cropland Activities									
SQL09	Acres	Conversion of cropped land to grass-based agriculture	181.80	0.00	12.00 <u>1</u>	0.00	0.00	0.00	12.00
AIRO4	Acres	Use drift reducing nozzles, low pressure, lower boom height, and adjuvants to reduce drift	181.80	181.80 <u>2</u>	181.80	181.80	181.80	181.80	181.80
WQL05	Acres	Apply nutrients no more than 30 days prior to planned planting date	181.80	0.00	169.80 <u>3</u>	169.80	169.80	169.80	169.80
SQL05	Acres	Use of deep rooted crops to breakup soil compaction	181.80	0.00	89.10	89.10	89.10	89.10	89.10
Pastureland Activities									
WQL03	Acres	Rotation of supplement and feeding areas	19.20	0.00	19.20	19.20	19.20	19.20	19.20
PLT02	Acres	Monitor key grazing areas to improve grazing management	19.20	0.00	19.20	19.20	19.20	19.20	19.20
ANM38	No.	Retrofit watering facility for wildlife escape and enhanced access for bats and bird	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Rangeland Activities									
WQL03	Acres	Rotation of supplement and feeding areas	482.80	0.00	450.70 <u>4</u>	450.70	450.70	450.70	450.70
PLT02	Acres	Monitor key grazing areas to improve grazing management	482.80	0.00	467.80 <u>5</u>	467.80	467.80	467.80	467.80
ANM38	No.	Retrofit watering facility for wildlife escape and enhanced access for bats and bird	4.00	2.00	2.00	0.00	0.00	0.00	4.00

- 1) SQL09 - Cropland-Conversion of cropped land to grass-based agriculture. (*Actual Enhancement*) Plan to do a spring seeding in year 2.
- 2) AIRO4 - Cropland -Use of drift reducing nozzles, low pressure, lower boom height, and adjuvants to reduce pesticide drift. This enhancement will start in year 1. This enhancement will be adopted to all cropland acres.
- 3) WQL05- Cropland-Apply nutrient no more than 30 days prior to planned planting date. This enhancement will be started in the spring of year 2. SQL09 will be adopted prior to the start of WQL05. 181.8 cropland applicable acres - 12 acres (SQL09-Fld 6) = 169.8 acres available to adopt this enhancement.
- 4) WQL03- Rangeland- Rotation of supplements and feeding areas. There are 17.1 eligible acres grazed with the BLM (Fld 7). Due to the proximity of the livestock water tank, placement of a supplement sources on this area would not meet criteria 3(*Locate supplement sources at least 1/4 mile from surface water and watering facilities.*) for this enhancement. Field 5b is not grazed in rotation and incidental grazing occurs during crop aftermath grazing. These acres would not meet criteria 4, follow a written grazing plan that meets NRCS requirements. (*See stewardship map for explanation.*)
482.80 ac(Rangeland applicable acres) - 17.1 ac (Field 7-eligible grazing lands) - 15 ac (Field 5b)= 450.7 ac
- 5) PLT02- Rangeland - Monitoring key grazing areas to improve grazing management. This enhancement could be adopted to all rangeland acres except Field 5b. This field is not grazed in rotation and incidental grazing occurs during crop aftermath grazing. These acres would not meet criteria 4, follow a written grazing plan that meets NRCS requirements. (*See stewardship map for explanation.*) 482.80 ac(Rangeland applicable acres) - 15 ac (Field 5b) = 467.8 acres

Legend

-  Tanks
 -  Fences
 -  Tracts
- LandUse**
-  Crop
 -  Pasture
 -  Range
 -  Ineligible Land

2015 CSP Plan Smith Ranch

Land use total and enhancements

Cropland – 181.8 ac
 WQL05 – 181.8 ac – All Cropland
 SQL09 – 12 ac – Fld:6
 SQL05 – 89.1 ac – Fld: 1, 2
 AIR04 – 169.8 ac – All Cropland

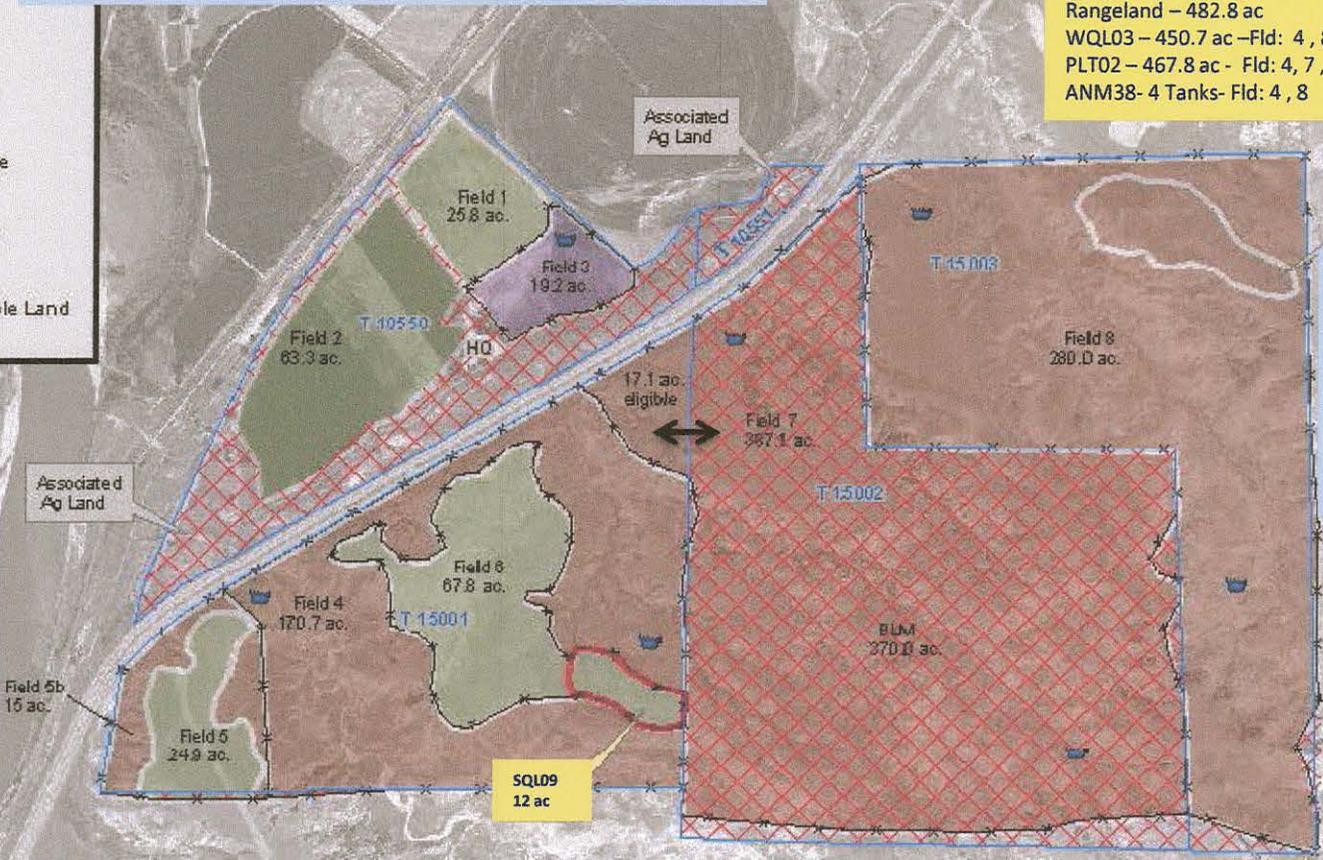
Pastureland – 19.2 ac
 WQL03 – 19.2 ac – All Pastureland
 PLT02 – 19.2 ac – All Pastureland
 ANM38 – 1 Tank- All Pastureland

Rangeland – 482.8 ac
 WQL03 – 450.7 ac – Fld: 4, 8
 PLT02 – 467.8 ac - Fld: 4, 7, 8
 ANM38- 4 Tanks- Fld: 4, 8

This type of text box should be on all stewardship plan maps to tie the stewardship plan and 1155 together. This shows the land use, fields, acres and where enhancements are scheduled.

Identifying tracts on the stewardship plan map is optional. Tracts should be identified on the control/program eligibility map.

Field 5b: Rangeland that is not grazed in rotation and is grazed in the fall each year along with crop aftermath. To adopt WQL03 & PLT02, the participant must follow a grazing plan which meets NRCS requirements. This area is grazed for more than 45 consecutive days during the growing season and the season of use is the same from year to year. The planned grazing on this field would not meet NRCS requirements for a written grazing plan.



Crested, managed as range

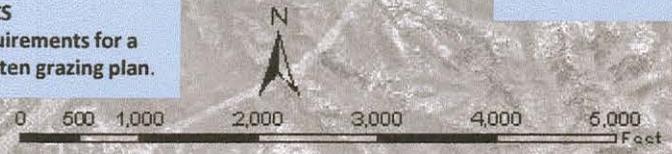
This area is managed as rangeland. There are no fences and livestock water developments to say this area is managed differently than the rangeland. To be considered pastureland, this area would have been planted to introduced grass and planned to be used as a "special use" pasture with fencing and water developments in place to facilitate grazing.

No Control

No Control

This area is owned by the participant, but is operated by the adjacent landowner.

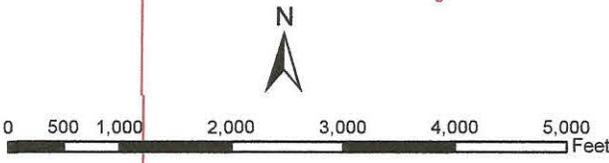
Conversion of cropped land to grass-based agriculture. (SQL09) Actual enhancements should be identified on the plan map.



2015 CSP Control of Land Smith Ranch

Legend

- Section
- Township
- Control**
- Deeded
- Leased
- Ineligible Land





Conservation Plan

John Doe

Crop

Fields 1,2,5,6 181.8 acres

Apply nutrients no more than 30 days prior to planned planting date (WQL05)

Apply nutrients (fertilizer, manure, etc.) no more than 30 days prior to the planned planting date of the crop. Refer to the enhancement activity sheet criteria, documentation requirements and the associated montana supplement to adopt this activity.

CMU	Planned Amount	Month	Year
Crop	169.8ac	9	2016
Crop	169.8 ac	9	2017
Crop	169.8 ac	9	2018
Crop	169.8 ac	9	2019
Total:	169.8 ac		

Conversion of cropped land to grass-based agriculture (SQL09)

Conversion of cropped land to grass-based agriculture. Refer to the enhancement activity sheet criteria, documentation requirements and the associated montana supplement for additional requirements to adopt this activity.

CMU	Planned Amount	Month	Year
Crop	12 ac	9	2016
Total:	12 ac		

Use deep rooted crops to breakup soil compaction (SQL05)

Use deep rooted crops to break up compacted soils and improve soil quality. Refer to the enhancement activity sheet criteria, documentation requirements and the associated montana supplement to adopt this activity.

CMU	Planned Amount	Month	Year
Crop	89.1 ac	9	2016
Crop	89.1 ac	9	2017
Crop	89.1 ac	9	2018
Crop	89.1 ac	9	2019
Total:	89.1 ac		

Use drift reducing nozzles, low pressures, lower boom height and adjuvants to reduce pesticide drift (AIR04)

Use chemical drift reduction technologies to reduce drift of applied agricultural chemicals from the intended target. Drift reduction reduces damage to non-target desirable plants and animal habitats and reduces pollution of water bodies. Reducing chemical drift may improve air quality by decreasing particulate matter in the air, and in some cases reduce the potential for release of volatile organic compounds (ozone precursors) into the air. See the enhancement activity sheet criteria, documentation requirements and associated montana supplement to adopt this activity.

CMU	Planned Amount	Month	Year
Crop	181.8 ac	9	2015
Crop	181.8 ac	9	2016
Crop	181.8 ac	9	2017
Crop	181.8 ac	9	2018
Crop	181.8 ac	9	2019
Total:	181.8 ac		

Pastureland

Fields 3 19.2 acres

Rotation of supplement and feeding areas (WQL03)

Rotation of supplements and feeding areas. Refer to the enhancement activity sheet criteria, documentation requirements and the associated montana supplement to adopt this activity.

CMU	Planned Amount	Month	Year
Pastureland	19.2 ac	9	2016
Pastureland	19.2 ac	9	2017
Pastureland	19.2 ac	9	2018
Pastureland	19.2 ac	9	2019
Total:	19.2 ac		

Monitor key grazing areas to improve grazing management (PLT02)

Monitor key grazing areas to improve grazing management. Refer to the enhancement activity sheet criteria, documentation requirements and the associated montana supplement to adopt this activity.

CMU	Planned Amount	Month	Year
Pastureland	19.2 ac	9	2016
Pastureland	19.2 ac	9	2017
Pastureland	19.2 ac	9	2018
Pastureland	19.2 ac	9	2019
Total:	19.2		

Retrofit watering facility for wildlife escape and enhanced access for bats and birds (ANM38)

Retrofit watering facility for wildlife escape and enhanced access for bats and birds. Refer to the enhancement activity sheet criteria, documentation requirements and the associated montana supplement to adopt this activity.

CMU	Planned Amount	Month	Year
Pastureland	1 no	9	2015
Total:	1 no		

Rangeland

Fields 4, 7, 8 467.8 acres

Rotation of supplement and feeding areas (WQL03)

Rotation of supplements and feeding areas. Refer to the enhancement activity sheet criteria, documentation requirements and the associated montana supplement to adopt this activity.

CMU	Planned Amount	Month	Year
Rangeland	450.7 ac	9	2016
Rangeland	450.7 ac	9	2017
Rangeland	450.7 ac	9	2018
Rangeland	450.7 ac	9	2019
Total:	450.7 ac		

Monitor key grazing areas to improve grazing management (PLT02)

Monitor key grazing areas to improve grazing management. Refer to the enhancement activity sheet criteria documentation requirements and the associated montana supplement to adopt this activity.

CMU	Planned Amount	Month	Year
Rangeland	467.8 ac	9	2016
Rangeland	467.8 ac	9	2017
Rangeland	467.8 ac	9	2018
Rangeland	467.8 ac	9	2019
Total:	467.8 ac		

Retrofit watering facility for wildlife escape and enhanced access for bats and birds (ANM38)

Retrofit watering facility for wildlife escape and enhanced access for bats and birds. Refer to the enhancement activity sheet criteria, documentation requirements and the associated montana supplement to adopt this activity.

CMU	Planned Amount	Month	Year
Rangeland	2 no	9	2015
Rangeland	2 no	9	2016
Total:	4 no		

CERTIFICATION OF PARTICIPANTS

_____	_____
John Doe	DATE

CERTIFICATION OF:

DISTRICT CONSERVATIONIST

DATE

CONSERVATION DISTRICT

MCA COUNTY CONSERVATION DATE

PUBLIC BURDEN STATEMENT

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collections is 0578-0013. The time required to complete this information collection is estimated to average 45/0.75 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection information.

PRIVACY ACT

The above statements are made in accordance with the Privacy Act of 1974 (5 U.S.C 522a). Furnishing this information is voluntary; however failure to furnish correct, complete information will result in the withholding or withdrawal of such technical or financial assistance. The information may be furnished to other USDA agencies, the Internal Revenue Service, the Department of Justice, or other state or federal law enforcement agencies, or in response to orders of a court, magistrate, or administrative tribunal.

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USDA Office of the Assistant Secretary for Civil Rights
1400 Independence Avenue, SW.
Washington, DC 20250-9410

Or call toll free at (866) 632-9992 (voice) to obtain additional information, the appropriate office or to request documents. Individuals who are deaf, hard of hearing, or have speech disabilities may contact USDA through the Federal Relay service at (800) 877-8339 or (800) 845-6136 (in Spanish). USDA is an equal opportunity provider, employer, and lender. Persons with disabilities who require alternative means for communication of program information (e.g., Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

APPENDIX E

USFWS CONCURRENCE LETTER



United States Department of the Interior

Fish and Wildlife Service

Ecological Services
Montana Field Office
585 Shepard Way

Helena, Montana 59601-6287

Phone: (406) 449-5225 Fax: (406) 449-5339



M.02 BLM (I)
06E11000-2015-I-0129

February 11, 2015

Memorandum

To: Director, Bureau of Indian Affairs, Rocky Mountain Region, Montana
(Attn: Darryl LaCounte)

From: 
for Field Supervisor, U.S. Fish and Wildlife Service, Montana Field Office,
Helena, Montana

Subject: Fort Peck Indian Reservation Agricultural Leasing, Permitting, and Associated
Improvements

This is in response to your December 23, 2014 request for U.S. Fish and Wildlife Service (Service) informal consultation and concurrence for federally listed, threatened and endangered species regarding the effects of the proposed Fort Peck Indian Reservation Agricultural Leasing, Permitting, and Associated Improvements. We received your biological assessment on December 23. Additional correspondence with information regarding the project was received February 6, 2015.

The proposed action will allow the Fort Peck Assiniboine and Sioux Tribes to continue and expand agricultural leasing, permitting and associated improvements throughout the Fort Peck Indian Reservation. This includes the expansion of the wild buffalo herds. Please refer to the biological assessment for further project details and conservation measures associated with: permitting of rangeland for livestock grazing, leasing of intermingled forage and cropland for forage and crop production, operation of wild buffalo herds for commercial and cultural purposes, and improvements for use of agricultural lands.

The Service has reviewed the biological assessment for the proposed project and acknowledges your determination that the project actions will have no effect on the endangered black-footed ferret (*Mustela nigripes*). The Service also concurs that the project may affect, but is not likely adversely affect the threatened piping plover (*Charadrius melodus*), the endangered Interior least tern (*Sterna antillarum anthalassos*), and the endangered pallid sturgeon (*Scaphirhynchus albus*). Additionally, we acknowledge your determination that the proposed project would not likely jeopardize the continued existence of the candidate species greater sage-grouse (*centrocercus urophasianus*) and Sprague's pipit (*Anthus spragueii*). We base our determinations on the information displayed in the biological assessment, the associated conservation measures,

additional information received, and information in our files. Therefore, pursuant to 50 C.F.R. § 402.13, additional formal consultation on the species is not required.

This project should be re-analyzed if new information reveals effects of the action that may affect listed species or designated or proposed critical habitat (1) in a manner or to an extent not considered in this letter, (2) if the action is subsequently modified in a manner that causes an effect to a listed species or designated or proposed critical habitat that was not considered in this letter, and (3) if a new species is listed or critical habitat is designated that may be affected by this project.

We appreciate your efforts to ensure the conservation of threatened and endangered species as part of your responsibilities under the Endangered Species Act, as amended. If you have questions or comments related to this issue, please contact Kelly Douglas at (406) 449-5225, extension 219.