



U.S. DEPARTMENT OF THE INTERIOR  
**BUREAU OF LAND  
MANAGEMENT**

January 2025

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# **North Dakota Field Office**

## **Record of Decision and Approved Resource Management Plan**

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Prepared by:

**US Department of the Interior  
Bureau of Land Management**

Cover Photo: the Lost Bridge area in Dunn County, North Dakota  
(photo credit: Mitch Iverson)





# United States Department of the Interior



## BUREAU OF LAND MANAGEMENT

Montana/Dakotas State Office

5001 Southgate Drive

Billings, MT 59101

<https://www.blm.gov/montana-dakotas>

January 8, 2025

In Reply Refer To:  
1610 (MT930)

Dear Reader:

The Bureau of Land Management (BLM) is pleased to announce that, after many years of hard work and collaboration, the BLM North Dakota Field Office (NDFO) Approved Resource Management Plan (RMP) is complete. The Approved RMP will provide guidance for managing approximately 58,500 surface acres and 4.1 million acres of federal mineral estate, including split estate, across North Dakota.

The enclosed Record of Decision (ROD) and Approved RMP were prepared in accordance with the Federal Land Policy and Management Act of 1976, as amended, and the National Environmental Policy Act of 1969, as amended. The ROD constitutes the final decision of the BLM Authorized Officer for the land use planning decisions described in the enclosed North Dakota Approved RMP.

The Proposed RMP/Final Environmental Impact Statement (EIS) was subject to a 30-day protest period that ended on September 9, 2024. The BLM received six protest letters, and the BLM Director reviewed all protest issues for the proposed planning decisions. The Director concluded that the BLM Montana-Dakotas State Director followed the applicable laws, regulations, and policies and considered all relevant resource information and public input. The BLM denied the protests, issued a Protest Resolution Report to protesting parties, and posted the report on the BLM website.

The 60-day Governor's consistency review period for the Proposed RMP/Final EIS, which promotes consistency with state government plans or policies, concluded on October 9, 2024. The Governor submitted a letter identifying some concerns in response to the consistency review. The BLM thoroughly reviewed the Governor's letter and concluded that the Proposed RMP does not conflict with existing state plans. The Governor exercised his option to appeal the decision of the State Director to the BLM Director. The BLM reviewed the Governor's appeal, determined that the Governor's recommendations do not meet the standard outlined in the BLM regulations, and declined to accept the recommendations.

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The ROD and Approved RMP are available online at <https://eplanning.blm.gov/eplanning-ui/project/1505069/510>. Limited printed copies are available by request at the North Dakota Field Office, 99 23rd Ave. West, Suite A, Dickinson, ND 58601.

The BLM greatly appreciates all those who contributed to the North Dakota RMP planning effort, particularly members of the public, who provided important feedback; our cooperating agencies, which included federal, state, and local governments; the North Dakota Resource Advisory Council; and Native American Tribes. The extensive public interest and involvement in this planning process ensure that the Approved RMP will sustain the health, diversity, and productivity of BLM-administered lands for present and future generations to use and enjoy.

Sincerely,

SONYA  
GERMANN

Digitally signed by SONYA  
GERMANN  
Date: 2025.01.08 11:08:42  
-07'00'

Sonya I. Germann  
Montana/Dakotas State Director



# **North Dakota Field Office**

## **Record of Decision and**

## **Approved Resource Management Plan**

**Prepared by US Department of the Interior**  
**Bureau of Land Management**  
**North Dakota Field Office**  
**Dickinson, North Dakota**

### **Cooperating Agencies:**

US Department of the Interior, Fish and Wildlife Service  
US Department of the Interior, National Park Service  
US Department of the Interior, Office of Surface Mining Reclamation and Enforcement  
US Department of Agriculture, Forest Service, Dakota Prairie Grasslands  
US Army Corps of Engineers  
US Environmental Protection Agency  
North Dakota Parks and Recreation  
North Dakota Governor's Office, including the Industrial Commission, Department of Trust Lands,  
Public Service Commission, and Department of Water Resources  
Billings County  
Bowman County  
McKenzie County  
Mountrail County

**January 2025**

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## ACRONYMS

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AAQS	ambient air quality standards
ACEC	area of critical environmental concern
AMP	allotment management plan
AQRV	air quality related value
AUM	animal unit month
BCA	backcountry conservation area
BLM	United States Department of the Interior, Bureau of Land Management
BMP	best management practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COA	condition of approval
CSU	controlled surface use
DOI	Department of the Interior
EIS	environmental impact statement
ESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act of 1976
GHG	greenhouse gas
GHMA	general habitat management area
GIS	geographic information systems
GRSG	Greater Sage-Grouse
LN	Lease Notice
MHA	Mandan, Hidatsa, and Arika Nation (Three Affiliated Tribes)
NDFO	BLM North Dakota Field Office
NEL	nonenergy leasable
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NSO	no surface occupancy
NWSRS	National Wild and Scenic Rivers System
OHV	off-highway vehicle
ORV	Outstandingly Remarkable Value
PFC	proper functioning condition
PFYC	potential fossil yield classification
PHMA	priority habitat management area
R&PP	Recreation and Public Purposes
RAC	Resource Advisory Council
RDF	required design feature
RFD	Reasonably Foreseeable Development

RMP	resource management plan
ROD	record of decision
ROW	right-of-way
SHPO	State Historic Preservation Office
SRMA	special recreation management area
SRP	special recreation permit
THPO	Tribal Historic Preservation Officer
TL	timing limitation
US	United States
USC	United States Code
USFWS	United States Department of the Interior, Fish and Wildlife Service
VRM	visual resource management



# **1. Record of Decision**

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## **1.1 INTRODUCTION**

The United States (US) Department of the Interior (DOI), Bureau of Land Management (BLM) uses Resource Management Plans (RMPs) to guide management of the land it administers. This record of decision (ROD) approves the attached RMP to manage public lands administered by the BLM North Dakota Field Office (NDFO) within the North Dakota Planning Area (**Map 1-1 in Appendix A**). The background and rationale for approving the proposed decisions, as well as clarifications and modifications made to the Proposed RMP, are described in this ROD.

## **1.2 DECISION**

The decision is hereby made to approve the attached RMP as the land use plan for the NDFO. This approved RMP was prepared under the authority and regulations implementing the Federal Land Policy and Management Act of 1976 (FLPMA; Public Law 94-579). An Environmental Impact Statement (EIS) was prepared for this approved RMP in compliance with the National Environmental Policy Act of 1969 (NEPA). The BLM selected the attached RMP (Alternative D) as set forth in the Proposed RMP/Final EIS published August 9, 2024. Land use plan decisions identified in the Approved RMP are final and become effective when this ROD is signed.

## **1.3 ALTERNATIVES**

The 2024 Proposed RMP/EIS analyzed four full alternatives and one sub-alternative. Alternatives were developed to include different combinations of management direction addressing issues and resolving conflicts among resources and resource uses. In addition to addressing issues, the action alternatives met the purpose and need for the RMP. Each alternative was a complete framework for multiple-use management of the full spectrum of resources, resource uses, and resource programs within the planning area.

### **1.3.1 Alternative A (No Action)**

Alternative A meets the requirement that a No Action alternative must be considered. This alternative continues current management direction and prevailing conditions derived from existing planning decisions. Goals and objectives for resources and resource uses are based on the applicable portions of the 1988 North Dakota RMP, along with associated amendments. Laws, regulations, and BLM policies that supersede RMP decisions would apply.

Goals and objectives for BLM-administered lands and mineral estate would not change. Existing allocations, restrictions, and management direction pertaining to activities such as mineral leasing and development, recreation, rights-of-way (ROWs), and livestock grazing would also remain the same. Three river segments would be managed as eligible for inclusion in the National Wild and Scenic Rivers System (NWSRS). The BLM would not modify existing criteria or establish additional criteria to guide the identification of site-specific use levels for implementation activities.

### **1.3.2 Alternative B**

Alternative B emphasizes sustaining the ecological integrity of habitats for all priority plant, wildlife, and fish species, while allowing appropriate development scenarios for resource use. Under Alternative B, the BLM would close areas with low oil and gas development potential and state-designated drinking water source protection areas to new federal oil and gas leasing and would make federal coal minerals outside a 4-mile development area (4 miles from the approved permit boundary at each mine as of September 9, 2022) unavailable for future consideration for coal leasing. Where oil and gas are available for leasing,

major or moderate stipulations would apply to most areas. Alternative B is proactive in promoting the conservation and recovery of threatened, endangered, and special status species. Alternative B would provide opportunities for recreation and improved access by establishing Schnell as a special recreation management area (SRMA) and Figure Four and Lost Bridge as backcountry conservation areas (BCAs). Alternative B would also manage for other social and scientific values by designating Mud Buttes as an area of critical environmental concern (ACEC). Alternative B would also find three river segments suitable for designation in the NWSRS.

### **1.3.3 Sub-Alternative B.1**

Sub-alternatives are variations of an action alternative that modify an individual component of the alternative to explore how these changes would alter certain outcomes. Sub-Alternative B.1 would provide the same management opportunities and protections as Alternative B for all resources except coal. In addition to the coal screens applied under Alternative B, this sub-alternative would further restrict federal coal leasing by designating the area outside of the approved permit boundary at each coal mine (as of September 9, 2022) as unavailable for coal leasing. Alternative B.1 would reduce the potential for expansion of federal coal mining at all active North Dakota mines: BNI Center, Coyote Creek, Falkirk, and Freedom. It also would reduce the proposed expansion at the Falkirk and Freedom mines.

### **1.3.4 Alternative C**

Alternative C is similar to Alternative B but provides for more flexibility in management of natural and cultural resources and resource uses. Under Alternative C, the BLM would provide opportunities for mineral and energy development with fewer restrictions than under Alternative B but more restrictions than under Alternative A. Under Alternative C, more acres would be available under the multiple-use tradeoff coal screen than under Alternative B but fewer would be available than under Alternative A. Alternative C would provide opportunities for recreation and improved access by designating one SRMA and two BCAs; however, the size of these areas would be reduced from Alternative B, and the management actions associated with each area would be less restrictive. Alternative C would also manage for other social and scientific values by designating Mud Buttes as an ACEC.

### **1.3.5 Alternative D (Proposed RMP)**

The BLM developed the Proposed RMP (Alternative D) as a variation on Alternative B, which the BLM identified in the Draft RMP/EIS as the agency preferred alternative. In developing Alternative D, the BLM made modifications to Alternative B based on substantive public comments received on the Draft RMP/EIS, its internal review, and ongoing coordination with stakeholders.

Alternative D carries forward many of the same management directions and allocations as Alternative B. Like Alternative B, Alternative D closes areas with low oil and gas development potential and state-designated drinking water source protection areas to future federal oil and gas leasing. Alternative D, however, also includes a provision that leasing in areas with low development potential may be allowed to prevent drainage of federal minerals or if the oil and gas development potential categories are revised based on new data or information, such as offset well production or geophysical surveys. Alternative D also changes some no surface occupancy (NSO) lease stipulations found in Alternative B to controlled surface use (CSU) and timing limitation (TL) and changes the waste minimization CSU to a Lease Notice (LN).

Alternative D, like Alternative B, makes federal coal minerals outside a 4-mile development area unavailable for future consideration for coal leasing. Alternative D, however, modified the application of

the surface owner coal screen to look for clusters of opposition, rather than individual responses. Alternative D also revised allocations for some non-energy leasable minerals, locatable minerals, and mineral materials to allow for activity-level review.

Alternative D, like Alternative B, would establish one SRMA (Schnell), establish two BCAs (Figure Four and Lost Bridge), and would designate one ACEC (Mud Buttes). Alternative D, however, would determine the three eligible river segments “not suitable” for inclusion in the NWSRS, would reduce some visual resource management (VRM) classifications, and would include approximately 100 acres in Land Tenure Category 3, Disposal.

### **1.3.6 Environmentally Preferable Alternative**

Council on Environmental Quality (CEQ) regulations require that a ROD state which alternatives were considered to be “environmentally preferable” (40 CFR 1505.2(a)(2)). Question 6A of CEQ’s 40 most-asked questions regarding NEPA regulations defines that term to ordinarily mean the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.<sup>1</sup>

Alternative B is the most protective of resources in the planning area and thus, using the definition above, would be the most environmentally preferable. Alternative B would limit leasing of coal, and oil and gas to areas near existing development and infrastructure, to minimize emissions and impacts on other resources. Where oil and gas is available for leasing, major or moderate stipulations would apply to most areas. Alternative B is proactive in promoting conservation and recovery of threatened and endangered and other special status species, as well as protecting other social and scientific values.

FLPMA requires the BLM to manage the public lands for multiple use and sustained yield. Section 102(12) of FLPMA declares as policy of the United States that “the public lands be managed in a manner which recognizes the Nation’s need for domestic sources of minerals, food, timber, and fiber from the public lands including implementation of the Mining and Minerals Policy Act of 1970 as it pertains to the public lands.”

## **1.4 APPLICATION OF THE APPROVED RESOURCE MANAGEMENT PLAN TO EXISTING PROJECTS**

Numerous rights and privileges have been established on BLM-administered lands under law, regulation, or planning decisions. The decisions included in this ROD and Approved RMP supersede the 1988 North Dakota RMP. Beyond the decisions in the Approved RMP, all BLM-administered lands and federal mineral estate in the NDFO remain subject to valid existing rights and to the stipulations and conditions of approval (COAs) associated with the given right at the time it was granted. This includes the right of reasonable access to surface and subsurface parcels leased for the development of the mineral interest. Oil and gas lease stipulations and LNs in the Approved RMP will apply to all new leases and terminated leases that are reinstated.

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<sup>1</sup> BLM is aware of the November 12, 2024 decision in *Marin Audubon Society v. Federal Aviation Administration*, No. 23-1067 (D.C. Cir. Nov. 12, 2024). To the extent that a court may conclude that the Council on Environmental Quality (CEQ) regulations implementing NEPA are not judicially enforceable or binding on this agency action, BLM has nonetheless elected to follow those regulations at 40 C.F.R. Parts 1500–1508, in addition to the Department of the Interior’s regulations implementing NEPA at 43 C.F.R. Part 46, to meet the agency’s obligations under NEPA, 42 U.S.C. §§ 4321 et seq.

Projects that require a decision to extend an existing authorization or permit may require modification to conform to the RMP before approval, such as ROW grant and grazing permit renewals. Projects for which site-specific decisions have not yet been signed, but for which preparation of NEPA documents began before the ROD's effective date, may also require modification to conform to the RMP.

Any activity-level or project-specific authorization or management action must conform with the Approved RMP (i.e., be specifically provided for in the RMP or consistent with the terms, conditions, and decisions in the Approved RMP; 43 CFR 1601.0-5(b)). A land use plan amendment may be necessary to consider monitoring and evaluation findings; substantive new data; new or revised policy; changes in circumstances; or a proposed action that may result in a change in the scope of resource uses or a change in the terms, conditions, and decisions of the Approved RMP.

### **1.5 MITIGATION MEASURES**

Commensurate with a landscape level of planning, practicable means to avoid, minimize, reduce, or rectify environmental harm are provided in the Approved RMP and appendices. In developing the alternatives, the BLM used a variety of management methods and tools, including identifying allowable uses; temporal, spatial, and methodological restrictions on uses; areas where specific uses would be prohibited or restricted; and specific actions needed to achieve RMP goals and objectives. Restrictions on uses include seasonal closures, surface disturbance limitations, and the application of design features and best management practices (BMPs). The BLM included appropriate mitigation measures in the design of each of the alternatives. **Appendix B** provides the specifics of each fluid mineral lease stipulation. **Appendix C** provides the specifics for air resource management, and **Appendix E** provides reclamation standards.

**Appendix D** lists the design features and BMPs applicable to land use activities authorized on BLM-administered lands in the decision area. Design features and BMPs are mitigation measures applied on a site-specific basis to avoid, minimize, reduce, or rectify adverse environmental or social impacts of land use activities. The design features and BMPs included in Appendix D are not intended to be a complete list but rather are intended to provide examples of commonly used practices that the NDFO may require to reduce impacts of surface-disturbing activities, use, or occupancy. More specific mitigation measures based on local conditions and resource-specific concerns could be developed once a specific proposal is evaluated through the environmental analysis process. Additional mitigation measures can be recommended by proponents of proposed activities on BLM-administered lands.

### **1.6 PLAN MONITORING**

Land use plan decision monitoring is a continuous process occurring over the life of the RMP. The aim is to maintain a dynamic RMP. Monitoring data are collected, examined, and used to draw conclusions about the following:

- Whether planned actions have been implemented in the manner prescribed by the RMP (implementation monitoring)
- Whether RMP allowable use and management action decisions and the resultant implementation actions are effective in achieving program-specific objectives or desired outcomes (effectiveness monitoring)

The BLM uses conclusions drawn from monitoring to make recommendations on whether to continue current management or identify changes that need to be made to implementation practices to better achieve



RMP goals. Indicators, methods, locations, units of measure, frequency, and action triggers can be established by national policy guidance, in RMPs, or by technical specialists in order to address specific issues.

Based on staffing and funding levels, monitoring is annually prioritized to be consistent with the goals and objectives of the RMP. The BLM may work in cooperation with local, state, and other federal agencies, or it may use data collected by other agencies and sources when appropriate and available.

## **1.7 PUBLIC INVOLVEMENT**

### **1.7.1 Public Scoping**

The formal public scoping process for the North Dakota RMP/EIS began on July 28, 2020, with the publication of the notice of intent in the *Federal Register* (2020 *Federal Register* 16276). The notice of intent informed the public of the BLM's intent to develop an RMP for the NDFO; it also initiated the formal public scoping period, which closed on August 28, 2020. The notice of intent also requested public nominations for ACECs.

Due to COVID-19 precautions, during the public scoping period, the BLM held two moderated virtual public meetings on August 18 and 20, 2020. The meetings included a presentation describing the planning process and important issues. The BLM also offered a virtual open house website, which was open to the public from July 24 to August 28, 2020. The BLM modeled the website to replicate the format of an open house public scoping meeting. Virtual attendees were able to scroll from station to station to learn about the planning process and important issues, to download meeting materials, to review frequently asked questions, and to submit comments.

### **1.7.2 Coal Screening**

Between April and November 2020, the BLM sent letters to all identifiable surface owners with lands overlying BLM-administered federal coal within areas with coal development potential, outside of active oil and gas areas. These letters requested that the surface owners confirm they are qualified to express their preference on mining federal coal (refer to 43 CFR 3400.0-5(gg)(1) and (2)). The BLM also asked that the surface owners respond with their preference for, against, or undecided about mining by other than underground methods (that is, surface mining) on the BLM-administered federal coal beneath their land. Refer to **Appendix F** for additional details.

### **1.7.3 Socioeconomic Workshops**

In September 2020, the BLM hosted a virtual workshop to provide an opportunity for state and local government officials, community leaders, and other stakeholders to discuss regional economic conditions, trends, and strategies. Participants were asked to provide any insight or recommendations that would help to formulate a more complete picture of socioeconomic conditions and interests in the planning area. The BLM identified a diverse list of area stakeholders based on geographic areas with BLM-administered lands and mineral estate and identified issues. In total, the BLM sent invitations to 120 stakeholders. The results of the workshop helped the BLM identify key issues driving the social and economic analysis and formalize the analysis approach for the RMP/EIS.

#### **1.7.4 Public Review and Comment on the Draft RMP/EIS**

A notice of availability announcing the release of the North Dakota Draft RMP/EIS was published in the *Federal Register* on January 20, 2023, initiating the formal 90-day public comment period. In response to a request from the State, the comment period was extended for an additional 30 days, to May 22, 2023.

The Draft RMP/EIS was made available through the project ePlanning website and at the BLM North Dakota Field Office.

During the public comment period, the BLM held two in-person public meetings on February 28, 2023, and March 1, 2023, in Bowman and Dickinson, respectively. The BLM also hosted one virtual public meeting on March 29, 2023. BLM managers, resource specialists, and other representatives of the BLM were present during these public meetings to discuss the RMP/EIS and answer questions. As was done for the scoping period, the BLM offered a virtual open house website on January 20, 2023, which was open to public comments through May 22, 2023. During the public comment period, the BLM received a total of 27 comment letter submissions. These documents resulted in 535 unique substantive comments received on the Draft RMP/EIS.

#### **1.7.5 Public Review and Protest of the Proposed RMP/Final EIS**

Pursuant to the BLM's planning regulations (43 CFR 1610.5-2), any person who participated in the North Dakota RMP planning process and had an interest that might be adversely affected by the planning decisions could protest approval of the proposed plan. The protest period was within 30 days of the date the US Environmental Protection Agency published the notice of availability in the *Federal Register*, from August 9 to September 9, 2024.

The BLM received seven letters during the protest period. The BLM evaluated all letters to determine which were complete and timely, and which persons had standing to protest. One letter from the US Environmental Protection Agency stated it was not intended to be a protest letter and was not considered further in the protest report. The remaining six letters contained valid protest issues. The BLM documents the responses to the valid protest issues in the protest resolution report. The protest decision and reasons for the decision are published at <https://www.blm.gov/programs/planning-and-nepa/public-participation/protest-resolution-reports>.

After careful review of the report by the BLM's Assistant Director for Resources and Planning, the Assistant Director concluded that the BLM Montana/Dakotas State Director followed the applicable laws, regulations, and policies and considered all relevant resource information and public input. The Assistant Director addressed the protests, issued a Protest Resolution Report to protesting parties, and posted the report on the BLM's website; no changes to the North Dakota Proposed RMP/Final EIS were necessary. The decision was sent to the protesting parties by certified mail, return receipt requested. Consistent with the BLM Delegation of Authority Manual (MS-1203 Delegation of Authority), resolution of protests is delegated to the BLM Assistant Director for Resources and Planning, whose decision on the protest is the final decision of the DOI (43 CFR 1610.5-2(b)).

#### **1.7.6 Governor's Consistency Review**

To promote consistency with state government plans or policies (as required by 43 CFR 1610.3-2(e)), the BLM initiated the North Dakota Governor's consistency review for the North Dakota Proposed RMP/Final EIS in a letter dated August 7, 2024. The consistency review period concluded on October 12, 2024.

The Governor submitted a letter identifying some concerns in response to the consistency review. The BLM thoroughly reviewed the Governor's response letter and did not find any specific inconsistency issues. While no changes were incorporated into the RMP because of the consistency review, several changes were incorporated based on comments from the Governor's Office on the Draft RMP/EIS. Key changes incorporated from the Governor's review of the Draft RMP/EIS include:

- changed some ROW exclusion areas to ROW avoidance, and reduced several lease stipulation habitat descriptions and buffer distances,
- recategorized approximately 6,000 acres from low oil and gas potential (closed to leasing) to moderate oil and gas potential (open to leasing) to more accurately describe areas with historical and ongoing development,
- changed the oil and gas waste management CSU to a Lease Notice,
- adjusted the application of coal screen 4 resulting in 4,000 more acres available for future consideration for coal leasing, and
- added a provision to address concerns about the potential for the development of new technologies and production techniques that could make some locations in the closed to fluid mineral leasing area viable in the future: leasing in low development potential may be allowed to prevent drainage of federal minerals or if the oil and gas development potential categories are revised based on new data or information such as offset well production or geophysical surveys.

## **1.8 CONSULTATION AND COORDINATION**

Federal laws require the BLM to consult with certain federal and state agencies and entities and Native American Tribes (40 CFR 1502.25) during the NEPA decision-making process. The BLM is also directed to integrate NEPA requirements with other environmental review and consultation requirements to reduce paperwork and delays (40 CFR 1500.4-5). The BLM has implemented a collaborative outreach and public involvement process that has included public scoping and coordinating directly with Tribes and cooperating agencies. The BLM continued to meet with interested agencies and organizations throughout the development of the RMP.

### **1.8.1 Tribal Government-to-Government Consultation**

The BLM has the responsibility to ensure that meaningful consultation and coordination concerning Tribal treaty rights and trust resources are conducted on a government-to-government basis with federally recognized Tribes. The BLM has legal obligations to identify, protect, and conserve the trust resources of federally recognized Tribes and Tribal members, and to consult with Tribes on a government-to-government basis whenever plans or actions affect Tribal trust resources, trust assets, or Tribal health and safety. BLM coordination or consultation with Native Americans, as it pertains to treaty rights and trust responsibility, is conducted in accordance with FLPMA; NEPA; BLM Handbook H-1780-1, Improving and Sustaining BLM-Tribal Relations (BLM 2016); Executive Order 13084, Consultation and Coordination with Indian Tribal Governments (May 14, 1998); and Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (November 6, 2000).

For the North Dakota RMP/EIS, informal consultation began early in the planning process with a request to area Tribes for early input in November 2019. This request included letters to Tribal officials and follow-up phone calls to Tribal Historic Preservation Officers (THPOs). More formal consultation began in April 2020 when letters were sent to Tribal governments providing opportunities for recipients to partner with

the BLM as a cooperating agency. While no Tribes became an official cooperating agency, consultation has continued throughout the process.

The BLM has reached out to area Tribes through a variety of formats. In June 2020, letters were sent extending an invitation for a meeting, offering a community presentation, and requesting information to help the BLM understand pertinent Tribal issues. These letters were followed by further invitations (letters, emails, and postcards) to participate in scoping and by personal phone calls from the NDFO Field Manager and Authorized Officer to Tribal Chairs and Presidents.

Throughout the planning process, the BLM participated in regular meetings with the Mandan, Hidatsa, and Arika (MHA) Nation, also known as the Three Affiliated Tribes, due to the BLM's trust responsibility related to the Bakken oil development. As a part of these standing meetings (MHA Energy Committee and Fort Berthold Federal Partners Meetings), the BLM provided regular RMP updates and requests for input on Tribal issues. MHA participated in an early review of the Administrative Draft RMP/EIS in December 2022 and an early review in June 2024 of the draft responses to public comments on the Draft RMP/EIS.

To address tribal concerns, a NSO lease stipulation within 0.50 mile of the ordinary high-water mark for the Missouri River, Lake Sakakawea, and Lake Oahe, was added prior to publication of the Draft RMP/EIS. This NSO was added to mirror the Tribal Resolution and to recognize the regional importance of the Missouri River as a state Class I river used as a major supply of drinking water.

During the consultation process, MHA Nation also expressed interest to the BLM in a transfer of certain BLM-administered lands adjacent to and near lands acquired by the Tribe in the Buffalo Ranch/Figure Four area (Township 148N, Range 95W and Township 148N, Range 96W). The parcels of interest to the MHA Nation are BLM-administered lands that in some cases are surrounded by Tribal Lands. Due to access issues, the Tribe commented that the area could more effectively be managed and developed as a single consolidated unit under Tribal ownership. Due to the presence of significant resource values these lands are classified as Land Tenure Category 2, Retention-Limited. Transfer of these lands is outside the scope of the RMP process; however, transfer or exchange of these lands other than by direct sale is not precluded by the RMP and could be considered at a later time under separate NEPA analysis.

In addition to the consultation described above, **Table 1-1**, Tribal Government Meetings, lists additional meetings that have taken place to date.

The BLM consulted with the following state and federally recognized Native American Tribes in the development of the RMP: Crow Tribe, Assiniboine and Gros Ventre Tribes (Fort Belknap Reservation), Assiniboine and Sioux Tribes (Fort Peck Reservation), Northern Cheyenne Tribe, Three Affiliated Tribes, Spirit Lake Sioux Tribe, Turtle Mountain Band of Chippewa, Cheyenne River Sioux Tribe, Crow Creek Sioux Tribe, Flandreau Santee Sioux Tribe, Lower Brule Sioux Tribe, Rosebud Sioux Tribe, Oglala Sioux Tribe, Sisseton-Wahpeton Oyate, Yankton Sioux Tribe, Santee Sioux Tribe, Northern Arapaho, Lower Sioux, Red Lake Nation of Chippewa, Little Shell Tribe of Chippewa, and White Earth Nation Ojibwe.

**Table 1-1**  
**Tribal Government Meetings**

<b>Date</b>	<b>Meeting Details</b>
February 27, 2020	In response to the request for early input, NDFO met with the Fort Peck THPO to discuss the North Dakota RMP planning process and cultural resources.
January 8, 2021	NDFO met with the MHA Chairman and MHA Tribal representatives and provided a PowerPoint presentation, including the purpose and need for the plan revision, the BLM decision area, and a summary of draft alternatives. The discussion included scoping comments, the socioeconomic importance of Indian mineral development, fluid and solid mineral decision areas within Fort Berthold. The discussion included the Tribe's recent acquisition of lands near the Buffalo Ranch/Figure Four area and the adjacent proposed fluid mineral lease stipulations for BLM-administered federal minerals. The Tribe indicated interest in acquiring the federal land in this area, citing among other reasons the potential for access issues if the lands remain under BLM management.
December 17, 2021	NDFO met with the MHA Chairman and MHA Tribal representatives and provided a PowerPoint presentation on the preliminary Administrative Draft RMP/EIS. The discussion focused on leased versus unleased minerals, minerals held by production, and proposed fluid mineral lease stipulations.
June 13, 2022	NDFO presented RMP information at the "Strengthening Government to Government Partnerships and Relationships" regional meeting in Bismarck, North Dakota, organized by the North Dakota Indian Affairs Commission. The event included representatives from all five of the federally recognized Tribes in the state. The presentation included a PowerPoint on the Administrative Draft RMP/EIS and the opportunity for Tribes to ask questions and provide comment.
June 27, 2022	NDFO met with the MHA Executive Tribal Council and Chairman and provided a PowerPoint presentation with a summary of key changes to the Administrative Draft RMP/EIS since the December 2021 meeting. The discussion included contested lands and minerals, alternatives for open and closed fluid minerals, the oil and gas Reasonably Foreseeable Development (RFD) scenario, and identification of a preliminary preferred alternative. During this meeting the Tribe reiterated their interest in acquiring the federal land and minerals around the Buffalo Ranch/Figure Four area.
February 16, 2023	Met with MHA staff and provided an overview of the Draft RMP/EIS and highlighted changes since the Tribal Council briefing. A no surface occupancy lease stipulation (within 0.50 miles of the ordinary high-water mark for the Missouri River, Lake Sakakawea, and Lake Oahe) was added to mirror MHA Nation's Tribal Resolution and to recognize the regional importance of the Missouri River as a state Class I river used as a major supply of drinking water.

### **1.8.2 Cooperating Agency Collaboration**

In April 2020 the BLM sent 91 letters to local, state, federal, and Tribal governments, inviting them to participate as cooperating agencies in the RMP revision. The BLM worked closely with cooperating agencies during the planning process. Cooperating agency meetings were held during scoping, alternatives development, and development of the Draft RMP/EIS and Proposed RMP/Final EIS. Agencies had the option of signing on as a cooperator at any time during the planning process, and the State of North Dakota did so in October 2023.

Cooperating agencies include the following:

- US Department of the Interior, National Park Service
- US Department of the Interior, Office of Surface Mining Reclamation and Enforcement
- US Department of the Interior, Fish and Wildlife Service
- US Department of Agriculture, Forest Service
- US Environmental Protection Agency
- US Army Corps of Engineers
- North Dakota Governor's Office, including the North Dakota Industrial Commission, North Dakota Department of Trust Lands, North Dakota Public Service Commission, and North Dakota Department of Water Resources
- North Dakota Parks and Recreation
- Billings County
- Bowman County
- McKenzie County
- Mountrail County

In July 2020, the BLM provided cooperating agencies with information on the planning process, scoping period, and scoping meetings. As a result, several cooperating agencies provided written scoping comments to more fully identify issues related to their special expertise. The BLM held alternatives development workshops in September and October 2020, providing cooperating agencies with an opportunity to comment on preliminary alternatives and identify concerns or issues.

The BLM gave cooperating agencies the opportunity to review and provide comment on an early (administrative) copy of the Draft RMP/EIS prior to public release. After the close of the public comment period, the BLM held additional meetings with cooperators to review comments submitted by the public and to receive feedback. The BLM provided cooperating agencies with the opportunity to review BLM draft responses to substantive comments received on the draft document and the opportunity to review and discuss key proposed changes to the document prior to its publication.

### **1.8.3 North Dakota State Historic Preservation Office Consultation**

The BLM invited the North Dakota State Historic Preservation Office (SHPO) to participate as a cooperating agency, but it declined. The BLM gave the North Dakota Draft RMP/EIS and Proposed RMP/Final EIS to the SHPO concurrently with the document's release to the public. The BLM will consult with the SHPO on all federal undertakings in North Dakota, pursuant to Section 106 of the National Historic Preservation Act (NHPA).

### **1.8.4 Section 7 Consultation with US Fish and Wildlife**

To comply with Section 7 of the Endangered Species Act (ESA) of 1973, the BLM consulted with the US Department of the Interior, Fish and Wildlife Service (USFWS) to identify ESA issues within the planning area. The USFWS provided input on planning issues, data collection and review, and alternatives development. The BLM prepared a biological assessment for the USFWS that was formally submitted to the agency on April 24, 2024. The BLM received a concurrence letter from the USFWS on May 14, 2024. A copy of the biological assessment and the concurrence letter from the USFWS is in **Appendix J**.

### **1.8.5 Resource Advisory Council Collaboration**

A Resource Advisory Council (RAC) is a committee of local citizens appointed by the Secretary of the Interior to provide advice or recommendations to the BLM on management of public lands. In 2021, a new regional committee, the Missouri Basin RAC, was established for all of North Dakota, South Dakota, and eastern/central Montana.

The Missouri Basin RAC held its first meeting on January 12, 2022, during which the NDFO presented project information, including scoping comments and preliminary draft alternatives. During this meeting the RAC formed a subcommittee to assist the council in reviewing and developing recommendations on the North Dakota RMP. The RAC RMP subcommittee met on February 14, 2023, to review and discuss the Draft RMP/EIS. On May 3, 2023, the BLM provided the subcommittee with an overview of public comments received on the Draft RMP/EIS. The subcommittee met again in June and August 2023 to further review and discuss the document and begin drafting recommendations. On September 18 and 19, 2023, the subcommittee presented its recommendation to the full RAC where it was approved by consensus vote and forwarded to the BLM for consideration (RAC recommendation letter, October 18, 2023). Some of the more significant recommendations the BLM incorporated from the RAC include a reduction in several lease stipulation buffer distances and right-of-way allocations to allow for more flexibility. The BLM also incorporated the RAC's recommended allocation for livestock grazing, special designations, and deleted rifle ranges from a list of prohibited land use authorizations.

## **1.9 RATIONALE FOR DECISION**

The Approved RMP reflects statutory, regulatory, and national policy considerations. The decision is also based on review and substantive comments from federal, Tribal, state, and local governments and agencies, the public, industry, and the cooperating agencies that participated in the planning process.

The Approved RMP provides the best combination of management decisions to meet the purpose of and need for the RMP in consideration of the planning issues and management concerns identified through the planning process. It fulfills the purpose by providing goals and objectives for management of public lands and by resolving multiple-use conflicts or issues associated with those requirements that drive the preparation of the RMP. It fulfills the need by addressing current resource conditions, changes in circumstances (such as evolving demands on resources), and national-level policies that are new or have been revised since preparation of the 1988 North Dakota RMP.

Compared to the other alternatives, the Approved RMP provides the most comprehensive framework for addressing the diverse management needs of BLM-administered lands in the decision area. The Approved RMP strikes a balance between creating opportunities for resource uses, such as recreation, ROWs, mineral development, and maintaining ecological integrity of habitats for priority plant, wildlife, and fish species. The Approved RMP allocates areas open and closed to fluid mineral leasing and subject to lease stipulations. NSO stipulations restrict fluid mineral activities by requiring surface-disturbing activities to be located outside of specific areas. CSU stipulations can require special operational constraints, including special design, construction, or implementation measures to protect identified values. TL stipulations can prohibit specific activities, such as construction, drilling, and reclamation, during specific times of the year. Areas closed to fluid mineral leasing would protect state designated drinking water source protection areas, and protect resource integrity in areas with low oil and gas development potential, while allowing for continued development of federal fluid minerals in areas of very high, high, and medium oil and gas development potential. The Approved RMP also determines areas available for future consideration for

coal leasing in accordance with 43 CFR 3420.1-4(e). Decisions making areas unavailable for further coal leasing consideration would allow for orderly development of the coal resource while preventing conflicts with resources, values, and uses, such as historic sites, oil and gas development areas, and critical habitat for threatened and endangered species. The Approved RMP designates the 960-acre Mud Buttes ACEC in order to protect the relevant and important geological and paleontological values of the area. These allocations as well as other restrictions, designations, and management actions, such as those for ROWs and land tenure, are designed to sustain resource conditions, enhance relevant and important values, provide a sustained yield of economic benefits and protect non-market values.




### 1.10 APPROVAL

The protest decision of the BLM is the final decision of the Department of Interior (43 CFR 1610.5-2(b)), which means that there is no opportunity to appeal the protest decision or appeal the final land use planning decisions to the Interior Board of Land Appeals. The decision is hereby made to approve the attached RMP. This ROD serves as the final decision for the RMP and becomes effective on the date it is signed.

I hereby approve the land use plan decisions. My approval of the land use plan decisions is based on an independent review of the Protests, Protest Resolution Report, ROD, Proposed RMP/Final EIS, and other documents made available to me directly or indirectly. My decision constitutes the final decision of the Department of the Interior in accordance with the land use planning regulations at 43 CFR 1610.

**STEVEN  
FELDGUS**

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Steven H. Feldgus,  
Principal Deputy Assistant Secretary, Land and Minerals Management

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Date

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## **2. Approved Resource Management Plan**

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## **2.1 INTRODUCTION**

The BLM NDFO is revising the RMP for the North Dakota planning area. The RMP is supported by NEPA analysis in an EIS, hereinafter referred to as the North Dakota RMP/EIS. Currently, the NDFO operates under the North Dakota RMP approved in 1988, as amended.

### **2.1.1 Purpose of and Need for the Resource Management Plan**

The purpose and need statements describe why the BLM is revising the 1988 RMP and what outcomes the BLM intends the RMP to achieve. The purpose and need statements helped to define the range of alternatives analyzed in the planning process because alternatives must respond to the purpose and need for action to be considered reasonable.

The need for the North Dakota RMP is to address changes in resource conditions, shifting demands for resource uses, new technologies, new program and resource guidance and policies, and new scientific information since the development of the 1988 RMP. The changes that have taken place in the planning area over the past 30 years have resulted in different users and uses of public lands. For example, in the past decade, the Bakken oil boom has dramatically changed the landscape in North Dakota, especially in the western part of the state. Many of the land use planning decisions required by specific program and resource guidance are not adequately addressed in the current RMP, and the existing analysis needs to be updated.

The purpose of the North Dakota RMP is to ensure that BLM-administered lands and minerals in the planning area are managed in accordance with the multiple-use and sustained yield principles stated in FLPMA. Therefore, this RMP provides planning-level management strategies that are expressed in the form of goals, objectives, allocations, and management direction for resources and resource uses. The BLM has identified four specific purposes that describe the BLM's distinctive role in the North Dakota landscape: to provide opportunities for responsible mineral and energy development on BLM-administered lands; contribute to the conservation and recovery of threatened, endangered, and special status species; provide for recreation opportunities; and manage for multiple other social and scientific values.

### **2.1.2 Lands in the North Dakota Planning Area, Analysis Area, and Decision Area**

#### ***Planning Area***

The North Dakota RMP/EIS planning area includes the entire state of North Dakota (**Map 1-1** in **Appendix A**). Throughout this RMP, the term “planning area” is used to refer to all lands within the state regardless of jurisdiction. The BLM, however, will only make management decisions on the portions of the planning area that fall under the BLM's jurisdiction. The number of surface acres administered by federal and state agencies in the planning area, excluding reservations, is shown in **Table 2-1**.

#### ***Analysis Area***

The analysis area refers to any lands, regardless of jurisdiction, for which the BLM analyzes and interprets data and information for the lands it administers. In the North Dakota RMP/EIS, the BLM analyzes the cumulative effects that a project may have on an area; this might expand beyond the decision area boundaries, depending on the resource or resource use.

**Table 2-1  
Federal and State Surface Landownership in the Planning Area**

<b>Land Managing Agency</b>	<b>Acres<sup>1</sup></b>	<b>Percentage of Planning Area</b>
Forest Service	1,104,100	2.4
North Dakota Division of State Lands	680,200	1.5
US Army Corps of Engineers	531,600	1.2
US Fish and Wildlife Service	516,200	1.1
National Park Service	71,700	0.2
Bureau of Land Management	58,500	0.1
Bureau of Reclamation	57,800	0.1
Other State Agency	25,700	<0.1

Source: BLM GIS 2021

<sup>1</sup> Acres are rounded to the nearest 100.

### **Decision Area**

The North Dakota RMP/EIS decision area is made up solely of lands in the planning area that the BLM administers, as well as federal mineral estate where the BLM has authority to make decisions. The decision area is, collectively, the surface estate and subsurface mineral estate lands in the planning area over which the BLM has authority to make land use planning and management decisions.

The surface decision area is the 58,500 acres of BLM-administered surface lands (**Map 1-2 in Appendix A**). Most BLM-administered surface lands in the planning area are located in Dunn, Bowman, and Stark Counties, which are in western North Dakota. In northwestern Dunn County, approximately 15,000 acres compose the Lost Bridge area. In western Bowman County, about 22,000 acres are in the Big Gumbo area, and 2,000 acres in Stark County compose the Schnell Ranch Recreation Area (**Map 1-2 in Appendix A**, and **Map 3-2 in the Analysis of the Management Situation report (BLM 2020b)**). Most of the remaining BLM-administered surface lands are small, isolated tracts scattered throughout the state.

The subsurface decision area contains three types of federal minerals: 1) coal; 2) fluid minerals; and 3) mineral materials, locatable minerals, and nonenergy leasable (NEL) minerals (refer to **Map 1-3, Map 1-4, and Map 1-5 in Appendix A**). The majority of the federal subsurface mineral estate is coal (approximately 4.1 million acres, including areas with federal coal only, federal ownership of all minerals, and federal ownership of coal and other minerals). Federal subsurface oil and gas reserves in the decision area (fluid minerals) comprise 489,300 acres of the decision area. Decisions apply to the areas described to the extent that the BLM has jurisdiction.

### **2.1.3 Scoping and Issues**

As stated in the ROD, the formal public scoping process for the North Dakota RMP/EIS began on July 28, 2020, with the publication of the Notice of Intent in the *Federal Register* (2020 *Federal Register* 16276). The scoping period closed on August 28, 2020.

### ***Issues Identified for Detailed Analysis***

To initiate the RMP revision process, the BLM identified preliminary planning issues through internal scoping based on RMP evaluations, new program guidance, and staff input. Planning issues are disputes or controversies about existing and potential land and resource allocations, levels of resource use, production, and related management practices. The BLM then revised these planning issues based on input received during public scoping. The issues addressed in the RMP are provided at the beginning of each resource section in Chapter 3 of the Proposed RMP/Final EIS (BLM 2024). More detailed information about the issues identified during public scoping can be found in the North Dakota RMP/EIS Scoping Report (BLM 2020a).

### ***Issues Addressed***

A planning issue is a dispute or controversy regarding existing and potential land and resource allocations, levels of resource use, production, and related management practices.

In May 2019, the BLM completed a preparation plan for the RMP revision and EIS. The BLM interdisciplinary team used this plan to initiate the planning process by identifying anticipated planning issues and management concerns that the team developed internally. The NDFO analyzed comments received during the public scoping process and finalized a scoping summary report in November 2020 (BLM 2020a). Issues raised during scoping were consistent with the planning issues identified during the internal planning phase.

The alternatives were developed using input from the public, stakeholders, and cooperating agencies. Planning issues addressed included leasable minerals, locatable minerals, mineral materials, air quality, climate change, greenhouse gases (GHGs), socioeconomics, environmental justice, water resources, cultural resources, special status species, wildlife, recreation, and special designations. The alternatives also addressed designation of ACECs and Wild and Scenic River suitability findings.

### ***Issues Considered but Not Further Analyzed***

During scoping, commenters requested implementation-level (project- or site-specific) management actions that were outside the scope of this RMP/EIS. Comments of this type primarily included requests for decisions that are typically made through lower-level or project-level planning. These commenters often requested that the RMP/EIS include post-lease activities and requirements for mineral and energy development (BLM 2020a). Although the RMP/EIS can provide broad direction and guidance for these types of activities, decisions of this nature are tiered down to implementation-level, site-specific planning.

In some cases, issues were identified for resources that are not present in the decision area. Lands with wilderness characteristics; oil shales, tar sands, and geothermal resources; caves and karst resources; and wild horses and burros are not known to be present in the decision area, and therefore effects on or from these resources or uses are not analyzed in detail in the RMP/EIS.

#### **2.1.4 Planning Criteria and Legislative Constraints**

FLPMA is the primary authority for the BLM's management of public lands. This law provides the policy by which BLM-administered lands will be managed and establishes provisions for land use planning, land acquisition and disposition, administration, range management, ROWs, designated management areas, and the repeal of certain statutes.

NEPA provides the basic national charter for environmental responsibility. It requires the consideration and public availability of information regarding the environmental impacts of major federal actions significantly affecting the quality of the human environment. In concert, FLPMA and NEPA provide the overarching guidance for administering all BLM activities.

Planning criteria are the standards, rules, and guidelines that help to guide data collection and alternative formulation and selection in the RMP development process. In conjunction with the planning issues, planning criteria ensure that the planning process is focused. The criteria also help guide the final plan selection and provide a basis for judging the responsiveness of the planning options.

The planning criteria are as follows:

- The proposed RMP will comply with FLPMA and all other applicable laws, regulations, and policies.
- Impacts from the management alternatives considered in the revised RMP will be analyzed in an EIS developed in accordance with regulations at 43 CFR 1610 and 40 CFR 1500.
- Lands covered in the RMP will be public land and split-estates managed by the BLM. No decisions will be made relative to non-BLM-administered lands, except when decisions involve federal mineral estate.
- For program-specific guidance of land use planning-level decisions, the process will follow the Land Use Planning Manual 1601 (BLM 2000) and Handbook H-1601-1, Appendix C (BLM 2005), as amended.
- Broad-based public participation will be an integral part of the planning and EIS processes.
- The planning team will cooperate with the State of North Dakota, Tribal governments, county and municipal governments, other federal agencies, the BLM North Dakota RAC, cooperating agencies, and all other interested groups, agencies, and individuals.
- Decisions in the RMP will strive to be compatible with the existing plans and policies of local, state, and federal agencies in the planning area, to the extent that the decisions are consistent with the purposes, policies, and programs of federal law and regulations applicable to public lands.
- The BLM will consult with North Dakota Game and Fish Department and will recognize in the RMP the State's responsibility and authority to manage wildlife.
- The BLM will recognize the Office of Surface Mining's responsibility and authority to regulate coal activities.
- The BLM will recognize the State's responsibility for permitting oil and gas activities and for regulating air quality impacts.
- The BLM will recognize the State's responsibility for permitting uranium, coal, and sand and gravel activities and for regulating water quality impacts.
- In the RMP, the BLM will recognize valid existing rights.
- The planning process will incorporate BLM Standards for Rangeland Health and Guidelines for Livestock Grazing Management (BLM 1997).
- The BLM will follow guidance in Instruction Memorandum 2012-169, Resource Management Plan Alternative Development for Livestock Grazing (BLM 2012), when developing a range of alternatives for livestock grazing.



- The planning process will involve the governments of Sovereign Tribal Nations and will provide strategies for protecting recognized traditional uses.
- Any location-specific information pertaining to cultural resources—maps, descriptions, or photos—is confidential BLM information. Such information will neither become the property of any contractors working on the EIS nor be attached to any paper or electronic document. The Archaeological Resources Protection Act restricts the release of such information under the Freedom of Information Act.
- The RMP will include adaptive management criteria and protocol to deal with future issues.

All management direction and actions developed as part of the BLM planning process are subject to valid existing rights and must meet the objectives of the BLM's multiple-use management mandate and responsibilities (FLPMA, Section 202(c) and (e)). Valid existing rights include all valid leases, permits, ROWs, or other land use rights or authorizations in effect on the date that this RMP is approved. Although the courts may adjudicate Revised Statute 2477 ROWs as valid existing rights, current BLM policy does not allow the BLM to consider unadjudicated Revised Statute 2477 claims. Claims under Revised Statute 2477 are therefore legal issues beyond the scope of this planning effort.

### **2.1.5 Planning Process**

The BLM uses a multistep planning process when developing RMPs, as required by 43 CFR 1600 and illustrated in the BLM's Land Use Planning Handbook, H-1601-1 (BLM 2005). The planning process is designed to help the BLM identify the uses desired by the public of BLM-administered lands. During this process, the BLM considers these uses to the extent they are consistent with the laws established by Congress and the policies of the executive branch of the federal government. The planning process is issue driven. The BLM used the public scoping process to introduce the public to planning criteria and to identify planning issues (noted above) to direct the development of the North Dakota RMP.

Title II, Section 202, of FLPMA directs the BLM to coordinate planning efforts with Native American Tribes, other federal departments, and agencies of the state and local governments as part of its land use planning process. The BLM is also directed to integrate NEPA requirements with other environmental review and consultation requirements, to reduce paperwork and delays (40 CFR 1500.4-5). The BLM coordinated with Native American Tribes and other agencies through ongoing communications, meetings, and collaboration with an interdisciplinary team of BLM specialists and federal, state, and local agencies.

### **2.1.6 Consistency with Laws and Policy**

This RMP is consistent with and incorporates requirements identified in various laws, regulations, and policies. These include executive orders, legislative designations, and court settlements and rulings. The policies and decisions that existed before this RMP are outside its scope; however, they have influenced the decisions and constrained the alternatives and are needed to understand management of the decision area.

## **2.2 MANAGEMENT DECISIONS**

This section of the Approved RMP presents the goals, objectives, actions, allowable uses, and stipulations established for BLM-administered lands in the decision area. Most of the desired future conditions are long range and are assumed to require a period of time to achieve. These management decisions are presented

by program area under four category headings: resources, resource uses, special designations, and social and economic (refer to **Table 2-2**, below).

**Table 2-2**  
**RMP Program Categories and Abbreviations**

<b>RMP Program Category</b>	<b>Abbreviation</b>
<b>Resources</b>	
Air Quality	AIR
Soil Resources	SOIL
Water Resources	WTR
Water Quantity	WTR-QN
Water Quality	WTR-QL
Riparian and Wetland Areas	RW
Vegetation Communities	VEG
Rangeland	VEG-RG
Forested/Woodland	VEG-FW
Noxious Weeds and Invasive Plants	VEG-WDS
Terrestrial and Aquatic Wildlife Resources	TWAR
Special Status Species (includes vegetation, terrestrial, and aquatic)	SSS
Common to All Special Status Species	SSS-CM
Special Status Vegetation	SSS-VEG
Special Status Terrestrial Wildlife	SSS-TW
Special Status Aquatic Wildlife	SSS-AW
Wildland Fire Ecology and Management	WFEM
Cultural Resources	CUL
Paleontological Resources	PAL
Visual Resources	VIS
<b>Resource Uses</b>	
Lands and Realty	LR
Land Use Authorizations	LR-LU
Land Tenure	LR-LT
Land Withdrawals	LR-WD
Public Access	LR-PA
Fluid Leasable Minerals	FLD
Solid Leasable Minerals	SLM
Coal	SLM-CL
Nonenergy Solid Leasable Minerals	SLM-NELM
Locatable Minerals	LM
Mineral Materials	MM
Recreation	REC
Comprehensive Trails and Travel Management	CCTM
Livestock Grazing	LG
<b>Special Designations</b>	
Special Designations and Management Areas	SDMA
Areas of Critical Environmental Concern	SDMA-ACEC
Wild and Scenic Rivers	SDMA-WSR
National Scenic and Historic Trails	SDMA-NSHT

<b>RMP Program Category</b>	<b>Abbreviation</b>
<b>Social and Economic</b>	
Socioeconomics and Environmental Justice	SEJ

Types of management decisions are presented in **Table 2-3**.

**Table 2-3**  
**RMP Types of Decisions and Abbreviations**

<b>Type of Decision</b>	<b>Abbreviation</b>
Goal	GOAL
Objective	OBJ
Management direction	MD
Allowable use (stipulation)	AU

The management decisions contained in the Approved RMP are presented in **Table 2-4**. Each decision is numbered, for ease of identification. The numbering sequences for the decisions are by the abbreviation for the program (**Table 2-2**), abbreviation for the type of decision (**Table 2-3**), and decision number. Examples are as follows:

- AIR-GOAL-01: First air program goal
- AIR-OBJ-01: First air program objective
- AIR-MD-01: First air program management direction decision
- AIR-MD-02: Second air program management direction decision

Maps depicting resource information and stipulations applicable to surface-disturbing activities in the Approved RMP are provided in **Appendix A**. All acreages and maps presented in the Approved RMP are estimations, based on current data. Calculations depend on the quality and availability of data, and most calculations in this RMP are rounded to the nearest 10 acres or 0.1 miles. Given the scale of the analysis, the compatibility constraints between datasets, and lack of data for some resources, all calculations are approximate; they are for comparison and analytic purposes only. Likewise, the figures in **Appendix A** are provided for illustrative purposes and are subject to the limitations discussed above. Updating these data is considered plan maintenance, which will occur over time as the Approved RMP is implemented, additional surveys are completed, and information is revised.

**Appendices B through J** contain supporting information for decisions outlined in the Approved RMP. Supporting appendices are as follows:

Appendix A	Maps
Appendix B	Stipulations and Allocations Applicable to Fluid Minerals Leasing
Appendix C	Air Resources Management Plan
Appendix D	Design Features and Best Management Practices
Appendix E	Reclamation Standards
Appendix F	Coal Screening Process
Appendix G	Land Tenure Adjustment Categories

Appendix H	Recreation Management Areas
Appendix I	Evaluation of Proposed Areas of Critical Environmental Concern
Appendix J	Biological Assessment and Concurrence Letter

### 2.2.1 Links to Approved RMP Decisions

Air Quality	Comprehensive Trails and Travel Management
Soil Resources	Livestock Grazing
Water Resources	Special Designations and Management Areas
Water Quantity	Areas of Critical Environmental
Water Quality	Concern
Riparian Areas and Wetlands	Wild and Scenic Rivers
Vegetation Communities	National Scenic and Historic Trails
Vegetation-General	Socioeconomics and Environmental Justice
Rangeland	
Forested/Woodland	
Noxious Weeds and Invasive Plants	
Special Status Species (Includes Vegetation,	
Terrestrial, and Aquatic)	
Common to All Special Status Species	
Special Status Vegetation	
Special Status Terrestrial Wildlife	
Special Status Aquatic Wildlife	
Wildland Fire Ecology and Management	
Cultural Resources	
Paleontological Resources	
Visual Resources	
Lands and Realty	
Land Use Authorizations	
Land Tenure	
Withdrawals and Other Segregations	
Public Access	
Fluid Leasable Minerals	
Solid Leasable Minerals	
Coal	
Nonenergy Solid Leasable Minerals	
(for example, phosphate)	
Locatable Minerals	
Mineral Materials	
Recreation	

**Table 2-4**  
**Approved RMP Decisions**

<b>RESOURCES</b>	
	<b>Air Quality</b>
AIR-GOAL-01	<b>Goal:</b> Protect the quality of air and atmospheric values in the planning area.
AIR-GOAL-02	<b>Goal:</b> Maintain or enhance air quality and air quality-related values at sensitive areas (for example, Class I areas) in and near the planning area.
AIR-GOAL-03	<b>Goal:</b> Minimize emissions from BLM actions, within the scope of the BLM's authority, that contribute to atmospheric deposition, visibility degradation, or exceedances of ambient air quality standards (AAQS).
AIR-GOAL-04	<b>Goal:</b> Reduce GHG emissions from BLM-authorized activities.
AIR-OBJ-01	<b>Objective:</b> Manage air resources within the planning area in accordance with the Air Resources Management Plan ( <b>Appendix C</b> ).
AIR-MD-01	<b>Management Direction:</b> Use authorization, leasing stipulations, and COAs for mineral development activities to support the air quality goals and prevent significant impacts.
AIR-MD-02	<b>Management Direction:</b> Work cooperatively with the North Dakota Department of Environmental Quality and Tribal and local agencies to minimize impacts on air quality from BLM-authorized actions.
AIR-MD-03	<b>Management Direction:</b> Support air resource monitoring to determine existing conditions, long-term trends, and the effectiveness of air resource management strategies. Work collaboratively with state, local, and Tribal agencies; industry; and stakeholders to gather, share, and analyze air quality monitoring data to achieve air quality goals and objectives.
AIR-MD-04	<b>Management Direction:</b> Prioritize ROW actions for gas-gathering pipelines and consider other management actions to reduce gas venting and flaring.
AIR-MD-05	<b>Management Direction:</b> To prevent air quality or air quality related value (AQRV) degradation, incorporate strategies such as field design strategies (for example, reinjection, cogeneration, centralized facilities, three-phase transport, and delivery systems), emissions controls, or design features to reduce venting and flaring from BLM-authorized oil and gas wells.
AIR-MD-06	<b>Management Direction:</b> To minimize fugitive dust emissions from BLM-authorized activities, require a fugitive dust control plan or dust abatement measures developed in coordination with Tribal, state, and local agencies and based on BMPs ( <b>Appendix D</b> , Design Features and Best Management Practices).
AIR-MD-07	<b>Management Direction:</b> Where feasible, promote the design of field systems that reduce air emissions, such as liquids-gathering and delivery systems, centralized treatment systems, storage facilities, and field compression systems.
AIR-MD-08	<b>Management Direction:</b> Develop and apply COAs to reduce impacts on air resources when the analysis at the permitting or project stage shows significant adverse impacts on AAQS or AQRVs.
AIR-AU-01	<b>FEDERAL CLASS I AREAS</b> <b>Allocation:</b> NSO–New: Prohibit surface occupancy within 1 mile of the boundary of the Lostwood Wilderness or the Theodore Roosevelt National Park Class 1 Area.

	<b>Air Quality</b>
AIR-AU-02	<b>FEDERAL CLASS I AREAS</b> <b>Allocation:</b> CSU–New: Surface use and occupancy within 2 miles of the boundary of the Lostwood Wilderness or Theodore Roosevelt National Park is subject to the following conditions; prior to surface occupancy and use, the operator must submit an air analysis, including near field dispersion modeling, that demonstrates that proposed exploration or development operations will not result in adverse impacts to air quality and AQRVs and will meet air quality goals, objectives, standards and thresholds for the Class 1 areas. The BLM may require modifications to or disapprove a proposed activity that would result in an adverse impact to air quality, exceed an AAQS, or exceed a level of concern for an AQRV.
AIR-AU-03	<b>AIR RESOURCE PROTECTION</b> <b>Allocation:</b> Lease Notice–New: Waste Minimization (see <b>Appendix B</b> ), is applied to reduce the waste of natural gas from venting, flaring, and leaks during oil and gas production activities on federal leases.
AIR-AU-04	<b>Allocation:</b> The area outside 4 miles from existing coal mine permit boundaries as of September 9, 2022, is unacceptable for further consideration for coal leasing (multiple-use screen 3).
AIR-MD-09	<b>Management Direction:</b> Support, conduct, or require a regional air modeling analysis, as needed and in accordance with the Air Resources Management Plan ( <b>Appendix C</b> ), to assess cumulative air quality impacts from reasonably foreseeable emissions-producing activities in the planning area. Cumulative air quality modeling is part of a comprehensive strategy to prevent BLM-permitted activities from causing or contributing to violations of AAQS or causing significant adverse impacts on AQRVs.
AIR-MD-10	<b>Management Direction:</b> Determine, on a case-by-case basis and in accordance with the Air Resources Management Plan ( <b>Appendix C</b> ), the appropriate level of air analysis necessary to determine potential air quality impacts from proposed actions and subsequent potential mitigation strategies for project-level EISs and EAs.
AIR-MD-11	<b>Management Direction:</b> Consider and prioritize actions that reduce or mitigate GHG emissions, such as enhanced energy efficiency, use of lower GHG-emitting technologies, capture or beneficial use of methane emissions, and/or sequestration of carbon dioxide through enhanced oil recovery.
AIR-MD-12	<b>Management Direction:</b> Prioritize processing of ROW applications for infrastructure (for example, pipelines) that maximize the recovery and delivery of natural gas from well sites to meet the objectives of reducing lost produce and minimizing air pollutant emissions from venting and flaring.
AIR-MD-13	<b>Management Direction:</b> Minimize impacts on climate change from anthropogenic GHG emissions associated with its authorizations, routine maintenance, and administrative operations by seeking opportunities to reduce the use of fossil fuels and may require and implement GHG reduction strategies in its authorizations and operations such as: <ul style="list-style-type: none"> <li>• use electric or solar powered tools and equipment</li> <li>• use electric vehicles</li> <li>• use alternative (nonfossil fuel) energy sources at facilities and authorized operations</li> <li>• reduce use of fossil fuel vehicles on BLM-administered roads and trails</li> <li>• provide increased access for human, animal, and electric powered recreation</li> </ul>

	Soil Resources
SOIL-GOAL-01	<b>GOAL:</b> Maintain, improve, or restore the health and productivity (chemical, physical, and biotic properties) of soil by reducing erosion and compaction—identified using proper functioning condition (PFC), Standards for Rangeland Health, and Guidelines for Livestock Grazing Management—while supporting multiple use.
SOIL-OBJ-01	<b>Objective:</b> Maintain and/or improve soil productivity by reducing soil compaction and erosion, establishing desirable plant communities, maintaining existing desirable vegetative ground cover composition consistent with the ecological site characteristics, and sustaining other ground cover, including biotic crusts and litter to maintain or increase soil stability and nutrient cycling as required and as measured by Land Health Assessments.
SOIL-MD-01	<b>Management Direction:</b> Analyze proposed surface disturbing projects to determine the suitability of soils to support or sustain such activities. Design projects to minimize soil loss. Management actions will be consistent with soil resource capabilities and objectives for other resources/uses, while allowing for multiple use.
SOIL-MD-02	<b>Management Direction:</b> Apply design features (to be determined at the project level) and reclamation standards to surface-disturbing activities (see <b>Appendix D</b> , Design Features and Best Management Practices, and <b>Appendix E</b> , Reclamation Standards).
SOIL-OBJ-02	<b>Objective:</b> Prioritize designated areas for soil resource protection and minimize ground disturbance.
SOIL-MD-03	<b>Management Direction:</b> Require that surface-disturbing activities occurring on prime farmland be reclaimed to pre-disturbance productivity levels.
SOIL-MD-04	<b>Management Direction:</b> Apply design features (to be determined at the project level) and reclamation standards to surface-disturbing activities (see <b>Appendix D</b> , Design Features and Best Management Practices and <b>Appendix E</b> , Reclamation Standards).
SOIL-AU-01	<b>Allocation:</b> Slopes greater than 30 percent covering more than 10-acre area are unacceptable for coal leasing under the multiple-use screen (Screen 3).
SOIL-AU-02	<p><b>SOILS, SENSITIVE SOILS</b></p> <p><b>Allocation:</b> CSU 12-24: Surface occupancy and use is subject to the following operating constraints: prior to surface disturbance on sensitive soils, a reclamation plan must be approved by the administrative officer. Sensitive soils are determined using a combination of slope and chemical and physical properties to determine suitability to reclamation. The plan must demonstrate the following:</p> <ul style="list-style-type: none"> <li>• no other practicable alternatives exist for relocating the activity,</li> <li>• the activity will be located to reduce impacts to soil and water resources,</li> <li>• site productivity will be maintained or restored,</li> <li>• surface runoff and sedimentation will be adequately controlled,</li> <li>• on- and off-site areas will be protected from accelerated erosion,</li> <li>• that no areas susceptible to mass wasting would be disturbed, and</li> <li>• surface-disturbing activities will be prohibited during extended wet periods.</li> </ul>
SOIL-AU-03	<p><b>BADLANDS, ROCK OUTCROP</b></p> <p><b>Allocation:</b> NSO 11-69 Badlands, Rock Outcrops. Surface occupancy and use is prohibited on badlands and rock outcrops.</p>



	Soil Resources
SOIL-AU-04	<b>Allocation:</b> Manage sensitive soils as avoidance areas for all types of ROWs. Where authorized, implement BMPs, design features and reclamation standards upon decommissioning ( <b>Appendix D</b> and <b>Appendix E</b> , respectively). Additionally, a reclamation plan would be submitted to and approved by the Authorized Officer prior to granting the ROW.
SOIL-AU-05	<b>Allocation:</b> Manage slopes greater than 30 percent and rock outcrops as avoidance areas for all types of ROWs. Where authorized, implement BMPs and design features and reclamation standards upon decommissioning ( <b>Appendix D</b> and <b>Appendix E</b> , respectively). Additionally, a reclamation plan would be submitted to and approved by the Authorized Officer prior to granting the ROW.
SOIL-AU-06	<b>Allocation:</b> Limit off-highway vehicle (OHV) use on BLM-administered lands in Bowman County. In spring (March 1–June 1), unsurfaced routes (for example, two-track routes) are closed (except for administrative or authorized purposes) to protect against erosion.
SOIL-AU-07	<b>Management Direction:</b> Apply design features (to be determined at the project level) and reclamation standards to surface-disturbing activities (see <b>Appendix D</b> , Design Features and Best Management Practices and <b>Appendix E</b> , Reclamation Standards).

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	Water Resources
WTR-GOAL-01	<b>Goal:</b> Maintain, enhance, or restore the geomorphological, chemical, and biological integrity of waters to protect all beneficial uses as determined by the State of North Dakota.
WTR-GOAL-02	<b>Goal:</b> In accordance with parameters of 43 USC 666, follow established North Dakota water permitting requirements to ensure that water is legally and physically available when and where it is needed to achieve the BLM's related multiple-use management objectives and legal mandates.
WTR-GOAL-03	<b>Goal:</b> Manage surface water and groundwater quality on BLM-administered lands to protect, maintain, improve, and/or restore the chemical, physical, and biological integrity of waters to protect beneficial uses as determined by the State of North Dakota.
WTR-GOAL-04	<b>Goal:</b> Follow established North Dakota water permitting requirements to manage water quantity and quality to meet, exceed, or make significant and measurable progress toward achieving North Dakota State water quality standards, while ensuring that sufficient water quantity and quality are available to support BLM resources and resource uses (Dakota Standard 3).
WTR-GOAL-05	<b>Goal:</b> Protect, restore, and maintain the chemical, physical, and biological (ecological) services of surface water and groundwater to support resource management needs and all associated beneficial use standards.
WTR-GOAL-06	<b>Goal:</b> Maintain and/or restore natural hydrological processes.
	Water Quantity
WTR-QN-OBJ-01	<b>Objective:</b> Support natural surface water flow regimes.
WTR-QN-OBJ-02	<b>Objective:</b> Maintain or increase the frequency and extent of stream-floodplain interactions to buffer flooding, increase natural water storage within the valley bottom, and elevate base flows.
WTR-QN-OBJ-03	<b>Objective:</b> Manage groundwater to maintain the integrity of aquifer systems, both in quantity and quality.

	<b>Water Resources</b>
WTR-QN-OBJ-04	<b>Objective:</b> In accordance with parameters of 43 USC 666, follow North Dakota law in order to acquire, perfect, and protect water rights necessary to carry out current and future BLM-administered land management purposes.
WTR-QN-MD-01	<b>Management Direction:</b> Work cooperatively with North Dakota to properly acquire and perfect federal reserved water rights necessary to carry out BLM-administered land management purposes where possible under state law. If a federal reserved water right is not available, then work with the North Dakota Department of Water Resources to determine the availability of water on BLM land and follow state law in order to acquire permits for the use of available water.
WTR-QN-MD-02	<b>Management Direction:</b> Ensure that land use authorizations granted to third parties contain appropriate terms and conditions to protect water rights administered by the BLM and water uses implemented by the BLM.
WTR-QN-MD-03	<b>Management Direction:</b> Work to acquire private water rights that are located on BLM-administered lands and put them in the BLM's name.
WTR-QN-MD-04	<b>Management Direction:</b> Support water development for multiple resources where land health standards are not being met due to a lack of water availability.
WTR-QN-MD-05	<b>Management Direction:</b> Design projects to ensure that state and federal water quality standards are met or exceeded, and water quantity is both physically and legally available in accordance with federal and state laws.
WTR-QN-OBJ-05	<b>Objective:</b> Manage water developments and impoundments to supply water when and where it is needed to achieve current or future authorized uses, while using BMPs that minimize related impacts on the hydrologic and ecologic systems.
WTR-QN-OBJ-06	<b>Objective:</b> Ensure that water consumption is sustainable, so that surface and groundwater resources will remain available to sustain the yield and productivity of resources for current and future generations.
WTR-QN-MD-06	<b>Management Direction:</b> Work cooperatively with the North Dakota Department of Water Resources and other state programs and federal agencies to obtain and share information regarding groundwater and surface water availability and sustainability.
	<b>Water Quality</b>
WTR-QL-OBJ-01	<b>Objective:</b> Locate, prevent, or minimize, and remediate sources of point and nonpoint source pollution entering or originating on BLM-administered lands and that are contributing to water quality impairment.
WTR-QL-MD-01	<b>Management Direction:</b> Maintain or improve the health, complexity, and spatial extent of riparian areas, wetlands, and aquatic ecosystems. Implement active and/or passive restoration actions to accelerate progress toward potential natural condition, where needed, to sequester contaminants, especially from upstream sources.
WTR-QL-MD-02	<b>Management Direction:</b> Implement BMPs and design features (to be determined at the project level) to minimize, avoid, or reduce erosion and the transport of pollutants to downstream waterbodies (see <b>Appendix D</b> , Design Features and Best Management Practices).
WTR-QL-MD-03	<b>Management Direction:</b> Coordinate, cooperate, and consult with federal, Tribal, state, and local agencies; private landowners; and stakeholder organizations to foster a watershed-based approach to water resource stewardship.
WTR-QL-AU-01	<b>STREAMS, WATERBODIES, RIPARIAN AREAS, WETLANDS, AND FLOODPLAINS</b> <b>Allocation:</b> NSO 11-70 Streams, Waterbodies, Riparian Areas, Wetlands, and Floodplains: Surface occupancy and use is prohibited within perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas.

	<b>Water Resources</b>
WTR-QL-AU-02	<b>RIPARIAN AREAS, WETLANDS, STREAMS, AND WATERBODIES</b> <b>Allocation:</b> CSU-New: Surface occupancy and use is subject to the following operating constraints: Prior to surface occupancy and use within 300 feet of riparian areas, wetlands, ephemeral, intermittent, and perennial drainages, and waterbodies, a plan must be approved by the BLM Authorized Officer with design features that demonstrate how actions would maintain or improve the functionality of the resource. The plan would address: 1) mitigation to reduce impacts to a level where the project is neutral or positive to the resource; 2) interim and final reclamation; and 3) monitoring. Following established protocols, the operator must conduct monitoring capable of detecting early signs of changing conditions.
WTR-QL-MD-04	<b>Management Direction:</b> In accordance with Executive Orders 11988 and 11990, floodplains and/or wetlands will be avoided to the greatest extent possible. Where no practical alternative exists, the BLM Authorized Officer may approve development if the development is shown to minimize the potential for adverse impacts.
WTR-QL-OBJ-02	<b>Objective:</b> Maintain and improve watersheds that meet PFC. Provide a scientific, watershed approach to meet PFC on natural and human-influenced watersheds that do not.
WTR-QL-OBJ-03	<b>Objective:</b> Increase the percentage of lotic riparian and wetland miles that meet PFC on natural ecosystems and potential natural ecosystems, including those streams listed as water quality impaired. Meet desired future condition (DFC).
WTR-QL-MD-05	<b>Management Direction:</b> Through assessment of PFC, identify those elements that are limiting PFC attainment and develop management directions that move toward PFC.
WTR-QL-MD-06	<b>Management Direction:</b> Manage impoundments and supplemental water to provide resource values that support the BLM's multiple-use objectives in a manner that minimizes adverse effects on water quality, riparian habitat, and watershed function.
WTR-QL-OBJ-04	<b>Objective:</b> Consult with the North Dakota Department of Water Resources and Environmental Quality to protect municipal supply watersheds and drinking water source protection zones.
WTR-QL-MD-07	<b>Management Direction:</b> Engage in collaborative planning, protection, and remediation efforts that focus on municipal supply watersheds and drinking water source protection zones.
WTR-QL-AU-03	<b>SOURCE WATER PROTECTION AREAS</b> <b>Allocation:</b> Close state-designated SWPAs to fluid mineral leasing.
WTR-QL-AU-04	<b>MISSOURI RIVER</b> <b>Allocation:</b> NSO-New: Surface occupancy and use is prohibited within 0.50 miles of the ordinary high-water mark for the Missouri River, Lake Sakakawea, and Lake Oahe.
	<b>Riparian Areas and Wetlands</b>
RW-GOAL-01	<b>Goal:</b> Maintain or improve the condition of riparian areas, wetlands, and aquatic ecosystems to achieve related resource goals and objectives, including for water quantity, water quality, habitat for terrestrial and aquatic species, recreation, wildland fire mitigation, floodwater retention, and drought resilience.
RW-OBJ-01	<b>Objective:</b> Manage riparian areas and wetlands to attain PFC. Manage riparian areas and wetlands to a condition beyond PFC where needed to achieve related resource objectives (such as, water quantity, water quality, habitat for terrestrial and aquatic species, recreation, wildland fire mitigation, floodwater retention, and drought resilience).

	<b>Riparian Areas and Wetlands</b>
RW-MD-01	<b>Management Direction:</b> Manage uses of BLM-administered lands, including but not limited to, range management and fluid mineral development, to avoid or minimize impacts on wetlands and riparian areas. Implement active and/or passive restoration actions to accelerate progress toward PFC, where conditions warrant.
RW-MD-02	<b>Management Direction:</b> Develop site-specific objectives and management strategies for riparian areas and wetlands during the development and implementation of proposed actions and activity plans.
RW-MD-03	<b>Management Direction:</b> In accordance with Executive Orders 11988 and 11990, floodplains and/or wetlands will be avoided to the greatest extent possible. Where no practical alternative exists, the BLM Authorized Officer may approve development if the development is shown to minimize the potential for adverse impacts.
RW-MD-04	<b>Management Direction:</b> Maintain or improve the health, complexity, and spatial extent of riparian areas, wetlands, and aquatic ecosystems. Implement active and/or passive restoration actions to accelerate progress toward potential natural conditions, where needed to achieve site-specific objectives.
RW-AU-01	<b>STREAMS, WATERBODIES, RIPARIAN AREAS, WETLAND, AND FLOODPLAINS</b> <b>Allocation:</b> NSO 11-70 Streams, Waterbodies, Riparian Areas, Wetlands, and Floodplains: Surface occupancy and use is prohibited within perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas.
RW-AU-02	<b>WATERFOWL NESTING HABITAT</b> <b>Allocation:</b> TL 13-15: No seismic exploration is allowed within 500 feet of waterfowl nesting habitat from March 1 through July 1 to protect nesting waterfowl.
RW-AU-03	<b>RIPARIAN AREAS, WETLANDS, STREAMS, AND WATERBODIES</b> <b>Allocation:</b> CSU–New: Surface occupancy and use is subject to the following operating constraints: Prior to surface occupancy and use within 300 feet of riparian areas, wetlands, ephemeral, intermittent, and perennial drainages, and waterbodies, a plan must be approved by the BLM Authorized Officer with design features that demonstrate how actions would maintain or improve the functionality of the resource. The plan would address: 1) mitigation to reduce impacts to a level where the project is neutral or positive to the resource; 2) interim and final reclamation; and 3) monitoring. Following established protocols, the operator must conduct monitoring capable of detecting early signs of changing conditions.
RW-AU-04	<b>Allocation:</b> Close riparian areas and wetlands (plus a 300-foot buffer) to mineral material disposal.
RW-AU-05	<b>Allocation:</b> Manage riparian areas and wetlands as ROW avoidance areas. ROWs may be permitted where no practical alternative exists and where design features and BMPs could be implemented to mitigate impacts and maintain riparian area and wetland functionality. Fens are of particular concern for avoidance.
	<b><i>Greater Sage-Grouse</i></b>
RW-GRSG-MD-01	<b>Management Direction LG-1.12:</b> Where riparian and wetland areas are already meeting standards, they will be maintained in that condition or better. Where a site's capability is less than PFC, BLM will manage to achieve or move towards capability. Within priority habitat management area (PHMA) and general habitat management area (GHMA), manage wet meadows to maintain a component of perennial forbs with diverse species richness relative to site potential (such as reference state) to facilitate brood rearing.

	<b>Riparian Areas and Wetlands</b>
RW-GRSG-MD-02	<p><b>Management Direction LG-1.13:</b> In PHMA, where riparian areas and wet meadows meet PFC, strive to move towards Greater Sage-Grouse (GRSG) habitat objectives within capabilities of the reference state vegetation relative to the ecological site descriptions.</p> <p>Example: Within PHMA, reduce where necessary hot season grazing on riparian and meadow complexes to promote recovery or maintenance of appropriate vegetation and water quality. Utilize fencing/herding techniques, seasonal use, or livestock distribution changes where necessary to reduce pressure on riparian or wet meadow vegetation used by GRSG in the hot season (summer).</p>
RW-GRSG-MD-03	<p><b>Management Direction LG-1.14:</b> Authorize new water development for diversion from spring or seep source only when PHMA will be maintained or benefit from the development. This includes developing new water sources for livestock as part of an allotment management plan (AMP)/conservation plan to improve GRSG habitat.</p>
RW-GRSG-MD-04	<p><b>Management Direction LG-1.15:</b> Analyze springs, seeps and associated pipelines at time of grazing lease renewal to determine if modifications are necessary to maintain the continuity of the predevelopment riparian area within PHMA. Make modifications where necessary, considering impacts on other water uses when such considerations are neutral or beneficial to GRSG.</p>
	<b><i>Greater Sage-Grouse (Treatments to Increase Forage for Livestock/Wild Ungulates)</i></b>
RW-GRSG-MD-05	<p><b>Management Direction LG-1.16:</b> In PHMA, allow treatments that conserve, enhance or restore GRSG habitat as well as other priority species habitat (this includes treatments that benefit livestock as part of an AMP/conservation plan to improve GRSG habitat).</p>
RW-GRSG-MD-06	<p><b>Management Direction LG-1.17:</b> Evaluate the role of existing seedings that are currently composed of primarily introduced perennial grasses in and adjacent to PHMA to determine if they should be restored to sagebrush or habitat of higher quality for GRSG. If these seedings are part of an AMP/conservation plan or if they provide value in conserving or enhancing the rest of the PHMA, then no restoration will be necessary. Assess the compatibility of these seedings for GRSG habitat or as a component of a grazing system during the land health assessments.</p>
	<b><i>Greater Sage-Grouse (Structural Range Improvement and Livestock Management Tools)</i></b>
RW-GRSG-MD-07	<p><b>Management Direction LG-1.18:</b> In PHMA, design any new structural range improvements and location of supplements (salt or protein blocks) to conserve, enhance, or restore GRSG habitat through an improved grazing management system relative to GRSG objectives. Structural range improvements, in this context, include, but are not limited to, cattle guards, fences, exclosures, corrals or other livestock handling structures; pipelines, troughs, storage tanks (including moveable tanks used in livestock water hauling), windmills, ponds/reservoirs, solar panels and spring developments. Potential for invasive species establishment or increase following construction must be considered in the project planning process and monitored and treated post-construction.</p>

	<b>Riparian Areas and Wetlands</b>
RW-GRSG-MD-08	<b>Management Direction LG-1.19:</b> When developing or modifying water developments in PHMA, use applicable required design features (RDF)s (Appendix C of the 2015 Greater Sage-Grouse Approved RMP Amendment/Record of Decision <sup>2</sup> [BLM 2015]) to mitigate potential impacts from West Nile virus.
RW-GRSG-MD-09	<b>Management Direction LG-1.20:</b> In PHMA, evaluate existing structural range improvements and location of supplements (salt or protein blocks) during grazing lease renewal process to make sure they conserve, enhance or restore GRSG habitat. To reduce outright GRSG strikes and mortality, remove, modify or mark fences in high-risk areas within PHMA based on proximity to lek, lek size, and topography. Monitor for, and treat invasive species associated with existing range improvements.
	<b>Vegetation Communities</b>
	<b><i>Vegetation-General</i></b>
VEG-GOAL-01	<b>Goal:</b> Uplands are in PFC for site-specific conditions of climate, soils, and parent material (Dakota Standard 1).
VEG-GOAL-02	<b>Goal:</b> Habitats are maintained and/or restored, where appropriate, for healthy, productive, and diverse populations of native plant and animal species (Dakota Standard 5).
VEG-GOAL-03	<b>Goal:</b> Manage the upland biotic community to optimize the following: community diversity, community structure, exotic plants, photosynthesis activity, plant status, seed production, recruitment, and nutrient cycle (Dakota Standard 1).
VEG-GOAL-04	<b>Goal:</b> Maintain, restore, or enhance vegetation community health, connectivity, resiliency, and diversity to provide a mix of successional stages that incorporate diverse structure and composition in the desired vegetation types.
VEG-GOAL-05	<b>Goal:</b> Promote recovery and restoration of sagebrush and grassland communities after wildfires.
VEG-GOAL-06	<b>Goal:</b> Prevent the introduction and spread of noxious weeds and invasive species through cooperative integrated pest management practices.
VEG-GOAL-07	<b>Goal:</b> Promote management focus on special status species plants, as determined by the Director for the BLM Montana/Dakotas State Office.
VEG-GOAL-08	<b>Goal:</b> Maintain or improve the ability of BLM-administered lands to reduce (sequester) atmospheric GHGs.
	<b><i>Rangeland</i></b>
VEG-RG-OBJ-01	<b>Objective:</b> Provide plant communities that reflect the potential natural community or the desired plant community appropriate for the ecological site.

<sup>2</sup> <https://eplanning.blm.gov/eplanning-ui/project/36811/570>

	<b>Vegetation Communities</b>
VEG-RG-MD-01	<p><b>Management Direction:</b> Use native species only, unless consistent with BLM policy on the use of nonnative species:</p> <ul style="list-style-type: none"> <li>a. Suitable native species are not available,</li> <li>b. The natural biological diversity of the proposed management area will not be diminished,</li> <li>c. Exotic and naturalized species can be confined within the proposed management area,</li> <li>d. Analysis of ecological site inventory information indicates that a site will not support reestablishment of a species that historically was part of the natural environment, and</li> <li>e. Resource management objectives cannot be met with native species.</li> </ul> <p>When planning restoration, take into consideration floral resources and host plants for pollinators and add those species to seed mixes as appropriate.</p>
VEG-RG-MD-02	<p><b>Management Direction:</b> Allow hay only as a land treatment to benefit other resources and include design features that benefit pollinators (for example, minimum height and timing requirements; see <b>Appendix D</b>, Design Features and Best Management Practices).</p>
VEG-RG-OBJ-02	<p><b>Objective:</b> Identify and maintain or enhance habitats of conservation concern as designated by the North Dakota Natural Heritage Program (that is, woody draws, tall grass prairie, and riparian areas).</p>
VEG-RG-OBJ-03	<p><b>Objective:</b> Protect or improve intact native prairies.</p>
VEG-RG-MD-03	<p><b>Management Direction:</b> Manage tallgrass prairie to maintain or enhance habitat.</p>
VEG-RG-MD-04	<p><b>Management Direction:</b> Inventory potential tallgrass prairie to confirm its presence and prioritize these areas for management.</p>
VEG-RG-AU-01	<p><b>TALLGRASS PRAIRIE</b>  <b>Allocation:</b> NSO–New: Surface occupancy and use is prohibited in identified tallgrass prairie.</p>
VEG-RG-AU-02	<p><b>Allocation:</b> Close tallgrass prairie to mineral materials disposal.</p>
VEG-RG-AU-03	<p><b>Allocation:</b> Close tallgrass prairie to NEL minerals.</p>
VEG-RG-AU-04	<p><b>Allocation:</b> Manage tallgrass prairie as ROW exclusion.</p>
VEG-RG-OBJ-04	<p><b>Objective:</b> Provide for commercial seed harvesting in all areas, except ACECs and occupied special status plant species habitat.</p>
VEG-RG-MD-05	<p><b>Management Direction:</b> Consider and prioritize vegetation to capture and store carbon, with consideration for resource objectives, by using Standards for Rangeland Health and conservation actions guidelines at the project planning and implementation level.</p>



	<b>Vegetation Communities</b>
	<b>Forested/Woodland</b>
VEG-FW-OBJ-01	<b>Objective:</b> Maintain, enhance, or restore forest and woodland community health, composition, and diversity to a desired mosaic, considering factors such as density, basal area, canopy cover, age class, stand health, and understory species diversity.
VEG-FW-MD-01	<b>Management Direction:</b> Manage woody draw habitat on BLM-administered land. Inventory these areas to confirm woody draw presence and prioritize management for woody draws.
VEG-FW-MD-02	<b>Management Direction:</b> Monitor health indicators (such as disease and fungus infection) and inventory for insects.
VEG-FW-MD-03	<b>Management Direction:</b> Remove infected trees to reduce the spread of disease and insect infestation.
VEG-FW-AU-01	<b>WOODY DRAWS</b> <b>Allocation:</b> CSU-New: Surface occupancy and use within woody draws is subject to a plan approved by the BLM to maintain functionality of the habitat.
VEG-FW-AU-02	<b>Allocation:</b> Manage woody draws as ROW avoidance areas; these areas may be available for ROWs with special design features (to be determined at the project level) to minimize disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
	<b>Noxious Weeds and Invasive Plants</b>
VEG-WDS-OBJ-01	<b>Objective:</b> Manage for healthy plant communities by reducing, preventing expansion of, or eliminating the occurrence of noxious and invasive species and undesirable nonnative species.
VEG-WDS-MD-01	<b>Management Direction:</b> Prioritize the Schnell Recreation Area for treatment of noxious weeds and invasive plants, and further prioritize leafy spurge for control (less than 5 acres).
VEG-WDS-MD-02	<b>Management Direction:</b> Conduct annual inventories, prioritizing the contiguous tracts of BLM-administered land.
VEG-WDS-OBJ-02	<b>Objective:</b> Control invasive and nonnative weed species and prevent the introduction of new invasive species, by implementing a comprehensive weed program, including coordination with key partners, prevention and early detection, education, inventory and monitoring, using principles of integrated pest management (IPM), and creating weed management areas (WMAs).
VEG-WDS-MD-03	<b>Management Direction:</b> Using “Early Detection Rapid Response,” treatment areas would be prioritized in publicly accessible areas, riparian areas, emergency stabilization and burned area rehabilitation (ES&R) areas, and special status species habitat areas. The remaining BLM-administrated lands in the planning area would be the next priority.
VEG-WDS-MD-04	<b>Management Direction:</b> Where and when appropriate, issue grazing leases with a term and condition requiring that the lessee enter into a cooperative range improvement agreement for control of noxious weeds on allotments that they lease.
VEG-WDS-MD-05	<b>Management Direction:</b> Where appropriate, as a term of all authorizations, include an agreement for control of noxious weeds and a requirement to report to the BLM on infestations and acres and areas treated.
VEG-WDS-MD-06	<b>Management Direction:</b> Enter into cooperative agreements with county partners to inventory and control for noxious, invasive, and nonnative species.



	<b>Vegetation Communities</b>
VEG-WDS-AU-01	<b>INVASIVE SPECIES AND NOXIOUS WEEDS</b> <b>Allocation:</b> CSU 12-53: Surface occupancy and use is subject to the following operating constraints: Noxious weed(s) has been identified within the boundaries of the lease parcel. If the operator(s) chooses to disrupt/build roads/build facilities on the parcel, then the operator(s) will be responsible for providing an Integrated Weed Management plan, and the operator also will be responsible for the cost of treatment and monitoring throughout the duration of the project.
	<b><i>Greater Sage-Grouse (Noxious Weeds and Invasive Plants)</i></b>
VEG-GRSG-OBJ-01	<b>Objective VEG-1.1:</b> In all PHMA, the desired condition is to maintain a minimum of 70 percent of lands capable of producing sagebrush with 10 to 30 percent sagebrush canopy cover. The attributes necessary to sustain these habitats are described in Interpreting Indicators of Rangeland Health (BLM Tech Ref 1734-6).
VEG-GRSG-MD-01	<b>Management Direction VEG-1.1:</b> Remove conifers encroaching into sagebrush habitats. Prioritize treatments closest to occupied GRSG habitats and near occupied leks, and where juniper encroachment is phase 1 or phase 2. Use of site-specific analysis and principles like those included in RMRS-GTR-326: Using resistance and resilience concepts to reduce impacts of invasive annual grasses and altered fire regimes on the sagebrush ecosystem and GRSG: A strategic multi-scale approach (Chambers et al. 2014) and other ongoing modeling efforts to address conifer encroachment will help refine the location for specific priority areas to be treated.
VEG-GRSG-MD-02	<b>Management Direction VEG-1.2:</b> Consideration for other threatened, endangered or sensitive species will be evaluated in addition to GRSG when prioritizing restoration projects.
VEG-GRSG-MD-03	<b>Management Direction VEG-1.3:</b> Include GRSG habitat parameters as defined by State of North Dakota Sage-Grouse conservation plans and appropriate local information in habitat restoration objectives. Make meeting these objectives within PHMA the highest restoration priority, along with other priority species habitat.
VEG-GRSG-MD-04	<b>Management Direction VEG-1.4:</b> In PHMA, require use of native seeds for restoration based on availability, adaptation (ecological site potential), and probability of success. Where probability of success or adapted seed availability is low, nonnative seeds may be used as long as they support GRSG habitat objectives.
VEG-GRSG-MD-05	<b>Management Direction VEG-1.5:</b> Design post restoration management to ensure long-term persistence in PHMA. This could include changes in livestock grazing management, travel management, etc., to achieve and maintain the desired condition of the restoration effort that benefits GRSG.
VEG-GRSG-MD-06	<b>Management Direction VEG-1.6:</b> In PHMA, consider potential changes in climate when proposing restoration seedings when using native plants. Consider collection from the warmer component of the species current range when selecting native species.
VEG-GRSG-MD-07	<b>Management Direction VEG-1.7:</b> In PHMA, restore native (or desirable) plants and create landscape patterns which most benefit GRSG, as well as other priority species.
VEG-GRSG-MD-08	<b>Management Direction VEG-1.8:</b> Make re-establishment of sagebrush cover and desirable understory plants (relative to ecological site potential) a high priority for restoration efforts in PHMA. Prioritize areas for juniper removal to benefit GRSG habitat.

	<b>Vegetation Communities</b>
VEG-GRSG-MD-09	<b>Management Direction VEG-1.9:</b> In PHMA fire prone areas, where sagebrush seed is required for GRSG habitat restoration, consider establishing seed harvest areas that are managed for seed production and are a priority for protection from outside disturbances.

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	<b>Terrestrial and Aquatic Wildlife Resources</b>
TAWR-GOAL-01	<b>Goal:</b> Maintain or restore, where appropriate, for healthy, productive, and diverse populations of native plant and animal species (Dakota Standard 5).
TAWR-GOAL-02	<b>Goal:</b> Manage prairie stream and river corridors compliance with federal and state laws and according to scientific principles, while conserving, maintaining, and enhancing habitat for healthy populations of terrestrial and aquatic species.
TAWR-GOAL-03	<b>Goal:</b> Provide habitat and forage to support fish and wildlife with consideration of the North Dakota State Wildlife Action Plan.
TAWR-GOAL-04	<b>Goal:</b> Prevent the introduction and spread of invasive species through cooperative agreements and management practices.
TAWR-OBJ-01	<b>Objective:</b> Minimize fragmentation of large, intact blocks of important wildlife habitat, particularly habitat areas for GRSG and grassland birds.
TAWR-OBJ-02	<b>Objective:</b> Maintain or enhance plant communities and habitat needed to maintain or restore fish, aquatic, or wildlife populations.
TAWR-OBJ-03	<b>Objective:</b> Provide sufficient habitat for native wildlife species to support viable native wildlife populations.
TAWR-OBJ-04	<b>Objective:</b> Continue to gather habitat data while concurrently monitoring human and natural disturbance dynamics to improve habitat management.
TAWR-MD-01	<b>Management Direction:</b> Provide habitat improvement projects, where identified, to restore wildlife habitat and/or improve unsatisfactory or declining wildlife habitat, including Schnell Recreation Area. Habitat improvement projects may include, but would not be limited to, management actions such as grazing, fire, mowing, haying, chemical treatments, farming, and no-till grass seeding.
TAWR-MD-02	<b>Management Direction:</b> Allow predator control, subject to the stipulations outlined in the annual Animal Damage Control Memorandum of Understanding between the BLM and US Department of Agriculture (USDA)-Animal Plant Health Inspection Service.
TAWR-MD-03	<b>Management Direction:</b> Continue to gather habitat data while concurrently monitoring human and natural disturbance dynamics to improve habitat management.
TAWR-MD-04	<b>Management Direction:</b> Maintain or improve habitats for big game, especially pronghorn, elk, and bighorn sheep
TAWR-MD-05	<b>Management Direction:</b> Management activities will consider current management strategies outlined in North Dakota's State Wildlife Action Plan.
TAWR-MD-06	<b>Management Direction:</b> Management activities will consider current guidance including Pollinator Friendly BMPs for Federal Lands (see <b>Appendix D</b> ).

	<b>Terrestrial and Aquatic Wildlife Resources</b>
TAWR-AU-01	<b>WATERFOWL NESTING HABITAT</b> <b>Allocation:</b> TL 13-15: No seismic exploration is allowed within 500 feet of waterfowl nesting habitat from March 1 through July 1 to protect nesting waterfowl.
TAWR-AU-02	<b>BIGHORN SHEEP LAMBING RANGE</b> <b>Allocation:</b> TL 13-18: No construction, seismic exploration, or other development is allowed in bighorn sheep lambing habitat during the following time period: April 1 to June 15.
TAWR-MD-07	<b>Management Direction:</b> Surface-disturbing activities within known or proposed bighorn sheep lambing habitat are subject to special stipulations/design features, to be determined at the project level, to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
TAWR-AU-03	<b>BIGHORN SHEEP WINTER RANGE</b> <b>Allocation:</b> TL 13-19: No construction, seismic exploration, or other development is allowed in bighorn sheep winter range during the following time period: December 1 to April 1.
TAWR-MD-08	<b>Management Direction:</b> Prohibit conversions from cattle to domestic sheep or goats in or within 15 miles of North Dakota Game and Fish Department current or proposed bighorn sheep range.
TAWR-MD-09	<b>Management Direction:</b> Prohibit new grazing applications for domestic sheep or goats in or within 15 miles of North Dakota Game and Fish Department current or proposed bighorn sheep range.
TAWR-AU-04	<b>Allocation:</b> Manage proposed bighorn sheep lambing habitat as a ROW avoidance area; these areas may be available for ROWs with special stipulations/design features (to be determined at the project level) to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
TAWR-AU-05	<b>BIG GAME BIRTHING AREAS</b> <b>Allocation:</b> TL-New: No surface use is allowed from April 1 through June 30 in big game birthing areas to protect mule deer, elk, and antelope from disturbance.
TAWR-AU-06	<b>Allocation:</b> Manage big game birthing areas for mule deer, elk, and antelope as ROW avoidance areas; these areas may be available for ROWs with special stipulations/design features, to be determined at the project level, to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
TAWR-MD-10	<b>Management Direction:</b> Surface-disturbing activities within big game birthing areas are subject to special stipulations/design features, to be determined at the project level, to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
TAWR-AU-07	<b>BLACK-TAILED PRAIRIE DOGS</b> <b>Allocation:</b> CSU 12-29: Surface occupancy and use within occupied black-tailed prairie dog colonies would be allowed with design features that maintain the functionality of the habitat.
TAWR-AU-08	<b>Allocation:</b> Manage occupied black-tailed prairie dog colonies as ROW avoidance areas; these areas may be available for ROWs with special stipulations/design features (to be determined at the project level) to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).

	<b>Terrestrial and Aquatic Wildlife Resources</b>
TAWR-MD-11	<b>Management Direction:</b> Surface-disturbing activities within occupied black-tailed prairie dog colonies are subject to special stipulations/design features (to be determined at the project level) to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
TAWR-AU-09	<b>OTHER RAPTOR NESTS</b> <b>Allocation:</b> NSO 11-73: Surface occupancy and use is prohibited within 0.25 miles of raptor nest sites active within the preceding 7 years.
TAWR-AU-10	<b>ACTIVE RAPTOR NESTS</b> <b>Allocation:</b> TL 13-33: Surface use is prohibited within 0.50 miles of active raptor nest sites from March 1 through July 31.
TAWR-AU-11	<b>Allocation:</b> Manage the area within 0.50 miles of raptor nest sites active within the preceding 7 years as ROW avoidance; these areas may be available for ROWs with special stipulations/design features (to be determined at the project level) to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
TAWR-MD-12	<b>Management Direction:</b> Surface-disturbing activities within 0.50 miles of raptor nest sites active within the preceding 7 years are subject to special stipulations/design features (to be determined at the project level) to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
TAWR-AU-12	<b>SHARP-TAILED GROUSE AND GREATER PRAIRIE CHICKEN-LEKS</b> <b>Allocation:</b> CSU 12-36: Oil and gas leasing within 2 miles of a lek will be subject to a plan approved by the BLM that provides adequate mitigation measures and conservation actions to protect breeding, nesting, and brood-rearing habitats and to limit disturbance in a manner that will support the long-term populations associated with the lek and surrounding habitat.
TAWR-AU-13	<b>Allocation:</b> Manage the area within 2 miles of sharp-tailed grouse leks as ROW avoidance; these areas may be available for ROWs with special stipulations/design features (to be determined at the project level) to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
TAWR-MD-13	<b>Management Direction:</b> Surface-disturbing activities within 2 miles of sharp-tailed grouse leks are subject to special stipulations/design features (to be determined at the project level) to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
TAWR-AU-14	<b>WILDLIFE MANAGEMENT AREAS</b> <b>Allocation:</b> NSO-New: Surface occupancy and use is prohibited within state Wildlife Management Areas.

	<b>Special Status Species (Includes Vegetation, Terrestrial, and Aquatic)</b>
SSS-GOAL-01	<b>Goal:</b> Conserve and recover special status plant species and the ecosystems on which they depend to prevent the need to list any of these species as threatened or endangered.
SSS-GOAL-02	<b>Goal:</b> Ensure BLM actions are not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of critical habitat.
SSS-GOAL-03	<b>Goal:</b> Ensure the long-term and self-sustaining persistence of special status species in North Dakota.
SSS-GOAL-04	<b>Goal:</b> Protect/maintain populations of special status species by minimizing direct mortality and impacts on habitat.
SSS-GOAL-05	<b>Goal:</b> Maintain or improve specialized habitats on a local and landscape scale.

	<b>Special Status Species (Includes Vegetation, Terrestrial, and Aquatic)</b>
SSS-GOAL-06	<b>Goal:</b> Maintain or enhance areas of ecological importance for special status species.
SSS-GOAL-07	<b>Goal:</b> Manage specific environmental hazards, risks, and impacts in a manner compatible with special status species health.
	<b>Common to All Special Status Species</b>
SSS-CM-OBJ-01	<b>Objective:</b> Promote the conservation and recovery of BLM special status species and their habitats.
SSS-CM-OBJ-02	<b>Objective:</b> Maintain special status species habitat and enhance other habitat, including connectivity habitat.
SSS-CM-MD-01	<b>Management Direction:</b> Require surveys for the presence of BLM sensitive species before authorizing surface-disturbing and disrupting activities. Authorize activities only if adverse effects on species and their habitat can be avoided and/or minimized.
SSS-CM-MD-02	<b>Management Direction:</b> Apply site-specific design features for BLM-authorized activities, such as those identified in <b>Appendix D</b> , Design Features and Best Management Practices, to protect threatened and endangered species, sensitive species, and migratory birds.
SSS-CM-MD-03	<b>Management Direction:</b> Develop partnerships to conserve key habitats through conservation easements.
SSS-CM-MD-04	<b>Management Direction:</b> Restore lands to build connectivity habitat.
SSS-CM-MD-05	<b>Management Direction:</b> Continue cooperative participation in recovery plans, management plans, and conservation strategies for special status species.
SSS-CM-MD-06	<b>Management Direction:</b> For monarch habitat restoration, ensure that milkweed species are available. If not, planting the following species is recommended: showy milkweed, common milkweed, plains milkweed, green comet milkweed, and whorled milkweed (see <b>Appendix D</b> , Design Features and Best Management Practices).
SSS-CM-AU-01	<b>THREATENED, ENDANGERED, OR OTHER SPECIAL STATUS SPECIES</b> <b>Allocation:</b> CSU 12-12: Surface occupancy or use is subject to the following special operating constraints: The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. The BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid a BLM-approved activity that will contribute to a need to list such a species or their habitat. The BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. The BLM will not approve any ground-disturbing activity that may affect any such species or requirements of the ESA, as amended, 16 US Code (USC) § et seq., including completion of any required procedure for conference or consultation.
	<b>Special Status Vegetation</b>
SSS-VEG-OBJ-01	<b>Objective:</b> Maintain and enhance populations and habitats for BLM special status plant species.

	<b>Special Status Species (Includes Vegetation, Terrestrial, and Aquatic)</b>
SSS-VEG-OBJ-02	<b>Management Direction:</b> Prohibit surface disturbance within 0.25 miles of known special status plant species populations.
SSS-VEG-OBJ-03	<b>Management Direction:</b> Emphasize inventory of potential and known special status plant habitat to better map and document the health of the populations, threats to habitat, and trends.
SSS-VEG-AU-01	<b>SPECIAL STATUS PLANT SPECIES</b> <b>Allocation:</b> NSO 11-24: NSO or use is allowed within 0.25 miles of special status plants or populations.
SSS-VEG-AU-02	<b>SPECIAL STATUS PLANT SPECIES</b> <b>Allocation:</b> CSU 12-11: Surface occupancy and use is subject the following special operating constraint: A field inspection will be conducted for special status plant species by the lessee prior to any surface disturbance. A list of special status plant species and any known populations or suitable habitat will be provided to the lessee after issuance of the lease. Plant species on the list are subject to change over time, as new information becomes available. Plant inventories must be conducted at the time of year when the target species are most easily identifiable (for example, when flowering or fruiting). An acceptable report must be provided to the BLM documenting the presence or absence of special status plants in the area proposed for surface-disturbing activities. The findings of this report may result in restrictions to the operator's plans or may preclude use and occupancy.
SSS-VEG-AU-03	<b>Allocation:</b> Manage special status plant locations as ROW avoidance areas; these areas may be available for ROWs with special stipulations/design features (to be determined at the project level) to minimize nest disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
	<b><i>Special Status Terrestrial Wildlife</i></b>
SSS-TW-AU-01	<b>GOLDEN EAGLE NESTS</b> <b>Allocation:</b> NSO 11-38: NSO or use is allowed within 0.50 miles of golden eagle nests known to have been occupied at least once within the 7 previous years.
SSS-TW-AU-02	<b>Allocation:</b> Manage areas within 0.50 miles of golden eagle nest sites, active within the preceding 7 years as ROW avoidance; these areas may be available for ROWs with special stipulations/design features (to be determined at the project level) to minimize nest disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
SSS-TW-MD-01	<b>Management Direction:</b> Surface-disturbing activities within 1 mile of golden eagle nest sites, active within the preceding 7 years are subject to special stipulations/design features (to be determined at the project level) to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
SSS-TW-AU-03	<b>FERRUGINOUS HAWK NESTS</b> <b>Allocation:</b> TL 13-5: No surface use is allowed within 0.50 miles of occupied ferruginous hawk nests known to be occupied at least once within the 7 previous years between March 15 and July 15. No seismic exploration, construction, or other development would be allowed within 1.2 miles of occupied nests between March 15 and July 15.
SSS-TW-AU-04	<b>Allocation:</b> Manage areas within 0.50 miles of ferruginous hawk nest sites active within the preceding 7 years as ROW avoidance; these areas may be available for ROWs with special stipulations/design features (to be determined at the project level) to minimize nest disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).

	<b>Special Status Species (Includes Vegetation, Terrestrial, and Aquatic)</b>
SSS-TW-MD-02	<b>Management Direction:</b> Surface-disturbing activities within 0.50 miles of ferruginous hawk nest sites active within the preceding 7 years are subject to special stipulations/design features (to be determined at the project level) to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
SSS-TW-AU-05	<b>BALD EAGLES</b> <b>Allocation:</b> NSO 11-74: Surface occupancy and use is prohibited within 0.50 miles of bald eagle nest sites active within the preceding 5 years.
SSS-TW-AU-06	<b>Allocation:</b> Manage areas within 1 mile of bald eagle nest sites active within the preceding 5 years as ROW avoidance; these areas may be available for ROWs with special stipulations/design features (to be determined at the project level) to minimize nest disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
SSS-TW-MD-03	<b>Management Direction:</b> Surface-disturbing activities within 1 mile of bald eagle nest sites active within the preceding 5 years are subject to special stipulations/design features (to be determined at the project level) to minimize nest disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
SSS-TW-AU-07	<b>PEREGRINE FALCON NESTS</b> <b>Allocation:</b> NSO 11-122: Surface occupancy or use is prohibited within 1 mile of peregrine falcon nests active within the preceding 7 years.
SSS-TW-AU-08	<b>Allocation:</b> Manage areas within 1 mile of peregrine falcon nest sites active within the preceding 7 years as ROW avoidance; these areas may be available for ROWs with special stipulations/design features (to be determined at the project level) to minimize nest disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
SSS-TW-MD-04	<b>Management Direction:</b> Surface-disturbing activities within 1 mile of peregrine falcon nest sites active within the preceding 7 years are subject to special stipulations/design features (to be determined at the project level) to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
SSS-TW-AU-09	<b>INTERIOR LEAST TERN ACTIVE NESTS</b> <b>Allocation:</b> NSO 11-153: Surface occupancy and use is prohibited within 0.25 miles of interior least tern active nests.
SSS-TW-AU-10	<b>INTERIOR LEAST TERN ACTIVE NESTS</b> <b>Allocation:</b> CSU–New: Surface occupancy and use within 0.50 miles of interior least tern active nests is subject to a plan approved by the BLM to maintain the functionality of the habitat.
SSS-TW-AU-11	<b>Allocation:</b> Manage areas within 0.50 miles of interior least tern active nests as ROW avoidance; these areas may be available for ROWs with special stipulations/design features (to be determined at the project level) to minimize nest disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
SSS-TW-MD-05	<b>Management Direction:</b> Surface-disturbing activities within 0.50 miles of interior least tern active nests are subject to special stipulations/design features (to be determined at the project level) to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
SSS-TW-AU-12	<b>PIPING PLOVER CRITICAL HABITAT</b> <b>Allocation:</b> NSO 11-156: Surface occupancy and use is prohibited in and within 0.25 miles of piping plover critical habitat.

	<b>Special Status Species (Includes Vegetation, Terrestrial, and Aquatic)</b>
SSS-TW-AU-13	<b>PIPING PLOVER CRITICAL HABITAT</b> <b>Allocation:</b> CSU–New: Surface occupancy and use within 0.50 miles of piping plover critical habitat is subject to a plan approved by the BLM to maintain the functionality of the habitat.
SSS-TW-AU-14	<b>Allocation:</b> Manage areas within 0.50 miles of piping plover critical habitat as ROW avoidance; these areas may be available for ROWs with special stipulations/design features (to be determined at the project level) to minimize nest disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
SSS-TW-MD-06	<b>Management Direction:</b> Surface-disturbing activities within 0.50 miles of piping plover critical habitat are subject to special stipulations/design features (to be determined at the project level) to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
SSS-TW-AU-15	<b>Allocation:</b> Closed to nonenergy solid mineral leasing within 0.50 miles of piping plover critical habitat.
SSS-TW-AU-16	<b>Allocation:</b> Closed to mineral material disposal within 0.50 miles of piping plover critical habitat.
SSS-TW-AU-17	<b>DAKOTA SKIPPER HABITAT</b> <b>Allocation:</b> NSO–New: Surface occupancy and use is prohibited within 500 meters of occupied Dakota skipper habitat.
SSS-TW-AU-18	<b>Allocation:</b> CSU–New: Surface occupancy and use within 0.62 miles (1 kilometer) of occupied Dakota skipper habitat is subject to a plan approved by the BLM to minimize disturbance.
SSS-TW-AU-19	<b>Allocation:</b> Manage within 0.62 miles (1 kilometer) of occupied Dakota skipper habitat as ROW avoidance; these areas may be available for ROWs with special stipulations/design features, to be determined at the project level, to minimize disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
SSS-TW-MD-07	<b>Management Direction:</b> Surface-disturbing activities within 0.62 miles (1 kilometer) of occupied Dakota skipper habitat subject to special stipulations/design features, to be determined at the project level, to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
SSS-TW-AU-20	<b>Allocation:</b> Closed to nonenergy solid mineral leasing in occupied Dakota skipper habitat and within 0.62 miles (1 kilometer).
SSS-TW-AU-21	<b>Allocation:</b> Closed to mineral material disposal in occupied Dakota skipper habitat and within 0.62 miles (1 kilometer).
SSS-TW-AU-22	<b>SPRAGUE’S PIPIT HABITAT</b> <b>Allocation:</b> TL–New: Surface use is prohibited from April 15 through July 15 in Sprague’s pipit habitat. This stipulation does not apply to the operation and maintenance of production facilities.
SSS-TW-AU-23	<b>Allocation:</b> Manage areas within 0.25 miles of Sprague’s pipit habitat as ROW avoidance; these areas may be available for ROWs with special stipulations/design features (to be determined at the project level) to minimize nest disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
SSS-TW-MD-08	<b>Management Direction:</b> Surface-disturbing activities within 0.25 miles of Sprague’s pipit habitat are subject to special stipulations/design features (to be determined at the project level) to minimize habitat disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).



	<b>Special Status Species (Includes Vegetation, Terrestrial, and Aquatic)</b>
SSS-TW-ST-01	<b>Coal Stipulation:</b> Stipulated methods of mining include reclamation of the disturbed essential habitat to a value that is equal to or greater than the time of disturbance. The reclamation will include a native seed mix and methods to be approved by the BLM at the time of the lease. Seed mixes will be specific to both ecological site descriptions and the resident species of fish, wildlife, or plant species being addressed. If conflicting habitat types are determined, the leasing NEPA document will address prioritization or other solutions for maintaining habitat in the site-specific area. There shall be no primary or secondary noxious weed seed in the seed mixture. Seed shall be tested, and the viability testing of seed shall be done in accordance with state law(s) and within 6 months prior to purchase. Commercial seed shall be either certified or registered seed. The seed mixture container shall be tagged in accordance with state law(s) and available for inspection by the BLM Authorized Officer. See <b>Appendix E</b> for reclamation standards.
	<b><i>Greater Sage-Grouse (Special Status Terrestrial Wildlife)</i></b>
SSS-TW-GRSG-GOAL-01	<b>Goal SSS-1:</b> Maintain and/or increase GRSG abundance and distribution by conserving, enhancing, or restoring the sagebrush ecosystem upon which populations depend, in cooperation with other conservation partners.
SSS-TW-GRSG-OBJ-01	<b>Objective SSS-1.1:</b> Protect PHMA from anthropogenic disturbances that will reduce distribution or abundance of GRSG. Manage PHMA so that discrete anthropogenic disturbances cover less than 3 percent of the total GRSG habitat.
SSS-TW-GRSG-OBJ-02	<b>Objective SSS-1.2:</b> Habitat Delineation: Delineate PHMA to encompass the 100 percent Breeding Bird Density map: 32,900 BLM surface acres (7 percent of total PHMA acres). Since mapping 75 percent of breeding bird density map misses the majority of GRSG habitat in North Dakota, 100 percent was used. See <b>Map 2-1 in Appendix A</b> .
SSS-TW-GRSG-OBJ-03	<b>Objective SSS-1.3:</b> Habitat Delineation: Delineate GHMA to encompass the remainder of the habitat: 80 BLM surface acres. See <b>Map 2-1 in Appendix A</b> .
SSS-TW-GRSG-OBJ-04	<p><b>Objective SSS-1.4:</b> These habitat objectives shown in <b>Table 2-3</b>, Habitat Objectives for GRSG (below) summarize the characteristics that research has found represent the seasonal habitat needs for GRSG. The specific seasonal components identified in <b>Table 2-3</b> were adjusted based on local science and monitoring data to define the range of characteristics used in this sub-region. Thus, the habitat objectives provide the broad vegetative conditions we strive to obtain across the landscape that indicate the seasonal habitats used by GRSG. These habitat indicators are consistent with the rangeland health indicators used by the BLM.</p> <p>The habitat objectives will be part of the GRSG habitat assessment to be used during land health evaluations (see Appendix D of the 2015 Greater Sage-Grouse Approved RMP Amendment [RMPA]/ROD [BLM 2015]). These habitat objectives are not obtainable on every acre within the designated GRSG habitat management areas. Therefore, the determination on whether the objectives have been met will be based on the specific site's ecological ability to meet the desired condition identified in <b>Table 2-3</b>.</p> <p>All BLM use authorizations will contain terms and conditions regarding the actions needed to meet or progress toward meeting the habitat objectives. If monitoring data show the habitat objectives have not been met nor progress being made towards meeting them, there will be an evaluation and a determination made as to the cause. If it is determined that the authorized use is a cause, the use will be adjusted by the response specified in the instrument that authorized the use.</p>

	<b>Special Status Species (Includes Vegetation, Terrestrial, and Aquatic)</b>
SSS-TW-GRSG-MD-05	<b>Management Direction SSS-1.1:</b> Protect PHMA from anthropogenic disturbances that will reduce distribution or abundance of GRSG. See Appendix E, Greater Sage-Grouse Disturbance Caps, of the 2015 Greater Sage-Grouse Approved RMPA/ROD (BLM 2015). In undertaking BLM management directions, and consistent with valid and existing rights and applicable law in authorizing third-party actions, the BLM will apply the lek buffer-distances identified in the US Geological Survey Report Conservation Buffer Distance Estimates for Greater Sage-Grouse—A Review (Open File Report 2014-1239) in accordance with Appendix B, Applying Lek Buffer Distances When Approving Actions, of the 2015 Greater Sage-Grouse Approved RMPA/ROD (BLM 2015).
SSS-TW-GRSG-MD-06	<b>Management Direction SSS-1.2:</b> If the 3 percent anthropogenic disturbance cap is exceeded on lands (regardless of land ownership) within GRSG PHMA in any given BSU (see Figure 2-2, North Dakota and South Dakota GRSG Biologically Significant Unit and PHMA [Appendix A of BLM 2015]), then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the 1872 hard rock mining law, valid existing rights, etc.) will be permitted by BLM within GRSG PHMA in any given biologically significant unit until the disturbance has been reduced to less than the cap. (Biologically significant unit for this Approved RMPA is the summary of all the PHMA within a GRSG population as delineated in the Conservation Objectives Team [COT] report.)
SSS-TW-GRSG-MD-07	<b>Management Direction SSS-1.3:</b> If the 3 percent anthropogenic disturbance cap is exceeded on lands (regardless of land ownership) or if anthropogenic disturbance and habitat loss associated with conversion to agricultural tillage or fire exceed 5 percent within a project analysis area in PHMA, then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the 1872 Mining Law, valid existing rights, etc.) will be permitted by BLM within PHMA in a project analysis area until the disturbance has been reduced to less than the cap.
SSS-TW-GRSG-MD-08	<b>Management Direction SSS-1.4:</b> Subject to applicable laws and regulations and valid existing rights, if the average density of one energy and mining facility per 640 acres (the density cap) is exceeded on all lands (regardless of land ownership) in the PHMA within a proposed project analysis area, then no further disturbance from energy or mining facilities will be permitted by BLM: (1) until disturbance in the proposed project analysis area has been reduced to maintain the limit under the cap; or (2) unless the energy or mining facility is co-located into an existing disturbed area.
SSS-TW-GRSG-MD-09	<b>Management Direction SSS-1.5:</b> Implement Regional Mitigation Strategy (Appendix F, Regional Mitigation Strategy, of the 2015 Greater Sage-Grouse Approved RMPA/ROD [BLM 2015]).
	<b><i>Special Status Aquatic Wildlife</i></b>
SSS-AW-MD-01	<b>Management Direction:</b> Through cooperative efforts with federal, state, or private interests (such as nongovernmental organizations), enhance or restore unsatisfactory or declining fish and aquatic habitat.
SSS-AW-MD-02	<b>Management Direction:</b> Through cooperative efforts with federal, state, or private interests, implement projects to protect special status species and their habitats.
SSS-AW-MD-03	<b>Management Direction:</b> Maintain or enhance plant communities needed to improve fish and aquatic habitat through riparian pastures, fencing, specialized grazing methods, low-tech process-based restoration, and other restoration measures.

	<b>Special Status Species (Includes Vegetation, Terrestrial, and Aquatic)</b>
SSS-AW-AU-01	<b>PALLID STURGEON HABITAT</b> <b>Allocation:</b> NSO–New: Surface occupancy and use is prohibited within 0.50 miles of the ordinary high-water mark of identified pallid sturgeon habitat.
SSS-AW-AU-02	<b>Allocation:</b> Manage areas within 0.50 miles of the ordinary high water mark of identified pallid sturgeon habitat as ROW avoidance; these areas may be available for ROWs with special stipulations/design features (to be determined at the project level) to minimize spawning disturbance (see <b>Appendix D</b> , Design Features and Best Management Practices).
SSS-AW-MD-04	<b>Management Direction:</b> Surface-disturbing activities within 0.50 miles of the ordinary high water mark of identified pallid sturgeon streams are subject to special stipulations/design features (to be determined at the project level) to minimize habitat disturbance and maintain habitat functionality (see <b>Appendix D</b> , Design Features and Best Management Practices).

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	<b>Wildland Fire Ecology and Management</b>
WFEM-GOAL-01	<b>Goal:</b> Provide for firefighter and public safety by reducing hazardous fuel loads (risk) within the wildland-urban interface.
WFEM-GOAL-02	<b>Goal:</b> Protect or sustain the ecological health and function of fire-adapted ecosystems; reduce the risk of high-severity wildfires to watersheds and ecosystems; and benefit, protect, maintain, sustain, and enhance natural and cultural resources.
WFEM-GOAL-03	<b>Goal:</b> Place public and firefighter safety first in any wildfire management action.
WFEM-GOAL-04	<b>Goal:</b> Manage wildfire (unplanned ignitions) for the protection of public health, safety, property, and resource values while implementing cost-containment strategies that result in minimum suppression costs.
WFEM-GOAL-05	<b>Goal:</b> Use a naturally occurring event, such as a wildfire, to enhance vigor and vegetation production, reduce hazardous fuels, and maintain a desired mix of seral stages within the following communities: sagebrush, forest and grasslands, riparian areas and wetlands, and native species communities.
WFEM-OBJ-01	<b>Objective:</b> Having provided for firefighter and public safety, manage wildfires to protect property and meet resource objectives described in the <i>Vegetation Communities</i> section.
WFEM-MD-01	<b>Management Direction:</b> Identify areas where fire or fuels mitigation as a resource benefit could achieve the resource management goals. When possible, allow fire to burn to strategic locations that minimize ground disturbance.
WFEM-MD-02	<b>Management Direction:</b> In partnership with local, state, and federal partners, build capacity within communities bordering federal lands to reduce risks and threats from wildfire.
WFEM-MD-03	<b>Management Direction:</b> Allow prescribed fire, pile burns, mechanical treatment, and chemical treatment to restore and maintain fire regimes and land health. Approved prescribed fire implementation plans would be used for any planned fire ignition. Continue to use prescribed fire in support of resource objectives.
WFEM-MD-04	<b>Management Direction:</b> Prioritize Schnell Recreation Area for fuels treatments.

	<b>Wildland Fire Ecology and Management</b>
	<b><i>Greater Sage-Grouse (Fuels Management)</i></b>
WFEM-GRSG-FM-MD-01	<p><b>Management Direction FIRE-1.1:</b> In PHMA, design and implement fuels treatments with an emphasis on protecting existing sagebrush ecosystems.</p> <p>Do not reduce sagebrush canopy cover to less than 15 percent unless a fuels management objective requires additional reduction in sagebrush cover to meet strategic protection of PHMA and conserve habitat quality for the species. Closely evaluate the benefits of the fuel break against the additional loss of sagebrush cover in future NEPA documents.</p> <p>Apply appropriate seasonal restrictions for implementing fuels management treatments according to the type of seasonal habitats present in a priority area.</p> <p>If prescribed fire is used in GRSG habitat, the NEPA analysis for the Burn Plan will address:</p> <ul style="list-style-type: none"> <li>○ why alternative techniques were not selected as a viable options;</li> <li>○ how GRSG goals and objectives will be met by its use;</li> <li>○ how the COT report objectives will be addressed and met;</li> <li>○ a risk assessment to address how potential threats to GRSG habitat will be minimized.</li> </ul> <p>Prescribed fire as a vegetation or fuels treatment shall only be considered after the NEPA analysis for the Burn Plan has addressed the four bullets outlined above. Prescribed fire can be used to meet specific fuels objectives that will protect GRSG habitat in PHMA (such as creation of fuel breaks that will disrupt the fuel continuity across the landscape in stands where annual invasive grasses are a minor component in the understory, burning slash piles from conifer reduction treatments, used as a component with other treatment methods to combat annual grasses and restore native plant communities).</p> <p>Prescribed fire in known winter range shall only be considered after the NEPA analysis for the Burn Plan has addressed the four bullets outlined above. Any prescribed fire in winter habitat will need to be designed to strategically reduce wildfire risk around and/or in the winter range and designed to protect winter range habitat quality.</p> <p>Monitor and control invasive vegetation post-treatment.</p> <p>Rest treated areas from grazing for two full growing seasons unless vegetation recovery dictates otherwise.</p> <p>Require use of native seeds for fuels management treatment based on availability, adaptation (site potential), and probability of success. Where probability of success or native seed availability is low, nonnative seeds may be used as long as they meet GRSG habitat objectives.</p> <p>Design post fuels management projects to ensure long-term persistence of seeded or pre-treatment native plants. This may require temporary or long-term changes in livestock grazing management, travel management, or other activities to achieve and maintain the desired condition of the fuels management project.</p>
WFEM-GRSG-FM-MD-02	<b>Management Direction FIRE-1.2:</b> Design fuels management projects in PHMA to strategically and effectively reduce wildfire threats in the greatest area.
WFEM-GRSG-FM-MD-03	<b>Management Direction FIRE-1.3:</b> In PHMA, during fuels management project design, consider the utility of using livestock to strategically reduce fine fuels, and implement grazing management that will accomplish this objective. Consult with ecologists to minimize impacts on native perennial grasses.

	<b>Wildland Fire Ecology and Management</b>
WFEM-GRSG-FM-MD-04	<b>Management Direction FIRE-1.4:</b> If prescribed fire is used, the Burn Plan will clearly indicate how COT objectives will be addressed and met, and why alternative techniques are not applicable. A fire risk assessment will be completed for implementation of prescribed fire used to meet the GRSG goals and objectives in PHMA (see Appendix H, GRSG Wildfire and Invasive Species Habitat Assessment, of BLM 2015).
	<b><i>Greater Sage-Grouse (Fire Operations)</i></b>
WFEM-GRSG-FM-MD-01	<b>Management Direction FIRE-1.5:</b> The protection of human life is the single, overriding priority. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources will be done based on the values to be protected, human health and safety, and the costs of protection. In PHMA, prioritize suppression, immediately after life and property, to conserve the habitat. See Appendix H of the 2015 Greater Sage-Grouse Approved RMPA/ROD (BLM 2015), which will be completed to help further refine fire management actions once this plan is completed.
WFEM-GRSG-FM-MD-02	<b>Management Direction FIRE-1.6:</b> In GHMA, prioritize suppression where wildfires threaten PHMA.
WFEM-GRSG-FM-MD-03	<b>Management Direction FIRE-1.7:</b> Follow the most current BMPs/RDFs for fire and fuels (Appendix C, Required Design Features, of BLM 2015).
	<b><i>Greater Sage-Grouse (Emergency Stabilization and Rehabilitation)</i></b>
WFEM-GRSG-FSR-MD-01	<b>Management Direction FIRE-1.8:</b> In PHMA, prioritize native seed allocation for use in GRSG habitat in years when preferred native seed is in short supply. This may require reallocation of native seed from emergency stabilization and rehabilitation (ES&R) projects outside of PHMA to those inside it. Use of native plant seeds for ES&R seedings is required based on availability, adaptation (site potential), and probability of success. Where probability of success or native seed availability is low, nonnative seeds may be used as long as they meet GRSG habitat conservation objectives. Re-establishment of appropriate sagebrush species/subspecies and important understory plants, relative to site potential, shall be the highest priority for rehabilitation efforts.
WFEM-GRSG-FSR-MD-02	<b>Management Direction FIRE-1.9:</b> In PHMA, design post ES&R management to ensure long-term persistence of seeded or pre-burn native plants. This may require temporary or long-term changes in livestock grazing, and travel management, etc., to achieve and maintain the desired condition of ES&R projects to benefit GRSG.
WFEM-GRSG-FSR-MD-03	<b>Management Direction FIRE-1.10:</b> In PHMA, consider potential changes in climate when proposing post-fire seedings using native plants. Consider seed collections from the warmer component within a species' current range for selection of native seed.

	Cultural Resources
CUL-GOAL-01	<b>Goal:</b> Identify, preserve, and protect significant cultural resources and ensure they are available for appropriate uses by present and future generations (FLPMA, Section 103I, 201(a) and (c); NHPA, Section 110(a); Archaeological Resources Protection Act, Section 14(a)).
CUL-GOAL-02	<b>Goal:</b> Seek to reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration, or potential conflict with other resource uses (FLPMA Section 103(c), NHPA, Section 106 and 110(a)(2)) by ensuring all authorizations for land use and resource use will comply with the NHPA Section 106.
CUL-GOAL-03	<b>Goal:</b> Consult with federally recognized Native American Tribes to identify any of their cultural values or religious beliefs that may be affected by BLM authorizations or actions.
CUL-OBJ-01	<b>Objective:</b> Manage cultural resources, or areas where concentrations of cultural resources occur, based on the nature, significance, and use allocation of the cultural resource.
CUL-OBJ-01	<b>Objective:</b> Provide a basis for cultural resource use allocation
CUL-OBJ-02	<b>Objective:</b> Promote stewardship, conservation, appreciation, and public understanding of cultural resources through educational and public outreach programs in accordance with the BLM Heritage Education Program.
CUL-OBJ-03	<b>Objective:</b> Provide and promote research opportunities that would contribute to the understanding of human use and influence on the landscape.
CUL-OBJ-04	<b>Objective:</b> Maintain viewsheds of important cultural resources whose settings contribute significantly to their scientific, public, traditional, or conservation values.
CUL-MD-01	<p><b>Management Direction:</b> Allocate and manage cultural properties to the following uses according to their nature and relative preservation value. Desired future conditions for each use allocation listed below are found in <b>Table 3-99</b> of the Proposed RMP and Final EIS:</p> <p><b>Scientific use</b>—This category applies to any cultural property determined to be available for consideration as the subject of scientific or historical study at the present time, using currently available research techniques. Study may include methods that would result in the property’s physical alteration or destruction. This category applies almost entirely to prehistoric and historic archaeological properties, where the methods of scientific use are generally archaeological excavation, controlled surface collection, and/or controlled recordation. Recommendations to allocate individual properties to this use must be based on documentation of the kinds of data the property is thought to contain and the data’s importance for pursuing specified research topics. Properties in this category need not be conserved in the face of a research or data recovery proposal that would make adequate and appropriate use of the property’s research importance.</p> <p><b>Public use</b>—This category may be applied to any cultural property found to be appropriate for use as an interpretive exhibit in place, or for related educational and recreational uses by members of the general public. The category may also be applied to buildings suitable for continued use or adaptive use, for example as staff housing or administrative facilities at a visitor contact or interpretive site.</p> <p><b>Conservation for future use</b>—This category is reserved for any unusual cultural property which, because of scarcity, a research potential that surpasses the current state of the art, singular historic importance, cultural importance, architectural</p>

	Cultural Resources
CUL-MD-01 (continued)	<p>interest, or comparable reasons, is not currently available for consideration as the subject of scientific or historical study that would result in its physical alteration. A cultural property included in this category is deemed worthy of segregation from all other land or resource uses, including cultural resource uses that would threaten the maintenance of its present condition or setting, as pertinent, and would remain in this use category until specified provisions are met in the future.</p> <p><b>Experimental use</b>—This category may be applied to a cultural property judged well-suited for controlled experimental study, to be conducted by the BLM or others concerned with the techniques of managing cultural properties, which may result in the property's alteration, including possible loss of integrity and/or destruction of physical elements. Committing cultural properties to experimental use must be justified in terms of the specific information that would be gained and how it would aid in the management of other cultural properties. Experimental study should aim toward understanding the kinds and rates of natural or human-caused deterioration, testing the effectiveness of protection measures, or developing new research or interpretation methods and similar kinds of practical management information. It should not be applied to cultural properties with strong research potential, traditional cultural importance, or good public use potential, if it would significantly diminish those uses.</p> <p><b>Traditional use</b>—This category is to be applied to any cultural resource known to be perceived by a specified social and/or cultural group as important in maintaining the cultural identity, heritage, or well-being of the group. Cultural properties assigned to this category are to be managed in ways that recognize the importance ascribed to them and seek to accommodate their continuing traditional use.</p> <p><b>Discharged from management</b>—This category is assigned to cultural properties that have no remaining identifiable use. Most often these are prehistoric and historic archaeological properties, such as small surface scatters of artifacts, whose limited research potential is effectively exhausted as soon as they have been documented. Also, more complex archaeological properties that have had their salient information collected and preserved through mitigation or research may be discharged from management, as should cultural properties destroyed by any natural event or human activity. Properties discharged from management remain in the inventory, but they are removed from further management attention and do not constrain other land uses. Particular classes of unrecorded cultural properties may be named and described in advance as dischargeable upon documentation, but specific cultural properties must be inspected in the field and recorded before they may be discharged from management.</p>
CUL-AU-01	<b>Allocation:</b> Manage the Knife River Indian Villages National Historic Site viewshed as unacceptable for further consideration for coal leasing (multiple-use screen 3).

	<b>Cultural Resources</b>
CUL-AU-02	<p><b>HISTORIC SITES</b></p> <p><b>Allocation:</b> CSU–New: Apply design criteria to mitigate visual impacts within 2 miles surrounding Lynch Knife River Flint Quarry District, Knife River Indian Villages National Historic Site, Writing Rock State Historic Site (32DV4), Doaks Butte (32BO222), Killdeer Mountain Battle Study Area (32DUx1120), Medicine Rock State Historic Site (32GT129), Theodore Roosevelt's Elkhorn Ranch and Greater Elkhorn Ranchlands District, Custer Military Trail Archaeological District, Fort Clark Archaeological District, Chateau de Mores State Historic Site (32BI60), Fort Buford State Historic Site/Confluence (32WI25), Huff National Historic Landmark (32MO11), Double Ditch State Historic Site (32BL8), Menoken National Historic Landmark (32BL2), Turtle Effigy State Historic Site (32ME1270), Pulver Mounds (32ML112), Standing Rock State Historic Site (32RM32), and Cross Ranch Archaeological District.</p>
CUL-AU-03	<p><b>FORT UNION TRADING POST NATIONAL HISTORIC LANDMARK</b></p> <p><b>Allocation:</b> NSO 11-40: NSO or use is allowed in a visible area within a 3.5-mile radius of the Fort Union Trading Post National Historic Landmark.</p>
CUL-AU-04	<p><b>Allocation:</b> NSO–New: At the Doaks Butte (32BO222) site, NSO or use is allowed within 300 feet of the site boundary.</p>
CUL-AU-05	<p><b>Allocation:</b> Manage the Doaks Butte (32BO222) site to protect the site for further archaeological research. The site includes two distinct occupation clusters and appears to have been inhabited by bison hunters and gatherers who exploited local raw materials and imported higher-quality flint from the Lynch Knife River Flint Quarry District.</p> <ul style="list-style-type: none"> <li>• Manage as ROW exclusion within 300 feet of the site boundary</li> <li>• Apply NSO within 300 feet of the site boundary</li> <li>• Close to nonenergy solid mineral leasing within 300 feet of the site boundary</li> <li>• Close to mineral materials disposal within 300 feet of the site boundary</li> </ul>
CUL-AU-06	<p><b>Significant Cultural Resources, NRHP-Eligible Properties and Districts, and TCPs</b></p> <p><b>Allocation:</b> NSO–New: Surface occupancy and use is prohibited within the boundaries of, and for a distance of 100 feet from, the boundaries of:</p> <ul style="list-style-type: none"> <li>• sites or areas designated or sites or areas that meet the criteria for allocation for designation for scientific use, conservation use, traditional use (socio-cultural use), public use, and experimental use,</li> <li>• the boundaries of sites or districts determined eligible for or included on the NRHP; and</li> <li>• the boundaries of traditional cultural properties, or sites or areas designated as such, or sites or areas that meet the criteria for allocation for designation for traditional use (socio-cultural use), or cultural properties determined to be of particular importance to Native American groups. Such properties include, but are not limited to, burial locations, pictograph and petroglyph sites, vision quest locations, plant-gathering locations, and areas considered sacred or used for religious purposes.</li> </ul>



	<b>Paleontological Resources</b>
PAL-GOAL-01	<b>Goal:</b> Identify, preserve, and protect significant paleontological resources, and ensure they are available to present and future generations for appropriate uses, such as scientific studies and public education in accordance with the Paleontological Resources Preservation Act of 2009 (PRPA).
PAL-OBJ-01	<b>Objective:</b> Protect major paleontological resources of scientific interest.
PAL-MD-01	<b>Management Direction:</b> Designate the Mud Buttes ACEC to protect paleontological resources (see <i>ACECs</i> section).
PAL-MD-02	<b>Management Direction:</b> Paleontological resources will be considered during preparation of all activity plans. Prioritize evaluation of those areas in potential fossil yield classification (PFYC) Class 3, 4, and 5.
PAL-AU-01	<b>PALEONTOLOGICAL RESOURCES</b> <b>Allocation:</b> NSO 11-85: Surface occupancy and use is prohibited in significant paleontological localities.
PAL-MD-03	<b>Management Direction:</b> Promote the stewardship, conservation, and appreciation of paleontological resources through appropriate educational and public outreach programs.

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	<b>Visual Resources</b>
VIS-GOAL-01	<b>Goals:</b> Manage BLM-administered lands for their scenic values, while providing for the overall multiple-use and quality of experience to visitors.
VIS-GOAL-02	<b>Goals:</b> Establish visual management objectives to minimize adverse impacts on the visual resources on the landscape.
VIS-GOAL-03	<b>Goals:</b> Maintain the overall integrity of VRM classes, while allowing for modifications to landscapes in those classes, consistent with the established management objectives.
VIS-OBJ-01	<b>Objective:</b> Manage visual resources for overall multiple use in accordance with VRM classification objectives (currently described in H-8410-1, BLM Visual Resource Inventory Handbook).
VIS-MD-01	<b>Management Direction:</b> Manage 0 acres as VRM Class I ( <b>Map 2-2</b> ).
VIS-MD-02	<b>Management Direction:</b> Manage 13,900 acres as VRM Class II, including the following areas ( <b>Map 2-2</b> ): <ul style="list-style-type: none"> <li>• Schnell Ranch SRMA, East Zone</li> <li>• Lost Bridge BCA</li> <li>• Figure 4 BCA</li> </ul>
VIS-MD-03	<b>Management Direction:</b> Manage 17,400 acres as VRM Class III, including the following areas ( <b>Map 2-2</b> ): <ul style="list-style-type: none"> <li>• Schnell Ranch SRMA, West Zone</li> <li>• Lewis and Clark NHT management corridor of 0.50 miles from the high-water mark of the Missouri and Yellowstone Rivers, Lake Sakakawea, and Lake Oahe</li> <li>• Additional non-designated parcels</li> </ul>
VIS-MD-04	<b>Management Direction:</b> Manage 27,200 acres as VRM Class IV ( <b>Map 2-2</b> ).
VIS-AU-01	<b>Allocation:</b> Manage the following areas as ROW avoidance: <ul style="list-style-type: none"> <li>• VRM Class II areas</li> <li>• Within 0.50 miles of the Little Missouri River</li> </ul>

	<b>Visual Resources</b>
VIS-MD-05	<b>NATIONAL PARK SERVICE UNITS</b> <b>Management Direction:</b> To protect features critical to the visitor experience such as viewsheds, soundscapes, night skies, and air quality, require consultation with the NPS for the following activities within 3 miles surrounding NPS units (Theodore Roosevelt National Park, Knife River Indian Villages National Historic Site, Fort Union Trading Post National Historic Landmark, Lewis and Clark NHT management corridor, and North Country National Scenic Trail NST management corridor): <ul style="list-style-type: none"> <li>• Fluid minerals leasing (CSU)</li> <li>• Mineral materials disposal</li> <li>• NEL mineral leasing</li> <li>• Locatable mineral entry</li> <li>• Realty actions</li> </ul>
VIS-MD-06	<b>Management Direction:</b> Manage Knife River Indian Villages Historic Site viewshed as unacceptable for further consideration for coal leasing due to multiple-use values (Screen 3; <b>Map F-31</b> in <b>Appendix F</b> ).
VIS-MD-07	<b>Management Direction:</b> Coordinate with other state and federal agencies regarding BLM operations that affect the landscape (for example, placement of signs, campgrounds, and less-developed recreational facilities).
VIS-OBJ-02	<b>Objective:</b> Manage permitted activities to reduce alteration of natural night sky light and maintain dark, clear skies for stargazing and other nighttime activities.
VIS-MD-08	<b>Management Direction:</b> Prohibit structural lighting in excess of the minimum safety requirements.

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	<b>Lands and Realty</b>
LR-GOAL-01	<b>Goal:</b> Maintain the availability of BLM-administered land for authorized uses.
LR-GOAL-02	<b>Goal:</b> Maintain the integrity of BLM-administered lands by resolving trespass.
LR-GOAL-03	<b>Goal:</b> Accommodate ROW and other use demands, while minimizing adverse impacts on natural resources.
LR-GOAL-04	<b>Goal:</b> Pursue landownership adjustments to improve resource management efficiency, maintain or improve public access, and to provide other public benefits as opportunities arise.
LR-GOAL-05	<b>Goal:</b> Protect significant resources or government investments.
	<b>Land Use Authorizations</b>
LR-LU-OBJ-01	<b>Objective:</b> Pursue a long-term program of repositioning BLM-administered lands toward improved manageability and increased public benefit; accommodate ROW and other use demands while minimizing adverse impacts on natural resources.
LR-LU-OBJ-02	<b>Objective:</b> Respond to public needs for use authorizations, such as ROWs, leases, and permits, while balancing for other resource uses and protection.
LR-LU-MD-01	<b>Management Direction:</b> Analyze requests for land use authorizations and apply mitigation measures as appropriate. Design land use authorizations and projects to incorporate the design features and BMPs in <b>Appendix D</b> , Design Features and Best Management Practices.

	<b>Lands and Realty</b>
LR-LU-AU-01	<b>Allocation:</b> Do not issue land use authorizations for uses that involve disposal or storage of materials that will contaminate the land (for example, hazardous waste disposal sites, and landfills), except as provided for in regulations and in Recreation and Public Purposes (R&PP) Act leases.
LR-LU-AU-02	<b>Allocation:</b> Manage the following areas as ROW exclusion ( <b>Map 2-3</b> ): <ul style="list-style-type: none"> <li>• 2,700 acres as ROW exclusion for all ROWs (such as renewable, linear, aboveground, belowground, and site):               <ul style="list-style-type: none"> <li>○ Tallgrass prairie</li> <li>○ Within 300 feet of the Doaks Butte (32BO222) site boundary</li> <li>○ Schnell Ranch SRMA, East Zone</li> <li>○ Mud Buttes ACEC - exclusion area, except for existing ROW authorizations (new ROWs could be collocated in existing ROW authorizations)</li> </ul> </li> <li>• ROW exclusion for only solar and wind:               <ul style="list-style-type: none"> <li>○ GRSG PHMA (see BLM 2015)</li> </ul> </li> <li>• 1,500 acres as ROW exclusion only for aboveground ROWs (allow belowground):               <ul style="list-style-type: none"> <li>○ Schnell Ranch SRMA, West Zone</li> </ul> </li> </ul>

	<b>Lands and Realty</b>
LR-LU-AU-03	<p><b>Allocation:</b> Manage the following areas as ROW avoidance, outside of ROW exclusion (<b>Map 2-3</b>):</p> <ul style="list-style-type: none"> <li>• 54,600 acres as ROW avoidance for all ROWs (such as renewable, linear, aboveground, belowground, and site; these areas may overlap ROW exclusion areas):               <ul style="list-style-type: none"> <li>○ On sensitive soils</li> <li>○ On slopes greater than 30 percent</li> <li>○ On rock outcrops</li> <li>○ In riparian areas and wetlands</li> <li>○ In woody draws</li> <li>○ In proposed bighorn sheep lambing habitat</li> <li>○ In mule deer, elk, and antelope birthing areas</li> <li>○ In occupied black-tailed prairie dog colonies</li> <li>○ Within 0.50 miles of raptor nest sites active within the preceding 7 years</li> <li>○ Within 2 miles of sharp-tailed grouse leks</li> <li>○ In special status plant locations</li> <li>○ Within 0.50 mile of golden eagle nest sites active within the preceding 7 years</li> <li>○ Within 0.50 miles of ferruginous hawk nest sites active within the preceding 7 years</li> <li>○ Within 1 mile of bald eagle nest sites active within the preceding 5 years</li> <li>○ Within 1 mile of peregrine falcon nest sites active within the preceding 7 years</li> <li>○ Within 0.50 miles of interior least tern active nests</li> <li>○ Within 0.50 miles of piping plover critical habitat</li> <li>○ Within 0.62 miles of occupied Dakota skipper habitat</li> <li>○ Within 0.25 miles of Sprague's pipit habitat</li> <li>○ Within 0.50 miles of the water's edge of identified pallid sturgeon habitat</li> <li>○ In GRSG GHMA (see BLM 2015)</li> <li>○ In GRSG PHMA (high-voltage transmission lines, large pipelines, and minor ROWs; see BLM 2015)</li> <li>○ In Lost Bridge BCA</li> <li>○ In Figure 4 BCA</li> <li>○ In VRM II areas</li> <li>○ Within 0.50 miles of the Little Missouri River</li> </ul> </li> <li>• 1,500 acres as ROW avoidance only for belowground ROWs (these areas may overlap ROW exclusion areas):               <ul style="list-style-type: none"> <li>○ Schnell Ranch SRMA, West Zone</li> </ul> </li> </ul>
LR-LU-MD-02	<p><b>Management Direction:</b> Prioritize processing of ROW applications for infrastructure (for example, pipelines) that maximize the recovery and delivery of natural gas from well sites to meet the objectives of reducing lost production and minimizing air pollutant emissions from venting and flaring.</p>

	<b>Lands and Realty</b>
LR-LU-MD-03	<b>Management Direction:</b> Where practicable, co-locate new ROWs, including those associated with valid existing rights, within or adjacent to existing ROWs or where it best minimizes effects. Use existing roads, or realignments as described above, to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then authorize to the minimum standard necessary any new road constructed to an approved BLM standard.
LR-LU-OBJ-03	<b>Objective:</b> Maintain the integrity of BLM-administered lands by resolving trespass.
LR-LU-MD-03	<b>Management Direction:</b> Resolve unauthorized use of BLM-administered lands through termination; a cooperative agreement authorized by the Sikes Act; authorization by lease or permit; or issuance of a ROW, exchange, or sale. Priorities are: (a) cases of new unauthorized activities or uses where prompt action can minimize damage to public resources and associated costs, (b) cases where delay may be detrimental to authorized users, (c) cases involving special areas, sensitive ecosystems, and resources of national significance, (d) cases involving malicious or criminal activities, and (e) cases of unauthorized landfills and dumpsites where there is a potential for hazardous material/waste dumping.
	<b>Greater Sage-Grouse</b>
LR-LU-GRSG-MD-01	<b>Management Direction LR-1.1:</b> PHMA will be managed as ROW avoidance area for major ROWs (high-voltage transmission lines (100 kilovolt and over) and large pipelines [24 inches in width and over]). See Figure 2-10a, North Dakota Major Rights-of-Way (Appendix A of the BLM 2015). <ul style="list-style-type: none"> <li>Where new ROWs are required, co-locate new ROW within existing ROWs or where it best minimizes impacts on GRSG and GRSG habitat.</li> </ul>
LR-LU-GRSG-MD-02	<b>Management Direction LR-1.2:</b> PHMA will be managed as ROW avoidance area for minor ROWs (including communication sites and towers). See Figure 2-10b, North Dakota Minor Rights-of-Way (Appendix A of BLM 2015).
LR-LU-GRSG-MD-03	<b>Management Direction LR-1.3:</b> Make PHMA exclusion area for new ROW wind and solar energy authorizations. See Figure 2-8, North Dakota Wind, and Figure 2-9, North Dakota Solar (Appendix A of BLM 2015).
LR-LU-GRSG-MD-04	<b>Management Direction LR-1.4:</b> When addressing ROW authorizations in PHMA identify and evaluate opportunities to remove, bury or modify existing power lines within PHMA.
LR-LU-GRSG-MD-05	<b>Management Direction LR-1.5:</b> In PHMA, where existing leases or ROWs have had some level of development (road, fence, well, etc.) and are no longer in use, reclaim the site by removing these features and restoring the habitat.
LR-LU-GRSG-MD-06	<b>Management Direction LR-1.6:</b> GHMA will be managed as ROW avoidance area for high-voltage transmission lines (100 kilovolt and over) and large pipelines (24 inches in width and over).
LR-LU-GRSG-MD-07	<b>Management Direction LR-1.7:</b> Minor ROWs will be allowed in GHMA with appropriate mitigation and conservation measures identified within the terms of the authorization to minimize surface-disturbing and disruptive activities.
LR-LU-GRSG-MD-08	<b>Management Direction LR-1.8:</b> Make GHMA avoidance area for new wind and solar energy authorizations. See Figure 2-8 and Figure 2-9 (Appendix A of BLM 2015).
LR-LU-GRSG-MD-09	<b>Management Direction LR-1.9:</b> Where new ROWs are necessary in GHMA, co-locate new ROWs within existing ROWs where possible.

	<b>Lands and Realty</b>
LR-LU-GRSG-MD-10	<b>Management Direction LR-1.10:</b> PHMA will be avoidance areas for leases/land use authorizations, which can be for agricultural, occupancy, or filming. Leases/land use authorizations will be allowed in GHMA with appropriate mitigation and conservation measures identified within the terms of the authorization to minimize surface-disturbing and disruptive activities.
	<b>Land Tenure</b>
LR-LT-OBJ-01	<b>Objective:</b> Attain a BLM land use pattern that blends multiple resource values and brings about better manageability. Consistent with Secretarial Order 3373, ensure public access and recreation opportunities are important considerations for any land tenure adjustment. Manage lands returned to the BLM administration through R&PP patent or other patent reversions according to the land tenure categories and criteria established in LR-LT-MD-01. See land tenure adjustment categories and criteria in <b>Appendix G, Land Tenure Adjustment Categories</b> .
LR-LT-MD-01	<p><b>Management Direction:</b> Manage BLM-administered land according to its identified land tenure category (<b>Map 2-4</b>; see also <b>Appendix G, Land Tenure and Adjustment Categories</b>):</p> <ul style="list-style-type: none"> <li>• Category 1 (retention): 1,000 acres: <ul style="list-style-type: none"> <li>◦ Mud Buttes ACEC</li> <li>◦ Lands acquired through the Land and Water Conservation Fund</li> </ul> </li> <li>• Category 2 (General Retention/Limited Disposal; available for disposal through methods other than sale): 57,400 acres</li> <li>• Category 3 (available for disposal through sale): 100 acres <ul style="list-style-type: none"> <li>◦ BLM-administered parcels under 10 acres found to not contain any sensitive biological, cultural, paleontological, or other sensitive resource, and is surrounded by private land with no legal access.</li> </ul> </li> </ul>
LR-LT-MD-02	<p><b>Management Direction:</b> Acquire, through purchase, exchange, donation, revocation of another agency's withdrawal, administrative transfer from another agency, cooperative agreement, or other authority, and evaluated against the criteria in <b>Appendix G, Land Tenure and Adjustment Categories</b> to create contiguous blocks of BLM-administered lands to:</p> <ul style="list-style-type: none"> <li>• Enhance management of special status species</li> <li>• Enhance recreational opportunities and outcomes at Schnell Ranch SRMA</li> <li>• Improve legal public access to Category 1 and 2 lands and BCAs</li> </ul>
LR-LT-MD-03	<p><b>Management Direction:</b> Manage newly acquired lands and minerals and cadastral survey land status corrections similar to adjacent BLM land management prescriptions and the following criteria:</p> <ul style="list-style-type: none"> <li>• Lands and minerals acquired within special management areas with specific Congressional mandates (such as NHT) will be managed in conformance with established guidelines for those areas.</li> <li>• Lands and minerals acquired adjacent to administratively designated management allocations (such as BCAs or SRMAs) will be managed the same as and become part of the adjacent allocation.</li> <li>• Lands acquired without special values or management goals will be managed in the same manner as comparable surrounding public lands.</li> <li>• To the extent possible, management direction would be extended to newly acquired lands through plan maintenance.</li> </ul>

	<b>Lands and Realty</b>
LR-LT-MD-04	<b>Management Direction:</b> Obtain/reserve conservation easements to preserve important resources determined to be in the public interest on public and private lands (for example, archaeological sites, historical sites, scenic areas, or habitat for wildlife species).
LR-LT-MD-05	<b>Management Direction:</b> Complete title resolution cases.
LR-LT-AU-01	<b>Allocation:</b> No BLM lands in the NDFO are suitable for Desert Land Entry or Indian Allotments.
	<b><i>Greater Sage-Grouse</i></b>
LR-LT-GRSG-MD-01	<b>Management Direction LR-1.11:</b> Lands classified as PHMA and GHMA for GRSG will be retained in federal management unless: (1) the BLM can demonstrate that disposal of the lands will provide a net conservation gain to GRSG or (2) the BLM can demonstrate that the disposal of the lands will have no direct or indirect adverse impact on conservation of GRSG. See Figure 2-11, North Dakota Land Tenure (Appendix A of BLM 2015).
LR-LT-GRSG-MD-02	<b>Management Direction LR-1.12:</b> PHMA will be a priority in consideration of land acquisitions. Consider GRSG for all land tenure actions.
	<b><i>Withdrawals and Other Segregations</i></b>
LR-WD-OBJ-01	<b>Objective:</b> Utilize withdrawal actions with the least restrictive measures and minimum size necessary to accomplish the required purpose.
LR-WD-MD-01	<b>Management Direction:</b> Review withdrawals 2 years prior to termination either to extend, modify, or revoke. If withdrawals are no longer needed, in whole or in part, for the intended purpose for which they were created, the withdrawal would be revoked or modified.
LR-WD-MD-02	<b>Management Direction:</b> Under 43 CFR 2310, evaluate withdrawal proposals at the project level. Withdrawals must be consistent with maintaining and protecting BLM resource values (see <b>Appendix B</b> , Stipulations and Allocations Applicable to Fluid Minerals Leasing).
LR-WD-MD-03	<b>Management Direction:</b> Consider withdrawal proposals that result in a transfer of jurisdiction to another federal agency on a case-by-case basis. Also consider other agency requests for new withdrawals, or modification, extension, or revocation of existing withdrawals.
LR-WD-MD-04	<b>Management Direction:</b> Manage lands returned to BLM jurisdiction through withdrawal modification, revocation, or expiration according to adjacent management prescriptions and as described in current management.
LR-WD-MD-05	<b>Management Direction:</b> Recommend 960 acres for withdrawal from locatable mineral entry: <ul style="list-style-type: none"> <li>• In Mud Buttes ACEC</li> </ul>
	<b><i>Greater Sage-Grouse</i></b>
LR-WD-GRSG-MD-01	<b>Management Direction LR-1.13:</b> Not withdrawn from minerals on BLM surface.
LR-WD-GRSG-MD-02	<b>Management Direction R-1.14:</b> In PHMA, do not recommend withdrawal proposals not associated with mineral activity unless the land management is consistent with GRSG conservation measures. (For example, in a proposed withdrawal for a military training range buffer area, manage the buffer area with GRSG conservation measures.)

	<b>Lands and Realty</b>
	<b>Public Access</b>
LR-PA-OBJ-01	<b>Objective:</b> Acquire and maintain access to BLM-administered lands to improve management efficiency in coordination with other federal agencies, state and local governments, and private landowners; or to improve public access for recreation.
LR-PA-MD-01	<b>Management Direction:</b> Obtain legal public or administrative access over nonfederal lands, as appropriate, on a case-by-case basis as the need or as the opportunity arises and using criteria in <b>Appendix G</b> , Land Tenure Adjustment Categories, and direction in the <i>Land Tenure</i> section of this plan. Use all methods available to acquire access; easements or land exchange with willing parties is the preferred method of access acquisition.
LR-PA-MD-03	<b>Management Direction:</b> Reserve access easements in patents, if needed, to ensure public access to other BLM-administered land.
LR-PA-MD-04	<b>Management Direction:</b> Acquire access easements to Category 1 and 2 lands where legal/physical access does not exist, is lengthy or arduous, or a need has been demonstrated.

	<b>Fluid Leasable Minerals</b>
FLD-GOAL-01	<b>Goal:</b> Encourage development of the federal oil and gas resource while avoiding unnecessary impacts on other resources and land uses.
FLD-GOAL-02	<b>Goal:</b> Maintain the integrity of federal oil and gas reserves to facilitate efficient and reasonable development.
FLD-OBJ-01	<b>Objective:</b> Provide opportunities for exploring, leasing, and developing fluid mineral resources, while applying the appropriate lease stipulations and COA to mitigate environmental effects from development.
FLD-AU-01	<b>Allocation:</b> Manage 213,100 acres as closed to fluid mineral leasing ( <b>Map 2-5</b> ) in: <ul style="list-style-type: none"> <li>• State designated drinking water source protection zones (2,000 acres)</li> <li>• Low development potential areas. In low development potential areas leasing may only be authorized to prevent drainage of federal minerals or if the oil and gas development potential categories are revised based on new data or information such as offset well production or geophysical surveys.</li> </ul>
FLD-MD-01	<b>Management Direction:</b> Apply design features for fluid mineral exploration and development (to be determined at the project level; see <b>Appendix D</b> , Design Features and Best Management Practices) and reclamation standards ( <b>Appendix E</b> , Reclamation Standards).



	Fluid Leasable Minerals
FLD-AU-02	<p><b>Allocation:</b> Manage 130,000 acres open subject to NSO stipulations (<b>Map 2-6</b>):</p> <ul style="list-style-type: none"> <li>• Within 1 mile of the Lostwood Wilderness Class I Area</li> <li>• Within 1 mile of the Theodore Roosevelt National Park Class I Area</li> <li>• Badlands and rock outcrops</li> <li>• Perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas</li> <li>• Tallgrass prairie</li> <li>• State Wildlife Management Areas</li> <li>• Within 0.25 miles of special status plants or populations</li> <li>• GRSB PHMA (see BLM 2015)</li> <li>• Within 0.50 miles of golden eagle nests known to have been occupied at least once within the 7 previous years</li> <li>• Within 0.50 miles of bald eagle nest sites active within the preceding 5 years</li> <li>• Within 0.25 miles of raptor nest sites active within the preceding 7 years</li> <li>• Within 1 mile of peregrine falcon nests active within the preceding 7 years</li> <li>• Within 0.25 miles of interior least tern active nests</li> <li>• Within 0.25 miles of piping plover critical habitat</li> <li>• Within 500 meters of occupied Dakota skipper habitat</li> <li>• Within 0.50 miles of the water's edge of identified pallid sturgeon habitat</li> <li>• Within 300 feet of the Doaks Butte (32BO222) site boundary</li> <li>• Within a visible area within a 3.5-mile radius of the Fort Union Trading Post National Historic Landmark</li> <li>• Within 100 feet surrounding significant cultural resources, NRHP-eligible properties and districts, and TCPs</li> <li>• Significant paleontological localities</li> <li>• Lost Bridge BCA</li> <li>• Figure 4 BCA</li> <li>• Authorized federal coal leases</li> <li>• Mud Buttes ACEC</li> <li>• Within the Lewis and Clark NHT management corridor</li> <li>• Within the North Country NST management corridor</li> <li>• Within 0.50 miles of the ordinary high-water mark for the Missouri River, Lake Sakakawea, and Lake Oahe</li> </ul>

	<b>Fluid Leasable Minerals</b>
FLD-AU-03	<p><b>Allocation:</b> Manage 213,100 acres open subject to CSU stipulations (<b>Map 2-7</b>):</p> <ul style="list-style-type: none"> <li>• Within 2 miles of the Lostwood Wilderness</li> <li>• Within 2 miles of Theodore Roosevelt National Park</li> <li>• Sensitive soils</li> <li>• Within 300 feet of riparian areas, wetlands, ephemeral, intermittent, and perennial drainages, and waterbodies</li> <li>• Woody draws</li> <li>• Invasive species and noxious weeds</li> <li>• Threatened, endangered, or other special status species</li> <li>• Within occupied black-tailed prairie dog colonies</li> <li>• Within 2 miles of sharp-tailed grouse lek sites</li> <li>• Within 2 miles of greater prairie chicken lek sites</li> <li>• Within 0.62 miles of occupied Dakota skipper habitat</li> <li>• In special status plant species habitat</li> <li>• In GRSG GHMA (see BLM 2015)</li> <li>• Within 0.50 miles of interior least tern active nests</li> <li>• Within 0.50 miles of piping plover critical habitat</li> <li>• Within 2 miles of the visible area surrounding Lynch Knife River Flint Quarry District, Knife River Indian Villages National Historic Site, Writing Rock State Historic Site (32DV4), Doaks Butte (32BO222), Killdeer Mountain Battle Study Area (32Dux1120), Medicine Rock State Historic Site (32GT129), Theodore Roosevelt's Elkhorn Ranch and Greater Elkhorn Ranchlands District, Custer Military Trail Archaeological District, Fort Clark Archaeological District, Chateau de Mores State Historic Site (32BI60), Fort Buford State Historic Site/Confluence (32WI25), Huff National Historic Landmark (32MO11), Double Ditch State Historic Site (32BL8), Menoken National Historic Landmark (32BL2), Turtle Effigy State Historic Site (32ME1270), Pulver Mounds (32ML112), and Cross Ranch Archaeological District</li> <li>• Within 3 miles surrounding NPS units (for example, Theodore Roosevelt National Park, Knife River Indian Villages National Historic Site, Fort Union Trading Post National Historic Landmark, Lewis and Clark NHT management corridor, and North Country NST management corridor)</li> </ul>
FLD-AU-04	<p><b>Allocation:</b> Manage 183,000 acres open subject to TL stipulations (<b>Map 2-8</b>):</p> <ul style="list-style-type: none"> <li>• Within 500 feet of waterfowl nesting habitat</li> <li>• In bighorn sheep lambing habitat</li> <li>• In bighorn sheep winter range</li> <li>• Big game birthing areas (mule deer, elk, and antelope)</li> <li>• Within 0.50 miles of active raptor nest sites</li> <li>• Within 0.50 miles of occupied ferruginous hawk nests</li> <li>• Sprague's pipit habitat</li> </ul>

	<b>Fluid Leasable Minerals</b>
FLD-AU-05	<b>COAL</b> <b>Allocation:</b> NSO 11-63: Prohibit surface occupancy and use in an authorized federal coal lease existing prior to the time the oil and gas lease was issued, in conformance with 43 CFR 3400.1.
FLD-AU-06	<b>Allocation:</b> The following areas are unacceptable for further consideration for coal leasing (multiple-use screen 3): <ul style="list-style-type: none"> <li>• Active oil and gas fields</li> <li>• Within 0.50 miles of existing wells</li> </ul>
FLD-MD-02	<b>Management Direction:</b> Review newly complete wells to determine feasibility of hook-up to a gas-gathering system if research, analyses, and monitoring indicate unacceptable air quality results from their flaring.
FLD-MD-03	<b>Management Direction:</b> Require mitigating measures on oil and gas wells that cannot be included in a gas-gathering system and notify the North Dakota Department of Health.
	<b><i>Greater Sage-Grouse</i></b>
FLD-GRSG- OBJ-01	<p><b>Objective MR-1.1:</b> Priority will be given to leasing and development of fluid mineral resources, including geothermal, outside of PHMA and GHMA. When analyzing leasing and authorizing development of fluid mineral resources, including geothermal, in PHMA and GHMA, and subject to applicable stipulations for the conservation of GRSG, priority will be given to development in nonhabitat areas first and then in the least suitable habitat for GRSG. The implementation of these priorities will be subject to valid existing rights and any applicable law or regulation, including, but not limited to, 30 USC 226(p) and 43 CFR, Part 3162.3-1(h).</p> <p>Where a proposed fluid mineral development project on an existing lease could adversely affect GRSG populations or habitat, the BLM will work with the lessees, operators, or other project proponents to avoid, minimize, and apply compensatory mitigation for adverse impacts to the extent compatible with lessees' rights to drill and produce fluid mineral resources. The BLM will work with the lessee, operator, or project proponent in developing an application for permit to drill for the lease to avoid and minimize impacts on GRSG or its habitat and will ensure that the best information about the GRSG and its habitat informs and helps to guide development of such federal leases.</p>

	Fluid Leasable Minerals
	<b><i>Greater Sage-Grouse (Unleased Federal Fluid Mineral Estate)</i></b>
FLD-GRSG-MD-01	<p><b>Management Direction MR-1.1:</b> Open to oil and gas leasing and development; however, surface occupancy and use will be prohibited within PHMA (NSO). Upon expiration or termination of existing leases, apply NSO. See Figure 2-4, North Dakota Fluid Minerals (Oil, Gas, and Geothermal) (Appendix A of BLM 2015).</p> <p>No waivers or modifications to a fluid mineral lease no-surface-occupancy stipulation will be granted.</p> <p>The BLM Authorized Officer may grant an exception to a fluid mineral lease no-surface-occupancy stipulation only where the proposed action:</p> <ul style="list-style-type: none"> <li>i. Will not have direct, indirect, or cumulative effects on GRSG or its habitat; or,</li> <li>ii. Is proposed to be undertaken as an alternative to a similar action occurring on a nearby parcel and will provide a clear conservation gain to GRSG.</li> </ul> <p>Exceptions based on conservation gain (ii) may only be considered in (a) PHMA of mixed ownership where federal minerals underlie less than fifty percent of the total surface, or (b) areas of the BLM-administered lands where the proposed exception is an alternative to an action occurring on a nearby parcel subject to a valid Federal fluid mineral lease existing as of the date of this RMPA. Exceptions based on conservation gain must also include measures, such as enforceable institutional controls and buffers, sufficient to allow the BLM to conclude that such benefits will endure for the duration of the proposed action's impacts. Any exceptions to this lease stipulation may be approved by the BLM Authorized Officer only with the concurrence of the State Director. The BLM Authorized Officer may not grant an exception unless the applicable state wildlife agency, the USFWS, and the BLM unanimously find that the proposed action satisfies (i) or (ii). Such finding shall initially be made by a team of one field biologist or other GRSG expert from each respective agency. In the event the initial finding is not unanimous, the finding may be elevated to the appropriate BLM State Director, USFWS State Ecological Services Director, and state wildlife agency head for final resolution. In the event their finding is not unanimous, the exception will not be granted. Approved exceptions will be made publicly available at least quarterly.</p>
FLD-GRSG-MD-02	<b>Management Direction MR-1.2:</b> In GHMA, surface occupancy and use will be subject to special operating constraints (CSU) (Appendix G, Oil and Gas Stipulations, of BLM 2015)
FLD-GRSG-MD-03	<b>Management Direction MR-1.3:</b> Allow geophysical exploration within PHMA to obtain exploratory information for areas outside of and adjacent to PHMA.
FLD-GRSG-MD-04	<b>Management Direction MR-1.4:</b> Allow geophysical operations by existing roads and trails, or helicopter-portable drilling methods, and in accordance with seasonal timing restrictions and/or other restrictions that may apply.

	<b>Fluid Leasable Minerals</b>
FLD-GRSG-MD-05	<p><b>Management Direction MR-1.5:</b> During implementation level review and decisions, (such as approval of an application for permit to drill and Sundry Notice) and upon completion of the environmental record of review (43 CFR, Part 3162.5), include appropriate documentation of compliance with NEPA. In this process evaluate, among other things: (1) Whether the conservation measure is “reasonable” (43 CFR, Part 3101.1-2) with the valid existing rights; and (2) Whether the action is in conformance with the Approved RMPA.</p> <p>Conservation Measure #1: The following operating constraints will be applied to existing leases as COAs in PHMA and GHMA. Exceptions may be granted by the BLM Authorized Officer if an environmental review demonstrates that effects can be mitigated to an acceptable level, habitat for the species is not present in the area, or portions of the area can be occupied without affecting a particular species. Exceptions may also be granted where the short-term effects are mitigated by the long-term benefits. The BLM may add additional site-specific restrictions as deemed necessary by further environmental analysis and as developed through coordination with other federal, state, and local regulatory and resource agencies.</p> <ul style="list-style-type: none"> <li>a. Surface-disturbing/disruptive activities will prevent or minimize disturbance to GRSG or their habitat. Except as identified above or during emergency situations, activities will not compromise the functionality of the habitat.</li> <li>b. Manage water developments to reduce the spread of West Nile virus within GRSG habitat areas.</li> <li>c. Site and/or minimize linear ROW to reduce disturbance to sagebrush habitats.</li> <li>d. Maximize placement of new utility developments (power lines, pipelines, etc.) and transportation routes in existing ROWs.</li> <li>e. Power lines will be buried, eliminated, designed or sited in a manner which does not impact GRSG.</li> <li>f. Placement of other high-profile structures, exceeding 10 feet in height, will be eliminated, designed or sited in a manner which does not impact GRSG.</li> <li>g. Remote monitoring of production facilities must be utilized, and all permit applications must contain a plan to reduce the frequency of vehicle use.</li> <li>h. Maximize the area of interim reclamation on long-term access roads and well pads including reshaping, top-soiling and re-vegetating cut and fill slopes. Utilize native grass species mix which includes sagebrush and forbs.</li> <li>i. Restore disturbed areas at final reclamation to pre-disturbance conditions or desired plant community. Utilize native grass species mix which includes sagebrush and forbs.</li> <li>j. Permanent (longer than 2 months) structures which create movement must be designed or sited to minimize impacts on GRSG.</li> <li>k. As reasonable (43 CFR, Part 3101.1-2), in consideration of valid existing rights, and to achieve a net conservation gain, the BLM will require compensatory mitigation when impacts cannot be adequately avoided and minimized, and residual impacts will result in habitat loss and degradation. Compensatory mitigation actions will align with the recommendations in the Regional Mitigation Strategy (see Appendix F of BLM 2015), as appropriate. A priority may be given to compensatory mitigation actions in the same PHMA as is being impacted, unless a greater benefit can be achieved elsewhere. Compensatory mitigation will be considered when no feasible options remain to adequately avoid and minimize impacts within and immediately adjacent to the impacted site.</li> </ul> <p>Conservation Measure #2: Make applicable RDFs (Appendix C of BLM 2015) mandatory as COA within PHMA.</p>

	<b>Solid Leasable Minerals</b>
SLM-GOAL-01	<b>Goal:</b> Provide opportunities for exploration and development of federal solid leasable minerals consistent with other resource goals.
SLM-MD-01	<p><b>Management Direction:</b> Activities proposed in the following geologic formations or geologically downgradient from them will be required to test surface deposits for erionite minerals. If erionite is identified, the project will be subject to RDFs and may be disapproved for public safety.</p> <ul style="list-style-type: none"> <li>• Arikaree Formation</li> <li>• Brule Formation</li> <li>• Chadron Formation</li> </ul>
	<b><i>Greater Sage-Grouse (Mineral Split Estate)</i></b>
SLM-GRSG-MD-01	<b>Management Direction MR-1.14:</b> Where the federal government owns the mineral estate in PHMA and GHMA, and the surface is in nonfederal ownership, apply the same stipulations, COAs, and/or conservation measures and RDFs applied if the mineral estate is developed on BLM-administered lands in that management area, to the maximum extent permissible under existing authorities, and in coordination with the landowner.
SLM-GRSG-MD-02	<b>Management Direction MR-1.15:</b> Where the federal government owns the surface and the mineral estate is in nonfederal ownership in PHMA and GHMA, apply appropriate surface use COAs, stipulations, and mineral RDFs through ROW grants or other surface management instruments, to the maximum extent permissible under existing authorities, in coordination with the mineral estate owner/lessee.
	<p><b>Coal</b>  (see <b>Appendix F</b>, Coal Screening Process, for coal screen details, including resources identified for protection for multiple-use concerns)</p>
SLM-CL-OBJ-01	<b>Objective:</b> Encourage orderly development of the federal coal resource while avoiding unnecessary impacts on other resources and land uses.
SLM-CL-AU-01	<b>Allocation:</b> Manage 58,600 acres as acceptable for further consideration for coal leasing and 1,037,800 acres as unacceptable for further consideration for coal leasing ( <b>Map 2-9</b> ).
SLM-CL-AU-02	<b>Allocation:</b> Identify 1,096,400 acres as having coal potential (Screen 1; <b>Appendix F</b> , Coal Screening Process, <b>Map F-1</b> ).
SLM-CL-AU-03	<b>Allocation:</b> Manage 53,000 acres as unsuitable for all methods of coal mining, without exception (Screen 2; <b>Appendix F</b> , Coal Screening Process, <b>Map F-26</b> ).
SLM-CL-AU-04	<b>Allocation:</b> Manage 294,400 acres as unsuitable for all or certain stipulated methods of coal mining, with exception/stipulation (Screen 2; <b>Appendix F</b> , Coal Screening Process, <b>Map F-26</b> ).

	<b>Solid Leasable Minerals</b>
SLM-CL-AU-05	<p><b>Allocation:</b> Manage 1,037,800 acres as unacceptable for further consideration for coal leasing due to multiple-use values (Screen 3; <b>Appendix F</b>, Coal Screening Process, <b>Map F-33</b>):</p> <ul style="list-style-type: none"> <li>• The area outside 4 miles from existing coal mine permits as of September 9, 2022</li> <li>• Slopes greater than 30 percent covering more than a 10-acre area</li> <li>• Knife River Indian Villages Historic Site viewshed</li> <li>• Schnell Ranch SRMA (both East and West Zones)</li> <li>• Lost Bridge BCA</li> <li>• Figure 4 BCA</li> <li>• Areas with leonardite potential</li> <li>• Active oil and gas fields</li> <li>• Within 0.50 miles of existing wells</li> <li>• Mud Buttes ACEC</li> </ul>
SLM-CL-AU-06	<p><b>Allocation:</b> Manage 0 acres as unacceptable for further consideration for coal leasing based on landowner input (Screen 4; <b>Appendix F</b>, Coal Screening Process). Additional landowner consultation will occur at the time of leasing, surface owner agreement must be obtained in order to lease any lands in accordance with 30 USC 1304(c).</p>
SLM-CL-AU-07	<p><b>Management Direction:</b> At the time an application for a new coal lease or lease modification is submitted to the BLM, the BLM will reassess whether the lease application area is unsuitable for all or certain coal mining methods pursuant to 43 CFR 3461.5.</p>
	<b><i>Greater Sage-Grouse (Coal)</i></b>
SLM-CL-MD-1	<p><b>Management Direction MR-1.6:</b> At the time an application for a new coal lease or lease modification is submitted to the BLM, the BLM will determine whether the lease application area is "unsuitable" for all or certain coal mining methods pursuant to 43 CFR, Part 3461.5. PHMA is essential habitat for maintaining GRSG for purposes of the suitability criteria set forth at 43 CFR, Part 3461.5(o)(1). See Figure 2-13, North Dakota Coal (Appendix A of BLM 2015).</p>
SLM-CL-MD-2	<p><b>Management Direction MR-1.7:</b> Sub-surface mines - Grant no new mining leases unless all surface disturbances (appurtenant facilities) are placed outside of PHMA.</p>
SLM-CL-MD-3	<p><b>Management Direction MR-1.8:</b> In GHMA, apply minimization of surface-disturbing or disrupting activities (including operations and maintenance) where needed to reduce the impacts of human activities on important seasonal GRSG habitats. Apply these measures during activity-level planning. Use additional, effective mitigation to offset impacts as appropriate (determined by local options/needs).</p>

	<b>Solid Leasable Minerals</b>
	<b><i>Nonenergy Solid Leasable Minerals (for example, phosphate)</i></b>
SLM-NELM-OBJ-01	<b>Objective:</b> Maintain the availability of federally reserved NEL minerals for authorized uses.
SLM-NELM-AU-01	<b>Allocation:</b> Manage 294,700 acres of the federal mineral estate as open to NEL mineral leasing subject to standard lease terms and conditions ( <b>Map 2-10</b> ).
SLM-NELM-AU-02	<b>Allocation:</b> Manage 67,900 acres as closed to nonenergy solid mineral leasing ( <b>Map 2-10</b> ): <ul style="list-style-type: none"> <li>• Tallgrass prairie</li> <li>• Within 0.50 miles of piping plover critical habitat</li> <li>• Within 0.62 miles of occupied Dakota skipper habitat</li> <li>• GRSB PHMA (see BLM 2015)</li> <li>• Within 300 feet of the Doaks Butte (32BO222) site boundary</li> <li>• Schnell Ranch SRMA (both East and West Zones)</li> <li>• Lost Bridge BCA</li> <li>• Figure 4 BCA</li> <li>• Mud Buttes ACEC</li> </ul>
SLM-NELM-AU-03	<b>Allocation:</b> Manage 2,700 acres as open to NEL leasing subject to no surface disturbance stipulations: <ul style="list-style-type: none"> <li>• Lewis and Clark NHT management corridor</li> <li>• North Country NST management corridor</li> </ul>
SLM-NELM-MD-01	<b>Management Direction:</b> Apply design features (to be determined at the project level) and reclamation standards for nonenergy solid energy leasable mineral exploration and development (see <b>Appendix D</b> , Design Features and Best Management Practices, and <b>Appendix E</b> , Reclamation Standards). Resources not specifically addressed in allocations above or as design features would be handled at the project level with resource protections from other resource use allocations as guidance when impacts are similar.
	<b><i>Greater Sage-Grouse (Nonenergy leasable minerals)</i></b>
SLM-NELM-GRSG-MD-01	<b>Management Direction MR-1.12:</b> Close PHMA to NEL mineral leasing. See Figure 2-7, North Dakota Nonenergy Leasables (Appendix A of BLM 2015). This includes not permitting any new leases to expand an existing mine.
SLM-NELM-GRSG-MD-02	<b>Management Direction MR-1.13:</b> For existing NEL mineral leases in PHMA, follow the same RDFs applied to fluid minerals (Appendix C of BLM 2015), when wells are used for solution mining.



	<b>Locatable Minerals</b>
LM-GOAL-01	<b>Goal:</b> Encourage and facilitate development of locatable minerals in the manner to prevent unnecessary or undue degradation. Provide land use opportunities contributing to economic benefits while protecting or minimizing adverse impacts on other resources.
LM-OBJ-01	<b>Objective:</b> Maintain the availability of federally reserved locatable minerals for authorized uses.
LM-AU-01	<b>Allocation:</b> All the federally reserved locatable mineral deposits (excluding 7,700 acres subject to interminable "temporary" segregation from mineral entry, pending the issuance of an opening order [see LM-MD-01]), are open to mineral entry (354,900 acres; <b>Map 2-11</b> ).
LM-MD-01	<b>Management Direction:</b> Recommend opening orders for the 7,700 acres not currently open for locatable mineral entry.
LM-MD-02	<b>Management Direction:</b> Recommend the following areas for withdrawal from locatable mineral entry (960 acres): <ul style="list-style-type: none"> <li>• Mud Buttes ACEC</li> </ul>
LM-MD-03	<b>Management Direction:</b> Apply design features (to be determined at the project level) and reclamation standards for locatable mineral exploration and development (see <b>Appendix D</b> , Design Features and Best Management Practices, and <b>Appendix E</b> , Reclamation Standards).
	<b>Greater Sage-Grouse</b>
LM-GRSG-MD-01	<b>Management Direction MR-1.9:</b> In PHMA, proposed actions under Plan of Operations and Notices will be analyzed on a case-by-case basis in cooperation with the State of North Dakota, and RDFs (Appendix C of BLM 2015) will be applied to the extent consistent with applicable law. See Figure 2-5, North Dakota Locatable Minerals (Appendix A of BLM 2015). Note: Locatable mineral exploration and development under the mining laws are not discretionary actions; however, Notices and Plan of Operation are reviewed to prevent unnecessary or undue degradation to resources.
	<b>Mineral Materials</b>
MM-GOAL-01	<b>Goal:</b> Provide for the extraction of mineral materials to meet public demand and local infrastructure needs, while minimizing adverse impacts on other resource values.
MM-OBJ-01	<b>Objective:</b> Maintain the availability and access to federal minerals through sales, free-use permits, and community pits/common use areas.
MM-AU-01	<b>Allocation:</b> 163,700 acres are open to mineral materials disposal ( <b>Map 2-12</b> ).

	<b>Mineral Materials</b>
MM-AU-02	<p><b>Allocation:</b> Manage 198,900 acres as closed to mineral materials disposal (<b>Map 2-12</b>):</p> <ul style="list-style-type: none"> <li>• Within 300 feet of riparian areas and wetlands</li> <li>• Tallgrass prairie</li> <li>• GRSG PHMA (see BLM 2015)</li> <li>• Within 0.50 miles of piping plover critical habitat</li> <li>• Within 0.62 miles of occupied Dakota skipper habitat</li> <li>• Within 300 feet of the Doaks Butte (32BO222) site boundary</li> <li>• Schnell Ranch SRMA (both East and West Zones)</li> <li>• Lost Bridge BCA</li> <li>• Figure 4 BCA</li> <li>• Mud Buttes ACEC</li> <li>• Within the Lewis and Clark NHT management corridor</li> <li>• Within the North Country NST management corridor</li> </ul>
MM-MD-01	<p><b>Management Direction:</b> Apply design features (to be determined at the project level) and reclamation standards for mineral material exploration and development (see <b>Appendix D</b>, Design Features and Best Management Practices, and <b>Appendix E</b>, Reclamation Standards). Resources not specifically addressed in allocations above or as design features would be handled at the project level with resource protections from other resource use allocations as guidance when impacts are similar.</p>
MM-MD-02	<p><b>Management Direction:</b> All surface-disturbing activities are subject to RDFs to reduce exposure and respiration of erionite minerals.</p>
	<b><i>Greater Sage-Grouse</i></b>
MM-GRSG-MD-01	<p><b>Management Direction MR-1.10:</b> Close PHMA to mineral material sales. See Figure 2-6, North Dakota Salable Minerals (Mineral Materials) (Appendix A of BLM 2015).</p>
MM-GRSG-MD-02	<p><b>Management Direction MR-1.11:</b> In PHMA, restore salable mineral pits no longer in use to meet GRSG habitat conservation objectives.</p> <p>Note: Although there are no authorized mineral pits in the planning area, any trespass pits found in the planning area will be subject to restoration.</p>
	<b>Recreation</b>
REC-GOAL-01	<p><b>Goal:</b> Manage recreation resources on BLM-administered lands to provide a diverse array of recreation opportunities while maintaining healthy BLM-administered land resources.</p>
REC-GOAL-02	<p><b>Goal:</b> Establish, manage, and maintain quality recreation sites and facilities, consistent with the recreational setting, to meet a broad range of public needs, subject to resource constraints.</p>
REC-GOAL-03	<p><b>Goal:</b> Emphasize and support cooperative relationships with other entities to improve public outreach and interpretation that promote stewardship and public health and safety.</p>

	<b>Recreation</b>
REC-GOAL-04	<b>Goal:</b> Manage recreation opportunities to provide a sustained flow of local economic benefits and to protect nonmarket economic values.
REC-OBJ-04	<b>Objective:</b> <ul style="list-style-type: none"> <li>• Visitor Services Resource Protection Objective: Increase awareness, understanding, and sense of stewardship in recreational activity participants so their conduct safeguards cultural and natural resources.</li> <li>• Visitor Health and Safety Objective: Ensure visitors are not exposed to unhealthy or unsafe human-created conditions (defined by a repeat or recurring incident in the same year, of the same type, in the same location, due to the same cause).</li> <li>• Use/User Conflict Objective: Achieve a minimum level of conflict between recreation participants and (1) other resource/resource uses sufficient to enable the achievement of identified land use plan goals, objectives, and management directions; (2) private landowners sufficient to curb illegal trespass and property damage; and (3) other recreation participants sufficient to maintain a diversity of recreational activity participation</li> </ul>
REC-MD-01	<b>Management Direction:</b> Issue special recreation permits (SRPs) as appropriate for commercial, competitive, special events, and/or organized group activities, subject to guidelines in BLM Handbook 2930, resource capabilities, social conflict concerns, professional qualifications, public safety, and public needs. Monitor changes in demand for permits and the resulting impacts and identify future thresholds that could lead to limits in the number of permits to minimize impacts on the resource, public safety, and overall visitor satisfaction. Review all SRP applications and renewals on a case-by-case basis and issue them as tools to achieve area-specific planning goals, objectives, and decisions.
REC-MD-02	<b>Management Direction:</b> Sign sizeable blocks of BLM-administered land to identify public access.
REC-MD-03	<b>Management Direction:</b> Prepare activity plans for the development of recreational facilities, such as campgrounds, when necessary to meet public demand.
REC-AU-01	<b>Allocations:</b> Manage the Schnell Ranch SRMA (2,000 acres) with two zones ( <b>Map 2-13</b> ): <ul style="list-style-type: none"> <li>• East Zone (500 acres) <ul style="list-style-type: none"> <li>○ ROW exclusion</li> <li>○ Realty: Acquire lands through exchange, purchase, or donation to enhance recreational opportunities and outcomes. Manage acquired lands within or adjacent to the SRMA as part of the SRMA.</li> <li>○ R&amp;PP: Authorize targeted/prescribed grazing for resource benefit through an R&amp;PP lease.</li> <li>○ VRM Class II</li> <li>○ Fluid minerals: No federal fluid minerals present</li> <li>○ Coal: Unacceptable for leasing (not within coal potential)</li> <li>○ Nonenergy solid leasable minerals: Closed</li> <li>○ Locatable minerals: Not recommend for withdrawal from locatable mineral entry</li> </ul> </li> </ul>

	Recreation
REC-AU-02	<ul style="list-style-type: none"> <li>○ Mineral materials: Closed</li> <li>○ Facility development: Limited facilities; expand trail system to support visitation levels.</li> <li>○ Camping restrictions: N/A (Standard restrictions)</li> <li>○ SRPs: Issue SRPs that are beneficial or neutral to SRMA objectives</li> <li>○ Travel management: Closed</li> <li>○ Livestock grazing: Unavailable for standard term livestock grazing leases. Prescribed grazing may be authorized through non-standard, free use, or temporary nonrenewable leasing for the benefit of other resources and not as a commodity use.</li> <li>○ Forestry: Permit the collection of dead and downed wood where beneficial or neutral to SRMA objectives.</li> <li>● West Zone (1,500 acres) <ul style="list-style-type: none"> <li>○ ROW: Avoidance for new subsurface ROWs and exclusion for new surface ROWs</li> <li>○ Realty: Acquire lands through exchange, purchase, or donation to enhance recreational opportunities and outcomes. Manage acquired lands within or adjacent to the SRMA as part of the SRMA.</li> <li>○ R&amp;PP: Authorize targeted/prescribed grazing for resource benefit through an R&amp;PP lease.</li> <li>○ VRM Class III</li> <li>○ Fluid minerals: No federal fluid minerals present</li> <li>○ Coal: Unacceptable for leasing (not within coal potential)</li> <li>○ Nonenergy solid leasable minerals: Closed</li> <li>○ Locatable minerals: Not recommend for withdrawal from locatable mineral entry</li> <li>○ Mineral materials: Closed</li> <li>○ Facility development: Expand trail system and develop facilities (such as picnic shelters) to support visitation levels.</li> <li>○ Camping restrictions: N/A (Standard restrictions)</li> <li>○ SRPs: Issue SRPs that are beneficial or neutral to SRMA objectives.</li> <li>○ Travel management: Closed (except maintained campground road)</li> <li>○ Livestock Grazing: Unavailable for standard term livestock grazing leases. Prescribed grazing may be authorized through non-standard, free use, or temporary nonrenewable leasing for the benefit of other resources and not as a commodity use.</li> <li>○ Forestry: Permit the collection of dead and downed wood where beneficial or neutral to SRMA objectives.</li> </ul> </li> </ul> <p>See <b>Appendix H</b>, Recreation Management Areas, for details.</p>

	<b>Recreation</b>
REC-AU-03	<p><b>Allocations:</b> Manage the following BCAs (<b>Map 2-13</b>) (see <b>Appendix H</b>, Recreation Management Areas for details):</p> <ul style="list-style-type: none"> <li>• Figure 4 (3,500 acres) <ul style="list-style-type: none"> <li>○ ROW: Avoidance for all ROWs</li> <li>○ Realty: Improve public access and expand recreational opportunities by acquiring lands or access easements. Manage lands acquired adjacent to the BCA as part of the BCA.</li> <li>○ VRM Class II</li> <li>○ Fluid minerals: NSO (note: partially leased)</li> <li>○ Coal: Unacceptable for leasing (not within coal potential)</li> <li>○ Nonenergy solid leasable minerals: Closed</li> <li>○ Locatable minerals: Not recommend for withdrawal from locatable mineral entry</li> <li>○ Mineral materials: Closed</li> <li>○ Expand trail system and develop facilities (such as picnic shelters) to support visitation levels</li> <li>○ Camping Restrictions: N/A (Standard restrictions)</li> <li>○ SRPs: Issue SRPs that are beneficial or neutral to SRMA objectives.</li> <li>○ Travel management: Limited to designated routes</li> </ul> </li> <li>• Lost Bridge (8,900 acres) <ul style="list-style-type: none"> <li>○ ROW: Avoidance for all ROWs</li> <li>○ Realty: Improve public access and expand recreational opportunities by acquiring lands or access easements. Manage lands acquired adjacent to the BCA as part of the BCA.</li> <li>○ VRM Class II</li> <li>○ Fluid minerals: NSO (note: partially leased)</li> <li>○ Coal: Unacceptable for leasing (not within coal potential)</li> <li>○ Nonenergy solid leasable minerals: Closed</li> <li>○ Locatable minerals: Not recommend for withdrawal from locatable mineral entry</li> <li>○ Mineral materials: Closed</li> <li>○ Camping Restrictions: N/A (Standard restrictions)</li> <li>○ SRPs: Issue SRPs that are beneficial or neutral to SRMA objectives.</li> <li>○ Travel management: Limited to designated routes</li> </ul> </li> </ul>
	<b><i>Greater Sage-Grouse</i></b>
REC-GRSG-MD-01	<b>Management Direction REC-1.1:</b> Only allow SRPs that will have neutral or beneficial effects on PHMA.
REC-GRSG-MD-02	<b>Management Direction REC-1.2:</b> In PHMA, do not construct new recreation facilities (such as campgrounds, trails, trailheads, and staging areas) unless the development will have a net conservation gain to GRSG habitat (such as concentrating recreation, diverting use away from important areas, etc.), or unless the development is required for visitor health and safety or resource protection.

	<b>Comprehensive Trails and Travel Management</b>
CTTM-GOAL-01	<b>Goal:</b> Manage access to balance public use, protect BLM-administered land resources, promote safety for all BLM-administered land users, and minimize conflicts among OHV users and other uses of BLM-administered lands.
CTTM-OBJ-01	<b>Objective:</b> Maintain and improve land health while promoting active travel management. Within each travel management area, designate a comprehensive travel management system that achieves resource objectives; provides appropriate, sustainable public and administrative access; communicates with the public about opportunities; and monitors the effects of use.
CTTM-MD-01	<b>Management Direction:</b> Establish the following travel management areas and priorities for travel management planning: <ul style="list-style-type: none"> <li>• Big Gumbo</li> <li>• Lost Bridge</li> <li>• Remaining lands</li> </ul>
CTTM-AU-01	<b>Allocation:</b> Allocate the decision area as follows for OHV travel ( <b>Map 2-14</b> ): Manage approximately 2,900 acres as closed: <ul style="list-style-type: none"> <li>• Schnell Ranch SRMA, both East and West Zones (except maintained campground road)</li> <li>• Mud Buttes ACEC except County Road (96<sup>th</sup> Street Southwest)</li> </ul> Manage the remaining approximately 55,600 acres as limited to designated routes. Of these acres, 32,300 acres have seasonal closures: <ul style="list-style-type: none"> <li>• Bowman County: In spring (March 1–June 1), unsurfaced routes (for example, two-track routes) are closed (except for administrative or authorized purposes) to protect against erosion.</li> </ul>
CTTM-AU-02	<b>Allocation:</b> Between March 1 and June 1, restrict motorized travel to maintained roads in the Big Gumbo area. Allow exceptions for permitted and emergency uses.
CTTM-AU-03	<b>Allocation:</b> Limit motorized, wheeled, cross-country travel for the BLM to official administrative business, as outlined by an internal memorandum (see Appendix D of the Final Off-Highway Vehicle EIS and Proposed Plan Amendment for Montana, North Dakota and Portions of South Dakota [BLM 2001]).
CTTM-MD-02	<b>Management Direction:</b> Emphasize management of the transportation system to reduce effects on natural resources from authorized roads, primitive roads, and trails. Consider, through travel management planning, closing and restoring unauthorized routes to prevent resource damage. Consider limitations, where necessary, to minimize short- and long-term impacts on wildlife habitats and populations.
CTTM-AU-04	<b>Allocation:</b> Permit motorized, wheeled, cross-country travel to a campsite within 300 feet of roads and trails. Site selection must be completed by nonmotorized means and accessed by the most direct route, causing the least damage. This exception does not apply where existing seasonal restrictions prohibit traveling off designated routes to a campsite. Existing local rules take precedence over this exception. This distance could be modified through subsequent site-specific planning.
CTTM-AU-05	<b>Allocation:</b> Require authorization from the local field manager for motorized, wheeled, cross-country travel for other government entities on official administrative business.

	<b>Comprehensive Trails and Travel Management</b>
CTTM-AU-06	<b>Allocation:</b> Prohibit motorized, wheeled, cross-country travel for big game retrieval. The retrieval of a big game animal that is in possession (that is, tagged) is allowed on roads and trails unless currently restricted.
CTTM-AU-07	<b>Allocation:</b> Motorized, wheeled, cross-country travel for personal use permits, such as for firewood and Christmas tree cutting, could be allowed at the local level (BLM field office or field station) in specific areas identified for such use.
CTTM-AU-08	<b>Allocation:</b> Limit motorized, wheeled, cross-country travel for lessees and permittees to the administration of a federal lease or permit.
CTTM-MD-03	<b>Management Direction:</b> Obtain legal public or administrative access over nonfederal lands, as appropriate, on a case-by-case basis as the need or as the opportunity arises and using criteria and direction in the <i>Land Tenure</i> section. Methods used to acquire access include easements acquired through purchase, exchange, or donation; reciprocal ROWs; land exchanges; fee title purchase; cooperative agreements; reservations; permits; donations of fee land; covenant language in patents or deeds; and long-term land use agreements.
CTTM-MD-04	<b>Management Direction:</b> Where private landowners have demonstrated a willingness to provide public access across their lands, manage for public access from BLM-administered lands across such land in travel plans. Exceptions include routes that the BLM has proposed as closed or are known to be posted or otherwise closed to the public by private property owners. The BLM has no control over private roads traveling through private land onto BLM-administered lands. Access across private land is subject to change. Where public motorized access is contingent upon the governing consent of adjoining landowner(s), the BLM would exercise a reciprocal “All or None” road use policy. This means that as long as the public is allowed access to these roads, no changes in travel management would occur.
	<b><i>Greater Sage-Grouse</i></b>
CTTM-GRSG-MD-01	<b>Management Direction TTM-1.1:</b> In PHMA and GHMA, limit OHV travel to existing roads, primitive roads, and trails at a minimum, until such time as travel management planning is complete and routes are either designated or closed. See Figure 2-12, North Dakota Trails and Travel Management (Appendix A of BLM 2015).
CTTM-GRSG-MD-02	<b>Management Direction TTM-1.2:</b> In PHMA, travel management will evaluate the need for permanent, or seasonal, road or area closures where vehicle use is causing or will cause adverse effects upon habitat.
CTTM-GRSG-MD-03	<b>Management Direction TTM-1.3:</b> In PHMA and GHMA, complete activity level travel plans within 5 years of the ROD. During activity level planning, where appropriate, designate routes in PHMA and GHMA with current administrative/agency purpose or need to administrative access only.
CTTM-GRSG-MD-04	<b>Management Direction TTM-1.4:</b> In PHMA, limit route construction to realignments of existing designated routes if that realignment has a minimal impact on GRSG habitat, eliminates the need to construct a new road, or is necessary for motorist safety. Allow new routes/realignments in PHMA and GHMA during site-specific travel planning if it improves GRSG habitat and resource conditions.
CTTM-GRSG-MD-05	<b>Management Direction TTM-1.5:</b> In PHMA, use existing routes, or realignments as described above to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing routes, then build any new route constructed to the absolute minimum standard necessary.

	<b>Comprehensive Trails and Travel Management</b>
CTTM-GRSG-MD-06	<b>Management Direction TTM-1.6:</b> In PHMA and GHMA, allow no upgrading of existing routes that will change route category (road, primitive road, or trail) or capacity unless the upgrading will have minimal impact on GRSG habitat, is necessary for motorist safety, or eliminates the need to construct a new road.
CTTM-GRSG-MD-07	<b>Management Direction TTM-1.7:</b> When travel management plans are complete, conduct restoration of roads, primitive roads and trails in PHMA and GHMA.
CTTM-GRSG-MD-08	<b>Management Direction TTM-1.8:</b> When reseeding roads, primitive roads and trails in PHMA and GHMA, use appropriate seed mixes and consider the use of transplanted sagebrush.
CTTM-GRSG-MD-09	<b>Management Direction TTM-1.9:</b> In PHMA and GHMA, temporary closures will be considered in accordance with 43 CFR, subpart 8364 (Closures and Restrictions); 43 CFR, subpart 8351 (Designated National Area); 43 CFR, subpart 6302 (Use of Wilderness Areas, Prohibited Acts, and Penalties); 43 CFR, subpart 8341 (Conditions of Use). Temporary closure or restriction orders under these authorities are enacted at the discretion of the BLM Authorized Officer to resolve management conflicts and protect persons, property, and BLM-administered lands and resources. Where a BLM Authorized Officer determines that OHVs are causing or will cause considerable adverse effects upon soil, vegetation, wildlife, wildlife habitat, cultural resources, historical resources, threatened or endangered species, wilderness suitability, other authorized uses, or other resources, the affected areas shall be immediately closed to the type(s) of vehicle causing the adverse effect until the adverse effects are eliminated and measures implemented to prevent recurrence. (43 CFR, Part 8341.2) A closure or restriction order shall be considered only after other management strategies and alternatives have been explored. The duration of temporary closure or restriction orders shall be limited to 24 months or less; however, certain situations may require longer closures and/or iterative temporary closures. This may include closure of routes or areas.

	<b>Livestock Grazing</b>
LG-GOAL-01	<b>Goal:</b> Manage for a sustainable level of livestock grazing while meeting or progressing toward the Dakotas Standards for Rangeland Health, recognizing the ecological benefits of moderate levels of large animal grazing in the Great Plains.
LG-GOAL-02	<b>Goal:</b> Manage livestock grazing to provide economic opportunities in the planning area.
LG-MD-01	<b>Management Direction:</b> Management common to all lands grazed by livestock: Continue to adhere to Guidelines for Livestock Grazing Management (BLM 1997, or current).
LG-MD-02	<b>Management Direction:</b> Apply the management decisions to address livestock use in GRSG habitat as described in the NDFO Greater Sage-Grouse Approved RMP Amendment (BLM 2015).
LG-MD-03	<b>Management Direction:</b> Complete assessments for rangeland health on a priority allotment basis with emphasis on allotments with significant acreage of BLM-administered land, threatened and endangered species, and resource problems or issues (for example, I and M category allotments).
LG-MD-04	<b>Management Direction:</b> Work cooperatively on integrated ranch planning so that ranch operations with a combination of BLM/deeded/other leased lands can be properly planned and coordinated.
LG-MD-05	<b>Management Direction:</b> Make temporary stocking rate adjustments in response to changing conditions (drought, fire, etc.) and desired vegetation response (for example, livestock use to modify vegetation).



	<b>Livestock Grazing</b>
LG-MD-06	<b>Management Direction:</b> Unless specifically precluded on the lease, allow administrative use of motorized cross-country travel (including aircraft) to maintain or repair range improvements, treat or move livestock, spray weeds, monitor animal and range conditions, and complete other management tasks directly associated with livestock and range management. The BLM may restrict or prohibit administrative cross-country motorized travel in specific areas to protect resources, address safety issues, or limit other conflicts associated with cross-country travel.
LG-MD-07	<b>Management Direction:</b> Make adjustments to livestock management practices or livestock numbers based on results of monitoring studies, rangeland health assessments, allotment evaluations, interdisciplinary review and consultation, and cooperation and coordination with the affected lessee. Identify additional site-specific mitigation and implement it through environmental review that is completed at the implementation phase (project level) when AMPs or grazing lease renewals occur.
LG-MD-08	<b>Management Direction:</b> Install and maintain functional wildlife escape ramps on all water tanks on BLM-administered lands.
LG-MD-09	<b>Management Direction:</b> Review allotment categorizations (improve, maintenance, and custodial) as circumstances change and new data become available. Categorizations may be changed consistent with BLM range management policy. Coordinate small parcel management with the private landowner's (lessee's) management.
LG-OBJ-01	<b>Objective:</b> For allotments without approved specific management objectives and established grazing strategies, the utilization level as measured at the end of the grazing season will not exceed 50 percent on herbaceous forage plants on a pasture-wide basis or on selected key areas. Utilization will be monitored (within staffing capabilities and budget) to gauge the effectiveness of management. Allotments with approved management plans will establish allowable use levels for grazing allotments through specific management objectives during the allotment or lease renewal process.
LG-OBJ-02	<b>Objective:</b> Where grazing is allowed, make forage allocations consistent with the potential of the ecological sites present taking into consideration the need to provide residual cover for wildlife, watershed and soil protection
LG-AU-01	<b>Allocation:</b> Manage 56,500 acres as available for livestock grazing (includes leased and unleased areas). The following areas would be unavailable for standard term livestock grazing leases (2,000 acres; <b>Map 2-15</b> ): <ul style="list-style-type: none"> <li>• Schnell Ranch SRMA</li> </ul> Prescribed grazing on these unavailable lands may be authorized, if needed, through nonstandard, free-use, or temporary, nonrenewable leases for the benefit of other resources and not as a commodity use.
LG-AU-02	<b>Allocation:</b> Make approximately 11,172 animal unit months (AUMs) the amount of forage that could be available for permitted use on lands available for livestock grazing. Base the allocation of forage or changes to the allocation of forage to establish permitted use levels on the ecological site potential with consideration of wildlife and watershed needs. Keep current permitted use levels on lands currently leased for grazing the same unless new information or changing conditions indicate that a change to permitted use levels is needed, based on information and through the coordination described in <i>Actions Common to All Alternatives</i> . Any changes to permitted use levels would be subject to interdisciplinary and project-level environmental review.

	<b>Livestock Grazing</b>
LG-MD-10	<b>Management Direction:</b> Adjust livestock management if monitoring reveals a change in the allotment grazing capacity as a result of management changes applied. Adjust livestock management or permitted use levels based on rangeland health assessments, allotment evaluations, interdisciplinary review and consultation, and cooperation and coordination with the affected lessee and the interested public.
LG-MD-11	<b>Management Direction:</b> Consider changes to the season of use, distribution, intensity, type of livestock, and potential benefit of range improvements and other forms of mitigation, prior to implementing any decreases in permitted use levels. Periodically review the suitability of individual allotments. Change permitted use if reviews determine that acres suitable for grazing are different than previously determined.
LG-MD-12	<b>Management Direction:</b> Implement grazing systems, where necessary, as determined from monitoring results with priority given to Improve and Maintain Priority Allotments and those allotments in GRSG habitat. Manage custodial allotments as part of a larger ranch operation unless conflicts occur, or rangeland health standards are not met.
LG-MD-13	<b>Management Direction:</b> Limit trampling of water sources through implementation of Guidelines for Grazing Management. When new fences or reconstruction of existing fences are proposed, coordinate with affected lessees and landowners to construct fences that would effectively confine livestock, while allowing passage of wildlife through fences using specifications and methods described in the BLM Fencing Handbook H1741-1. Follow migratory bird nesting date guidelines to limit impacts on migratory birds.
LG-MD-14	<b>Management Direction:</b> Manage livestock grazing in special status plant areas to improve habitat or population resiliency.
LG-MD-15	<b>Management Direction:</b> Conduct land treatments where outlined in activity plans as necessary for effective range management.
LG-MD-16	<b>Management Direction:</b> Review grazing plans and possibly modify them during the lease renewal process. Develop new grazing plans as needed.
LG-MD-17	<b>Management Direction:</b> Include protection of pollinator species in grazing management plans (see <b>Appendix D</b> , Design Features and Best Management Practices).
LG-MD-18	<b>Management Direction:</b> Develop range improvements, including water sources, to benefit multiple resources and not strictly for livestock management.
LG-MD-19	<b>Management Direction:</b> Give priority consideration to range improvement projects that benefit multiple resources and are multi-jurisdictional.
LG-MD-20	<b>Management Direction:</b> When appropriate, issue grazing leases with a term and condition requiring that the lessee enter into a cooperative range improvement agreement for control of noxious weeds on allotments that they lease.
	<b>Greater Sage-Grouse</b>
LG-GRSG-MD-01	<b>Management Direction LG-1.1:</b> Grazing will be allowed on all lands identified as suitable (approximately 32,945 acres). See Figure 2-3, North Dakota Livestock Grazing (Appendix A of BLM 2015).
LG-GRSG-MD-02	<b>Management Direction LG-1.2:</b> Allocate up to an estimated 5,780 AUMs on GRSG allotments to livestock in the long term (livestock use set at 25 percent of average annual forage production).

	<b>Livestock Grazing</b>
LG-GRSG-MD-03	<b>Management Direction LG-1.3:</b> Within PHMA, incorporate GRSG habitat objectives and management considerations into all BLM grazing allotments through AMP or permit renewals. Develop standards with State of North Dakota and the USFWS.
LG-GRSG-MD-04	<b>Management Direction LG-1.4:</b> In PHMA, work cooperatively on integrated ranch planning within GRSG habitat so operations with deeded/BLM allotments can be planned as single units.
LG-GRSG-MD-05	<p><b>Management Direction LG-1.5:</b> The BLM will prioritize (1) the review of grazing permits/leases, in particular to determine if modification is necessary prior to renewal, and (2) the processing of grazing permits/leases in PHMA. In setting workload priorities, precedence will be given to existing permits/leases in these areas not meeting Land Health Standards, with focus on those containing riparian areas, including wet meadows. The BLM may use other criteria for prioritization to respond to urgent natural resource concerns (such as fire) and legal obligations.</p> <p>The NEPA analysis for renewals and modifications of livestock grazing permits/leases that include lands within PHMA will include specific management thresholds, based on GRSG Habitat Objectives (<b>Table 2-3</b>), Habitat Objectives for GRSG and ecological site potential, and one or more defined responses that will allow the authorizing officer to make adjustments to livestock grazing that have already been subjected to NEPA analysis.</p> <p>Allotments within PHMA, focusing on those containing riparian areas, including wet meadows, will be prioritized for field checks to help ensure compliance with the terms and conditions of the grazing permits. Field checks can include monitoring for actual use, utilization, and use supervision.</p>
LG-GRSG-MD-06	<b>Management Direction LG-1.6:</b> In PHMA, conduct land health assessments that include (at a minimum) indicators and measurements of structure/condition/composition of vegetation specific to achieving GRSG habitat objectives. Local objectives will be developed at the field office level in partnership with NDGRD and USFWS and incorporated into AMPs or livestock grazing permits as appropriate incorporating best available science.
LG-GRSG-MD-07	<b>Management Direction LG-1.7:</b> At the time a permittee <sup>3</sup> or lessee voluntarily relinquishes a permit or lease, the BLM will consider whether the BLM-administered lands where that permitted use was authorized should remain available for livestock grazing or be used for other resource management objectives, such as reserve common allotments or fire breaks. This does not apply to or impact grazing preference transfers, which are addressed in 43 CFR 4110.2-3.
	<b><i>Greater Sage-Grouse (Implementation Management Direction after Land Health Evaluations)</i></b>
LG-GRSG-MD-08	<b>Management Direction LG-1.8:</b> Develop specific objectives to conserve, enhance or restore PHMA based on ecological site descriptions and assessments (including within wetlands and riparian areas). If an effective grazing system that meets GRSG habitat requirements is not already in place, analyze at least one alternative that conserves, restores or enhances GRSG habitat in the NEPA document prepared for the permit renewal.
LG-GRSG-MD-09	<b>Management Direction LG-1.9:</b> In PHMA, manage for vegetation composition and structure consistent with GRSG seasonal habitat objectives. Ecological site descriptions can help determine whether or not the GRSG seasonal habitat objectives are consistent with the ecological site potential within the reference state. GRSG seasonal habitat objectives and ecological site potential within reference states are not always going to be the same.

<sup>3</sup> The North Dakota BLM does not currently have any issued grazing permits, only leases.

	<b>Livestock Grazing</b>
LG-GRSG-MD-10	<p><b>Management Direction LG-1.10:</b> In PHMA, implement management directions (grazing decisions, AMP/conservation plan development, or other agreements) to modify grazing management to meet State of North Dakota seasonal GRSG habitat requirements, where allotment evaluations indicate land health assessments are not being met due to livestock. Consider singly, or in combination, changes in:</p> <ol style="list-style-type: none"> <li>1. Season or timing of use;</li> <li>2. Numbers of livestock (includes temporary non-use or livestock removal);</li> <li>3. Distribution of livestock use;</li> <li>4. Intensity of use; and</li> <li>5. Type of livestock (such as cattle, sheep, horses, llamas, alpacas, and goats).</li> </ol>
LG-GRSG-MD-11	<p><b>Management Direction LG-1.11:</b> During drought periods, prioritize evaluating effects of the drought in PHMA relative to their needs for food and cover. Management will continue to be in accordance with the Montana-Dakotas Drought Policy (see Appendix H, Drought Policy, of BLM 2015).</p>

	<b>Special Designations and Management Areas</b>
SDMA-GOAL-01	<p><b>Goal:</b> Protect relevant and important values through ACEC designation and apply special management where standard or routine management is not adequate to protect the values from risks or threats of damage/degradation or to provide for public safety from natural hazards.</p>
	<b><i>Areas of Critical Environmental Concern</i></b>
SDMA-ACEC-OBJ-01	<p><b>Objective:</b> Maintain, restore, or enhance relevant and important values identified for designated ACECs.</p>
SDMA-ACEC-MD-01	<p><b>Management Direction:</b> Manage the following designated ACEC for the relevant and important value(s) identified (<b>Map 2-16</b>):</p> <ul style="list-style-type: none"> <li>• Mud Buttes (960 acres): geologic value of Cretaceous-Paleogene (K-Pg) boundary; rare fossils</li> </ul>
SDMA-ACEC-AU-01	<p><b>Allocations:</b> Manage Mud Buttes ACEC as follows:</p> <ul style="list-style-type: none"> <li>• ROW: Exclusion area, except for existing ROW authorizations (new ROWs could be collocated in these existing ROW authorizations)</li> <li>• Fluid minerals: NSO</li> <li>• Coal: Unacceptable for further consideration for leasing (Coal Screen 3)</li> <li>• Nonenergy solid leasable minerals: Closed</li> <li>• Locatable: Recommend for withdrawal from locatable mineral entry</li> <li>• Mineral materials: Closed to mineral materials disposal</li> <li>• Prohibit casual collection of invertebrate or plant fossils</li> <li>• OHV: Closed, except County Road (96th Street Southwest) and except for administrative or permitted access</li> </ul>

	<b>Special Designations and Management Areas</b>
SDMA-ACEC-MD-02	<b>Management Direction:</b> Allow other surface-disturbing activities only where it can be demonstrated that activities would not impact relevant and important values.
SDMA-ACEC-MD-03	<b>Management Direction:</b> Manage lands acquired within or adjacent to the Mud Buttes ACEC as part of the ACEC.
	<b><i>Wild and Scenic Rivers</i></b>
SDMA-WSR-MD-01	<b>Management Direction:</b> Determine 8.1 miles of the Little Missouri River <b>not suitable</b> for inclusion in the NWSRS, releasing it from management requirements for eligible rivers segments. <ul style="list-style-type: none"> <li>• For protections to manage for Outstandingly Remarkable Values (ORVs) see SDMA-WSR-MD-04</li> </ul>
SDMA-WSR-MD-02	<b>Management Direction:</b> Determine 3.4 miles of the Missouri River <b>not suitable</b> for inclusion in the NWSRS, releasing it from management requirements for eligible rivers segments. <ul style="list-style-type: none"> <li>• For protections to manage for ORVs see SDMA-WSR-MD-04</li> </ul>
SDMA-WSR-MD-03	<b>Management Direction:</b> Determine 0.10 miles of the Yellowstone River <b>not suitable</b> for inclusion in the NWSRS, releasing it from management requirements for eligible rivers segments. <ul style="list-style-type: none"> <li>• For protections to manage for ORVs see SDMA-WSR-MD-04</li> </ul>
SDMA-WSR-MD-04	<b>Management Direction:</b> Protections for pallid sturgeon habit including fluid mineral NSO, ROW avoidance, and special stipulations/design features for surface-disturbing activities within 0.50 miles of the water's edge of identified pallid sturgeon habitat would protect the ORV characteristics in the Missouri River and Yellowstone River segments (see <i>Special Status Aquatic Wildlife</i> section). Protections for visual characteristics including ROW avoidance within 0.50 miles of the Little Missouri River would provide protection for the ORV characteristics in the Little Missouri River segments (see <i>Visual Resources</i> section).
	<b><i>National Scenic and Historic Trails</i></b>
SDMA-NSHT-GOAL-01	<b>Goal:</b> Safeguard the nature and purposes; and conserve, protect, and restore the national trail resources, qualities, values, and associated settings and the primary use or uses.
SDMA-NSHT-OBJ-01	<b>Objective:</b> Manage BLM-administered lands and federal mineral estate within the national trail corridors established for the following trails: <ul style="list-style-type: none"> <li>• Lewis and Clark NHT: the trail corridor extends for 0.50 miles from the high-water mark of the Missouri and Yellowstone Rivers, Lake Sakakawea, and Lake Oahe</li> <li>• North Country NST: the trail management corridor extends for 0.50 miles on either side</li> </ul>

	Special Designations and Management Areas
SDMA-NSHT-AU-01	<b>Allocation:</b> Manage Lewis and Clark NHT management corridor: <ul style="list-style-type: none"> <li>• VRM Class III</li> <li>• NSO</li> <li>• 3-mile from trail corridor visual CSU</li> <li>• See additional NPS CSU in <i>Visual Resources</i></li> <li>• NEL minerals: No surface disturbance</li> <li>• Closed to mineral materials disposal</li> </ul>
SDMA-NSHT-AU-02	<b>Allocation:</b> Manage North Country NST management corridor: <ul style="list-style-type: none"> <li>• NSO</li> <li>• 3-mile from trail corridor visual CSU</li> <li>• See additional NPS CSU in <i>Visual Resources</i></li> <li>• NEL minerals: No surface disturbance</li> <li>• Closed to mineral materials disposal</li> </ul>

	Socioeconomics and Environmental Justice
SEJ-GOAL-01	<b>Goal:</b> Effectively utilize social science information in land use planning to understand and reconcile competing needs, interests, and values among communities with differing perspectives. Consider environmental justice, including, as appropriate, consideration of environmental justice issues facing minority populations, low-income populations, and Tribes living near public lands, or working with or using public land resources.
SEJ-OBJ-01	<b>Objective:</b> Foster opportunities for eliminating, reducing, or compensating for adverse effects of a proposed action on environmental justice populations
SEJ-MD-01	<b>Management Direction:</b> Provide translation services as needed in accordance with EO 13166 Improving Access to Services for Persons with Limited English Proficiency.
SEJ-MD-02	<b>Management Direction:</b> Consider mitigation measures that can be identified at the programmatic stage. Invite ideas from members of the affected environmental justice population, who may be aware of mitigation options not considered. Promote <i>avoidance</i> as the preferred approach to mitigation, followed by <i>minimization</i> , and then <i>compensation</i> for remaining unavoidable impacts.

The river segments referenced in the “Wild and Scenic Rivers” portion of **Table 2-4** are described in **Table 2-5** below.

**Table 2-5**  
**Summary of Wild and Scenic River Study Segments**

<b>River or Creek</b>	<b>Length on BLM Land (miles)</b>	<b>Classification</b>	<b>Outstandingly Remarkable Values</b>	<b>Determination</b>
Little Missouri River	8.1	Scenic	Scenic	Not suitable
Missouri River	3.4	Recreational	Fish populations	Not suitable
Yellowstone River	0.1	Recreational	Fish populations	Not suitable

Source: BLM 2021

### **2.3 PUBLIC INVOLVEMENT**

The BLM will continue to work with existing partners, to cultivate new partnerships, and to seek the views of the public. It will use such techniques as news releases and website postings to ask for participation and to inform the public of new and ongoing management actions and site-specific planning. The public is encouraged to contact the BLM NDFO and request that their name be placed on the NDFO mailing list, along with their specific area of interest (e.g., wildlife, cultural resources, or socioeconomics) for plan implementation. The public may make this request by calling 701-227-7700 or mailing to 99 23rd Avenue West, Suite A, Dickinson, ND 58601.

The BLM will also continue to coordinate, both formally and informally, with the numerous federal and state agencies, Native American Tribes, local agencies, and officials interested and involved in the management of public lands within the administrative boundaries of the NDFO.

### **2.4 MANAGEMENT PLAN IMPLEMENTATION**

The BLM will develop an implementation plan to identify actions to achieve the desired outcomes of the Approved RMP. The implementation plan will assist BLM managers and staff in preparing budget requests and scheduling work priorities. The BLM will prepare supplementary rules to provide full authority to its law enforcement program to enforce management decisions made in the Approved RMP pursuant to the BLM's authority under 43 CFR 8365.1-6.

The BLM will issue implementation decisions to fully implement the RMP. During implementation of the RMP, the BLM will prepare additional documentation for site-specific actions to comply with NEPA. This can vary from a simple statement of conformance with the RMP and adequacy of existing NEPA analysis to more complex environmental assessments or EISs that analyze several alternatives.

### **2.5 RMP EVALUATION, AMENDMENT, MAINTENANCE, MONITORING, AND ADAPTIVE MANAGEMENT**

The BLM will monitor and periodically evaluate implementation of the RMP based on guidance in the BLM's Land Use Planning Handbook, H-1601-1 (BLM 2005), as amended.

#### **2.5.1 RMP Evaluation**

Evaluation is the process of reviewing the land use plan and the periodic plan monitoring reports to determine whether the land use plan decisions and NEPA analysis are still valid and how effectively the plan is being implemented. In accordance with the BLM's Land Use Planning Handbook (H-1601-1; BLM 2005), the BLM will periodically evaluate the Approved RMP to determine whether the land use plan decisions and NEPA analysis are still valid and whether the plan is being implemented effectively. In accordance with the requirements in 43 CFR 1610.4-9 the Approved RMP will be evaluated at least once every five years. Land use plan evaluations determine whether:

- The decisions remain relevant to current issues
- Decisions are effective in achieving or making progress toward achieving the desired outcomes specified in the RMP
- Any decisions need revision, amendment, or deletion
- Any new decisions are needed



In making these determinations, the BLM will consider whether mitigation measures such as those described in the Approved RMP are effective in mitigating impacts, whether there are significant changes in the related plans of other entities, and whether there is significant new information. In addition to periodic evaluations, special evaluations may also be required to review unexpected management actions or significant changes in the related plans of Native American Tribes, other federal agencies, and state and local governments, or to evaluate legislation or litigation that has the potential to trigger an amendment or revision to the RMP. Evaluations may identify resource needs, as well as the means for correcting deficiencies and addressing issues through plan maintenance, amendments, or revisions. Evaluations should also identify where new and emerging issues and other values have surfaced.

### **2.5.2 RMP Amendment**

RMP decisions are subsequently changed through either a plan amendment or another RMP revision. The process for conducting plan amendments is basically the same as the land use planning process used in developing or revising RMPs. The primary difference is that circumstances may allow for completing a plan amendment through the environmental assessment process, rather than through an EIS. As described in 43 CFR 1610.5-5, plan amendments change one or more of the terms, conditions, or decisions of an approved land use plan. Plan amendments are most often prompted by the need to consider a proposal or action that does not conform to the plan; implement new or revised policy that changes land use plan decisions; respond to new, intensified, or changed uses on BLM land; and consider significant new information from resource assessments, monitoring, or scientific studies that change land use plan decisions.

### **2.5.3 RMP Maintenance**

BLM regulations in 43 CFR 1610.5-4 stipulate that RMP decisions and supporting actions can be maintained to reflect minor data changes. Maintenance is limited to further refining, documenting, or clarifying a previously approved decision incorporated in the RMP. Maintenance must not expand the scope of resource uses or restrictions or change the terms, conditions, and decisions of the approved RMP. Some examples of maintenance actions are:

- Correcting minor data, typographical, mapping, or tabular data errors, such as updating acreage figures shown throughout the RMP. Acreages are based on GIS data, which are subject to constant refinement.
- Refining baseline information as a result of new inventory data (e.g., refining the known habitat of special status species, or adjusting the boundary of a fire management unit based on updated fire regime condition class inventory, fire occurrence, monitoring data, and/or demographic changes)

Plan maintenance will be documented in supporting records. Plan maintenance does not require formal public involvement, interagency coordination, or the NEPA analysis required for making new land use plan decisions.

### **2.5.4 RMP Monitoring**

Monitoring is the process of tracking and documenting the implementation (or the progress of implementation) of land use plan decisions. Land use plan decision monitoring is a continuous process occurring over the life of the RMP. The aim is to maintain a dynamic RMP. Monitoring data are collected, examined, and used to draw conclusions about (1) whether planned actions have been implemented in the manner prescribed by the RMP (implementation monitoring) identified in **Section 2.2**, Management

Decisions; (2) whether RMP allowable use and management action decisions and the resultant implementation actions are effective in achieving program-specific objectives or desired outcomes (effectiveness monitoring); and (3) calculating the cost of delivering a service or product (efficiency monitoring by program elements). Implementation monitoring tracks the completion of land use plan decisions, whereas effectiveness monitoring helps determine whether completion of land use plan decisions achieves anticipated desired outcomes. If implementation of land use plans does not achieve anticipated desired outcomes, adaptive management may be necessary.

The BLM uses conclusions drawn from monitoring to make recommendations on whether to continue current management or to determine what changes need to be made to implementation practices to better achieve RMP goals. Indicators, methods, locations, units of measures, frequency, and action triggers can be established by national policy guidance, in RMPs, or by technical specialists in order to address specific issues.

Based on staffing and funding levels, monitoring is annually prioritized in a manner consistent with the goals and objectives of the RMP. The BLM may work in cooperation with Tribes and local, state, and other federal agencies, or it may use data collected by other agencies and sources when appropriate and available.

### **2.5.5 Adaptive Management**

Adaptive management is a system of management practices that are based on clearly identified outcomes, that use monitoring to determine if management actions are meeting outcomes, and, if not, that facilitate management changes to best ensure that outcomes are met or to reevaluate the outcomes. The NDFO will implement the adaptive management process when decisions require adaptations in order to meet resource goals and objectives, to account for changing resource conditions, and to minimize adverse impacts on resources from BLM-authorized activities. The strategy includes evaluating conditions on an ongoing basis and, if necessary, implementing appropriate mitigation measures to meet the identified RMP objectives and targets. Monitoring, reports, documents, and timelines associated with the adaptive management process will be subject to NDFO budget and staffing constraints.

## **2.6 REFERENCES**

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## 2.7 GLOSSARY

**Acquisition.** The BLM can pursue the acquisition of lands to facilitate various resource management objectives. Acquisitions, including easements, can be completed through exchange, purchase, or donation.

**Active well.** A well that is actively producing oil or gas, or both.

**Activity plan.** A program- or area-specific detailed plan that usually describes multiple projects and the specific management direction that will be applied to meet specific land use plan objectives. Examples of activity plans include habitat management plans, recreation area management plans, wild and scenic river management plans, monument management plans, ACEC management plans, herd management plans, and allotment management plans.

**Administrative access.** Motorized, wheeled, cross-country travel for lessees and permittees is limited to the administration of a federal lease or permit. Persons or corporations having such a permit or lease could perform administrative functions on public lands within the scope of the permit or lease; however, this would not preclude modifying permits or leases to limit motorized, wheeled, cross-country travel during a further site-specific analysis to meet resource management objectives or standards and guidelines.<sup>4</sup>

**Air pollution.** The addition of any material to the atmosphere that may have a deleterious effect on life on earth.

**Allotment.** An area of land designated and managed for livestock grazing. Allotments generally consist of BLM-administered lands but may include other federally managed, state-owned, and private lands, as well as Tribal lands. An allotment may include one or more separate pastures. Livestock numbers and periods of use are specified for each allotment.

**Alluvium.** Clay, silt, sand, gravel, or other rock material transported by moving water. Alluvium is deposited in comparatively recent geologic time as sorted or semi-sorted sediment in rivers, floodplains, lakes, and shores, and in fans at the base of mountain slopes.

**Ambient air quality.** The state of the atmosphere at ground level as defined by the range of measured or predicted ambient concentrations of all significant pollutants for all averaging periods of interest.

**Amendment.** The process for considering or making changes in the terms, conditions, and decisions of approved resource management plans or management framework plans. Usually only one or two issues are considered, and they involve only a portion of the planning area.

**Animal unit month (AUM).** The amount of forage necessary for the sustenance of one cow or its equivalent for a period of 1 month.

**Anthropogenic disturbances.** Those caused by human actions. Examples are paved highways, graded gravel roads, transmission lines, substations, wind turbines, oil and gas wells, geothermal wells and associated facilities, pipelines, landfills, agricultural conversion, homes, and mines.

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<sup>4</sup> US Department of the Interior, Bureau of Land Management. 2003. Off-Highway Vehicle Record of Decision and Proposed Plan Amendment for Montana, North Dakota, and Portions of South Dakota. Montana State Office, Billings. June 2003.

**Aquatic.** Living or growing in or on the water.

**Area of critical environmental concern (ACEC).** An area within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards (43 CFR 1601.0-5(a)). The BLM evaluates and designates ACECs as part of the land use planning process.

**Atmospheric deposition.** Air pollution produced when acid chemicals are incorporated into rain, snow, fog, or mist and fall to the earth. Sometimes referred to as acid rain, it comes from sulfur oxides and nitrogen oxides, products of burning coal and other fuels, and certain industrial processes. If the acid chemicals in the air are blown into the area where the weather is wet, the acids can fall to earth in the rain, snow, fog, or mist. In areas where the weather is dry, the acid chemicals may become incorporated into dust or smoke.

**Authorized/authorized use.** Typically, a commercial activity, facility placement, or event occurring on the public lands that is explicitly or implicitly recognized and legalized by law or regulation. This term may refer to those activities occurring on the public lands for which the BLM, or another appropriate authority, has issued a formal authorization document. These formally authorized uses are often spatially or temporally limited, unless constrained or bounded by statute, regulation, or an approved land use plan decision.

**Avoidance/avoidance area.** An area identified through resource management planning to be avoided; however, it may be available for right-of-way location with special stipulations.

**Backcountry conservation area (BCA).** BLM-administered lands in a specific planning area that promote public access to support wildlife-dependent recreation and hunting opportunities and facilitate the long-term maintenance of big game wildlife populations. These areas are primarily contiguous and intact. Management of BCAs includes activities such as active forest and rangeland management, grazing, motorized access on designated routes and other areas for game retrieval, fluid and solid leasable minerals, and other actions consistent with the BLM's multiple-use, sustained-yield mission.

**Badlands.** A type of dry terrain where softer sedimentary rocks and clay-rich soils have been extensively eroded. They are characterized by steep slopes, minimal vegetation, a lack of a substantial regolith,<sup>5</sup> and high drainage density. Ravines, gullies, buttes, hoodoos, and other such geologic forms are common in badlands.

**Base property.** Land that has the capability to produce crops or forage that can be used to support authorized livestock for a specified period of the year when the livestock are not on public lands.

**Baseline.** The preexisting condition of a defined area or resource that can be quantified by appropriate metrics. During environmental reviews, the baseline is considered the affected environment that exists at the time of the review's initiation. The baseline is used to compare predictions of the effects of the proposed action or a reasonable range of alternatives.

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<sup>5</sup> Unconsolidated residual or transported material that overlies or covers the solid rock in place

**Best management practices (BMPs).** A suite of techniques that guide or may be applied to management actions to aid in achieving desired outcomes. BMPs are often developed in conjunction with land use plans, but they are not considered a planning decision unless the plans specify that they are mandatory.

**Big game.** Indigenous, ungulate (hoofed) wildlife species that are hunted, such as elk, deer, bison, bighorn sheep, and pronghorn antelope.

**Biodiversity (biological diversity).** The variety of life and its processes, and the interrelationships within and among various levels of ecological organization. Conservation, protection, and restoration of biological species and genetic diversity are needed to sustain the health of existing biological systems. Federal resource management agencies must examine the implications of management actions and development decisions on regional and local biodiversity.

**Biological soil crust.** A complex association between soil particles and cyanobacteria, algae, microfungi, lichens, and bryophytes that live within or atop the uppermost millimeters of soil.

**BLM sensitive species.** Those species that are not federally listed as endangered, threatened, or proposed under the ESA, but that are designated by the BLM State Director under 16 USC 1536(a)(2) for special management consideration. By national policy, federally listed candidate species are automatically included as sensitive species. Sensitive species are managed so they will not need to be listed as proposed, threatened, or endangered under the ESA.

**Casual use.** Activities ordinarily resulting in no or negligible disturbance of the public lands, resources, or improvements. For examples of ROWs' casual uses, see 43 CFR 2801.5. For examples of locatable minerals' casual uses, see 43 CFR 3809.5.

**Climate change.** Any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from the following:

- Natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun
- Natural processes within the climate system (for example, changes in ocean circulation)
- Human activities that change the atmosphere's composition (for example, driving motor vehicles) and the land surface (for example, deforestation, reforestation, urbanization, and desertification)

**Closed area.** An area where off-road vehicle (that is, OHV) use is prohibited. Use of off-road vehicles in closed areas may be allowed for certain reasons; however, such use shall be made only with the approval of the BLM Authorized Officer (43 CFR 8340.0-5(h)).

**Collaboration.** A cooperative process in which interested parties, often with widely varied interests, work together to seek solutions with broad support for managing public and other lands. Collaboration may take place with any interested parties, whether or not they are a cooperating agency.

**Comprehensive trails and travel management (CTTM).** The proactive interdisciplinary planning, on-the-ground management and administration of travel networks (both motorized and nonmotorized) to ensure that public access, natural resources, and regulatory needs are considered. It consists of inventory, planning, designation, implementation, education, enforcement, monitoring, easement acquisition,

mapping and signing, and other measures necessary to provide access to public lands for a wide variety of uses (including those that are recreational, traditional, casual, agricultural, commercial, and educational; it also includes landing strips).

**Controlled surface use (CSU).** A category of moderate constraint stipulations that allows some use and occupancy of public land while protecting identified resources or values. It is applicable to fluid mineral leasing and all activities associated with fluid mineral leasing (for example, truck-mounted drilling and geophysical exploration equipment off designated routes, and construction of wells and pads). CSU areas are open to fluid mineral leasing, but the stipulation allows the BLM to require special operational constraints, or the activity can be shifted more than 656 feet to protect the specified resource or value.

**Cooperating agency.** Assists the lead federal agency in developing an environmental assessment or EIS. A cooperating agency may be any agency that has special jurisdiction by law or special expertise for proposals covered by NEPA (40 CFR 1501.68; 43 CFR 1601.0-5(d)). Any federal, state, Tribal, or local government jurisdiction with such qualifications may become a cooperating agency by agreement with the lead agency. Cooperating agencies must enter into a written agreement with the BLM establishing cooperating agency status in the planning and NEPA processes and participate in the various steps of the BLM's planning process as feasible given the constraints of their resources and expertise (43 CFR 1601.0-5(e)).

**Criteria pollutant.** The Environmental Protection Agency uses six criteria pollutants as indicators of air quality. It has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards. The criteria pollutants are ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter, and lead.

**Cultural resource use allocation categories.** Categorizing cultural resources according to their potential uses is the culmination of the identification process and the bridge to protection and utilization decisions. Use categories establish what needs to be protected, and when or how use should be authorized. All cultural resources have uses, but not all should be used in the same way (BLM 8110 Manual, 2004). The BLM will assess all recorded cultural resources according to six use categories: scientific use, public use, conservation for future use, experimental use, traditional use, and discharged from management. Some sites will fall under more than one use category. In such cases, the highest level of protection indicated within the relevant categories is applied.

**Cultural resources.** Locations of human activity, occupation, or use. Cultural resources include archaeological, historic, or architectural sites, structures, or places with important public and scientific uses, and locations of traditional cultural or religious importance to specified social or cultural groups.

**Cumulative effects.** The direct and indirect effects of a proposed project alternative's incremental impacts when they are added to other past, present, and reasonably foreseeable actions, regardless of who carries out the action.

**Decision area.** The decision area includes only those BLM-administered lands within a planning area for which the BLM has authority to make land use management decisions. In general, the BLM has jurisdiction over all BLM-administered lands (surface and subsurface) and over the subsurface minerals in areas of split

estate (areas where the BLM administers federal subsurface minerals, but the surface is owned by someone other than the BLM).

**Desired future condition (DFC).** For rangeland vegetation, the condition of rangeland resources on a landscape scale that meet management objectives. It is based on ecological, social, and economic considerations during the land planning process. It is usually expressed as the ecological status or management status of vegetation (species composition, habitat diversity, and age and size class of species) and desired soil qualities (soil cover, erosion, and compaction). In a general context, DFC is a portrayal of the land or resource conditions that are expected to result if goals and objectives are fully achieved.

**Direct impact.** Caused by an action or implementation of an alternative; a direct impact takes place at the same time and place.

**Disposal lands.** The transfer of public land out of federal ownership to another party through sale or exchange, or through the Recreation and Public Purposes Act of 1926, Desert Land Entry, or other land law statutes.

**Diversity.** The relative abundance of wildlife species, plant species, communities, habitats, or habitat features per unit of area.

**Easement.** A right afforded a person or agency to make limited use of another's real property for access or other purposes.

**Eligible river.** A river or river segment found to meet criteria in Sections 1(b) and 2(b) of the Wild and Scenic Rivers Act of being free flowing and possessing one or more outstandingly remarkable value.

**Endangered species.** Any species that is in danger of extinction throughout all or a significant portion of its range. Under the Endangered Species Act in the US, endangered is the more protected of two categories; the other is "threatened." Designation as endangered or threatened is determined by the USFWS as directed by the Endangered Species Act.

**Endangered Species Act of 1973 (as amended).** Designed to protect critically imperiled species from extinction as a consequence of economic growth and development untempered by adequate concern and conservation. The act is administered by the USFWS and the National Oceanic and Atmospheric Administration. Its purpose is to protect species and the ecosystems that they depend on (16 USC 1531–1544).

**Enhance.** The improvement of habitat by increasing missing or modifying unsatisfactory components or attributes of the plant community to meet greater sage-grouse objectives.

**Environmental impact statement (EIS).** A detailed statement prepared by the responsible official in which a major federal action that significantly affects the quality of the human environment is described, alternatives to the proposed action are provided, and effects are analyzed (BLM 2001).<sup>6</sup>

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<sup>6</sup> US Department of the Interior, Bureau of Land Management. 2001. National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands. Washington, DC. January 19, 2001.



**Environmental Justice (EJ).** 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.

**Evaluation (plan evaluation).** The process of reviewing the land use plan and the periodic plan monitoring reports to determine whether the land use plan decisions and NEPA analysis are still valid and whether the plan is being implemented.

**Exchange.** A transaction whereby the federal government receives land or interests in land in exchange for other land or interests in land.

**Exclusion area.** An area identified through resource management planning that is not available for ROW location under any conditions.

**Existing routes.** The roads, trails, or ways that are used by motorized vehicles (such as jeeps, all-terrain vehicles, and motorized dirt bikes), mechanized uses (such as mountain bikes, wheelbarrows, and game carts), pedestrians (hikers), and horseback riders and are, to the best of the BLM's knowledge, in existence at the time of the RMP/EIS publication.

**Exploration.** Active drilling and geophysical operations to determine the presence of the mineral resource or the extent of the reservoir or mineral deposit.

**Extensive Recreation Management Area (ERMA).** Administrative units that require specific management consideration to address recreation use, demand, or recreation and visitor services program investments. ERMAs are managed to support and sustain the principal recreational activities and the associated qualities and conditions of the ERMAs. ERMA management is commensurate and considered in context with the management of other resources and resource uses (BLM 2014).<sup>7</sup>

**Federal Land Policy and Management Act of 1976 (FLPMA).** Public Law 94-579, October 21, 1976, often referred to as the BLM's Organic Act, which provides most of its legislated authority, direction policy, and basic management guidance.

**Federal mineral estate.** Subsurface mineral estate owned by the United States and administered by the BLM. It is the mineral estate underlying BLM-administered land, privately owned lands, and state-owned lands.

**Fee/Fee/Fed.** Well bores that produce federal minerals from well pads that are located on entirely nonfederal land and are initially drilled in non-federal mineral estate.

**Fen.** A type of wetland with moderate or low fertility that is fed by surface runoff and groundwater; usually has peaty alkaline soil and characteristic flora.

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<sup>7</sup> US Department of the Interior, Bureau of Land Management. 2014. Handbook H-8320-1—Planning for Recreation and Visitor Services. Rel. 8-85. Washington, DC. August 22, 2014. Internet website: [https://www.blm.gov/style/medialib/blm/wo/Information\\_Resources\\_Management/policy/blm\\_handbook.Par.36142.File.dat/H-8320-1%20Recreation%20and%20Visitor%20Services%20Planning.pdf](https://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/blm_handbook.Par.36142.File.dat/H-8320-1%20Recreation%20and%20Visitor%20Services%20Planning.pdf).

**Fire frequency.** A general term referring to the recurrence of fire in a given area over time.

**Fire suppression.** All work and activities connected with control and fire-extinguishing operations, beginning with discovery and continuing until the fire is completely extinguished.

**Fluid minerals.** Oil, gas, coal bed natural gas, and geothermal resources.

**Forage.** All browse and herbaceous foods that are available to grazing animals.

**Forest health.** The perceived condition of a forest derived from concerns about such factors as its age, structure, composition, function, vigor, presence, or unusual levels of insects and disease, and resilience to disturbance.

**Fragile soils.** Soils having a shallow depth to bedrock, minimal surface layer of organic material, textures that are more easily detached and eroded, or are on slopes over 35 percent.

**Geographic information system (GIS).** A system of computer hardware, software, data, people, and applications that capture, store, edit, analyze, and display a potentially wide array of geospatial information.

**Goal.** A broad statement of a desired outcome addressing resource and resource use characteristics within a planning area, or a portion of the planning area, toward which management of resources is directed.

**Grant.** Any authorization or instrument (for example, easement, lease, license, or permit) that the BLM issues under Title V of FLPMA (43 USC 1761 et. seq.) and those authorizations and instruments that the BLM and its predecessors issued for like purposes before October 21, 1976, under the existing statutory authority. Grants are issues under 43 CFR 2800 and 43 CFR 2920.

**Grazing preference.** Grazing preference or preference means a superior or priority position against others for the purpose of receiving a grazing lease. This priority is attached to base property owned or controlled by the lessee (43 CFR 4100.0-5).

**Grazing retirement.** Ending livestock grazing on a specific area of land.

**Grazing system.** Scheduled grazing use and nonuse of an allotment to reach identified goals or objectives by improving the quality and quantity of vegetation. This includes, but is not limited to, developing pastures, utilization levels, grazing rotations, timing and duration of use periods, and necessary range improvements.

**Greater sage-grouse general habitat management area (GHMA).** Greater sage-grouse-occupied (seasonal or year-round) habitat outside of priority habitat. The BLM has identified these areas in coordination with respective state wildlife agencies.

**Greater sage-grouse priority habitat management area (PHMA).** Areas that have been identified as having the highest conservation value to maintaining sustainable greater sage-grouse populations. These areas would include breeding, late brood-rearing, and winter concentration areas. The BLM has identified these areas in coordination with respective state wildlife agencies.

**Greenhouse gas (GHG).** A gas in an atmosphere that absorbs and emits radiation within the thermal infrared range. This process is the fundamental cause of the greenhouse effect. The primary GHGs in the earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide, and ozone.

**Groundwater.** Water held underground in soil or permeable rock, often feeding springs and wells.

**Guidelines.** Actions or management practices that may be used to achieve desired outcomes, sometimes expressed as BMPs. Guidelines may be identified during the land use planning process, but they are not considered a land use plan decision unless the plan specifies that they are mandatory. Guidelines for grazing administration must conform to 43 CFR 4180.2.

**Habitat.** An environment that meets a specific set of physical, biological, temporal, or spatial characteristics that satisfy the requirements of a plant or animal species or group of species for part or all of their life cycle.

**Hazardous material.** A substance, pollutant, or contaminant that, due to its quantity, concentration, or physical or chemical characteristics, poses a potential hazard to human health and safety or to the environment if released into the workplace or the environment.

**High-voltage transmission lines.** Transmission lines with 100 or more kilovolts.

**Historic properties.** According to the National Register of Historic Places (NRHP), historic properties are defined as districts, sites, buildings, structures, and objects significant in American history, archaeology, engineering, and culture.

**Impact.** The effect, influence, alteration, or imprint caused by an action.

**Impairment.** The degree to which a distance of clear visibility is degraded by human-made pollutants.

**Implementation decisions.** Decisions that authorize on-the-ground action to implement the RMP. These decisions are generally appealable to the Interior Board of Lands Appeals under 43 CFR 4.410.

**Indicators.** Factors that describe the resource condition and change and can help the BLM determine trends over time.

**Indirect impact.** Results from implementing an action or alternative, but it usually occurs later in time or is removed in distance and is reasonably certain to occur.

**Invasive species.** A species that is not native to the region or area and whose introduction does or is likely to cause economic or environmental harm or harm to human health.

**Invertebrate.** An animal lacking a backbone or spinal column, such as insects, snails, and worms. The group includes 97 percent of all animal species.

**Land tenure adjustments.** Landownership or jurisdictional changes. To improve the manageability of the BLM-administered lands and their usefulness to the public, the BLM has numerous authorities for repositioning lands into a more consolidated pattern, disposing of lands, and entering into cooperative management agreements. The BLM completes these land pattern improvements primarily through the use

of land exchanges but also through land sales, jurisdictional transfers to other agencies, and the use of cooperative management agreements and leases.

**Land use plan.** A set of decisions that establishes management direction for land within an administrative area, as prescribed under the planning provisions of FLPMA; an assimilation of land use plan-level decisions developed through the planning process outlined in 43 CFR 1600, regardless of the scale at which the decisions were developed. The term includes both resource management plans and management framework plans (BLM 2005).<sup>8</sup>

**Large pipelines.** Those that are 24 inches in width and over.

**Leach.** In relation to soils, to drain away from the soil by the action of a percolating liquid (usually water).

**Leasable minerals.** Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920. These include energy-related mineral resources, such as oil, natural gas, coal, and geothermal, and some nonenergy minerals, such as phosphate, sodium, potassium, and sulfur. Geothermal resources are also leasable under the Geothermal Steam Act of 1970.

**Lease.** Section 302 of the FLPMA provides the BLM with the authority to issue leases for the use, occupancy, and development of public lands. Leases are issued for such purposes as commercial filming, advertising displays, commercial or noncommercial croplands, apiaries, livestock holding or feeding areas not related to grazing permits and leases, native or introduced species harvesting, temporary or permanent facilities for commercial purposes (does not include mining claims), residential occupancy, ski resorts, construction equipment storage sites, assembly yards, oil rig stacking sites, mining claim occupancy (if the residential structures are not incidental to the mining operation), and water pipelines and well pumps related to irrigation and non-irrigation facilities. The regulations establishing procedures for processing these leases and permits are found in 43 CFR 2920.

**Lease stipulation.** A modification of the terms and conditions on a standard lease form at the time of the lease sale.

**Lessee.** For the purposes of this RMP, a lessee generally refers to a person or company permitted to graze livestock on public land.

**Locatable minerals.** Minerals subject to exploration, development, and disposal by staking mining claims as authorized by the Mining Law of 1872, as amended. This includes deposits of gold, silver, and other uncommon minerals not subject to lease or sale.

**Long-term effect.** An effect that could occur for an extended period after implementation of the alternative. The effect could last several years or more.

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<sup>8</sup> US Department of the Interior, Bureau of Land Management. 2014. Handbook H-8320-1—Planning for Recreation and Visitor Services. Rel. 8-85. Washington, DC. August 22, 2014. Internet website: [https://www.blm.gov/style/medialib/blm/wo/Information\\_Resources\\_Management/policy/blm\\_handbook.Par.36142.File.dat/H-8320-1%20Recreation%20and%20Visitor%20Services%20Planning.pdf](https://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/blm_handbook.Par.36142.File.dat/H-8320-1%20Recreation%20and%20Visitor%20Services%20Planning.pdf).

**Management decision.** A decision made by the BLM to manage public lands. Management decisions include both land use plan decisions and implementation decisions.

**Mineral.** Any naturally formed inorganic material, any solid or fluid inorganic substance that can be extracted from the earth, any of various naturally occurring homogeneous substances (such as stone, coal, salt, sulfur, sand, petroleum, water, or natural gas) obtained usually from the ground. Under federal laws, minerals are considered as locatable (subject to the general mining laws), leasable (subject to the Mineral Leasing Act of 1920), or mineral materials (that is, salable; subject to the Materials Act of 1947).

**Mineral entry.** The filing of a claim on public land to obtain the right to any locatable minerals it may contain.

**Mineral estate.** The ownership of minerals, including rights necessary for access, exploration, development, mining, ore dressing, and transportation operations.

**Mineral materials.** Common varieties of mineral materials, such as soil, sand and gravel, stone, pumice, pumicite, and clay, that are not obtainable under the mining or leasing laws but that can be acquired under the Materials Act of 1947, as amended.

**Mineralize.** The process where a substance is converted from an organic substance to an inorganic substance.

**Mining Law of 1872.** Provides for claiming and gaining title to locatable minerals on public lands. Also referred to as the General Mining Law or Mining Law.

**Mitigation.** Specific means, measures, or practices that could reduce, avoid, or eliminate adverse impacts. Mitigation can include avoiding the impact altogether by not taking a certain action or parts of an action; minimizing the impact by limiting the degree of magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and compensating for the impact by replacing or providing substitute resources or environments.

**Modification.** A change to the provisions of a lease stipulation, either temporarily or for the term of the lease. Depending on the specific modification, the stipulation may apply to all sites within the leasehold to which the restrictive criteria are applied.

**Monitoring (plan monitoring).** The process of tracking the implementation of land use plan decisions and collecting and assessing data necessary to evaluate the effectiveness of land use planning decisions.

**Motorized vehicles or uses.** Vehicles that are motorized, such as jeeps, all-terrain vehicles (for example, four-wheelers and three-wheelers), trail motorcycles or dirt bikes, and aircraft.

**Multiple use.** The management of the public lands and their various resource values so that they are used in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes

into account the long-term needs of future generations for renewable and nonrenewable resources, including recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output (FLPMA; BLM 2008).<sup>9</sup>

**National Environmental Policy Act of 1969 (NEPA).** Public Law 91-190. Establishes environmental policy for the nation. Among other items, NEPA requires federal agencies to consider environmental values in decision-making processes.

**National Historic Trail (NHT).** A congressionally designated trail that is an extended, long-distance trail, not necessarily managed as continuous, that follows as closely as possible and practicable the original trails or routes of travel of national historic significance. The purpose of a NHT is the identification and protection of the historic route and the historic remnants and artifacts for public use and enjoyment. A NHT is managed in a manner to protect the nationally significant resources, qualities, values, and associated settings of the areas that such trails may pass through, including the primary use or uses of the trail (BLM 2012).<sup>10</sup>

**National Register of Historic Places (NRHP).** A listing of architectural, historic, archaeological, and cultural sites of local, state, or national significance, established in 1966 by the NHPA and maintained by the National Park Service.

**Native vegetation.** Plant species that were found in an area prior to Euro-American settlement. They consequently are in balance with these ecosystems because they have well-developed parasites, predators, and pollinators.

**Natural processes.** Fire, drought, insect and disease outbreaks, flooding, and other events that existed prior to Euro-American settlement and that shaped the vegetation composition and structure.

**Nonenergy leasable minerals.** Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920. Nonenergy minerals include resources such as phosphate, sodium, potassium, and sulfur.

**No surface occupancy (NSO).** A major constraint where use or occupancy of the land surface for fluid mineral exploration or development and all activities associated with fluid mineral leasing (for example, truck-mounted drilling and geophysical exploration equipment off designated routes, and construction of wells and pads) are prohibited to protect identified resource values. Areas identified as NSO are open to fluid mineral leasing, but surface occupancy or surface-disturbing activities associated with fluid mineral

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<sup>9</sup> US Department of the Interior, Bureau of Land Management. 2008. Manual 6840—Special Status Species Management. Rel. 6-125. Washington, DC. December 12, 2008. Internet website: [https://www.blm.gov/style/medialib/blm/wo/Information\\_Resources\\_Management/policy/blm\\_manual.Par.43545.File.dat/6840.pdf](https://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/blm_manual.Par.43545.File.dat/6840.pdf)

<sup>10</sup> US Department of the Interior, Bureau of Land Management. 2012. Manual 6280—Management of National Scenic and Historic Trails and Trails Under Study or Recommended as Suitable for Congressional Designation. Rel. 6-139. Washington, DC. September 14, 2012. Internet website: [https://www.blm.gov/style/medialib/blm/wo/Information\\_Resources\\_Management/policy/blm\\_manual.Par.1039.File.dat/M6280%20NSHT%20Management\\_Fin al\\_091212%20\(2\).pdf](https://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/blm_manual.Par.1039.File.dat/M6280%20NSHT%20Management_Fin al_091212%20(2).pdf).

leasing cannot be conducted on the surface of the land. Access to fluid mineral deposits would require horizontal drilling from outside the boundaries of the NSO area.

**Noxious weeds.** A plant species designated by federal or state law as generally possessing one or more of the following characteristics: aggressive and difficult to manage, parasitic, a carrier or host of serious insects or disease, or nonnative, new, or not common to the United States.

**Objective.** A description of a desired outcome for a resource. Objectives can be quantified and measured and, where feasible, have established time frames for achievement.

**Occupancy.** Full-time or part-time residence on public lands. It also means activities that involve residence; the construction, presence, or maintenance of temporary or permanent structures that may be used for such purposes; or the use of a watchman or caretaker to monitor activities. Residences or structures include barriers to access, fences, tents, motor homes, trailers, cabins, houses, buildings, and storage of equipment or supplies (43 CFR 3715.0-5).

**Off-highway vehicle (OHV; also off-road vehicle).** Any motorized vehicle capable of or designated for travel on or immediately over land, water, or other natural terrain. OHV does not include the following:

- Any non-amphibious registered motorboat
- Any military, fire, emergency, or law enforcement vehicle while being used for emergencies
- Any vehicle whose use is expressly authorized by the BLM Authorized Officer or otherwise officially approved
- Any vehicle in official use
- Any combat or combat support vehicle when used for national defense emergencies (43 CFR 8340.0-5)

**Open.** Generally denotes that an area is available for a particular use or uses. Refer to specific program definitions found in the law, regulations, or policy guidance for application to individual programs. For example, 43 CFR 8340.0-5 defines open as it relates to OHV use.

**Ozone.** A faint blue gas produced in the atmosphere from chemical reactions of burning coal, gasoline, and other fuels and chemicals found in such products as solvents, paints, and hairsprays.

**Paleontological resources.** The physical remains or other physical evidence of plants and animals preserved in soils and sedimentary rock formations. Paleontological resources are important for correlating and dating rock strata and for understanding past environments, environmental change, and the evolution of life.

**Particulate matter (PM).** One of the six criteria pollutants for which the Environmental Protection Agency established National Ambient Air Quality Standards. Particulate matter is defined as two categories: fine particulate with an aerodynamic diameter of 10 micrometers or less (PM<sub>10</sub>), and fine particulate with an aerodynamic diameter of 2.5 micrometers or less (PM<sub>2.5</sub>).

**Percolate.** Of a liquid or gas, to filter gradually through soil.

**Perennial stream.** One that flows continuously. Perennial streams are generally associated with a water table in the localities that they flow through.

**Permitted use.** For the purposes of this RMP, a permitted use generally refers to the forage allocated by, or under the guidance of, an applicable land use plan for livestock grazing in an allotment under a permit or lease and expressed in animal unit months (43 CFR 4100.0-5). Other types of permits/permitted activities include realty minimum impact permits (such as for film or apiaries), temporary use permits (for example, ROW construction), Federal Energy Regulatory Commission-issued and other hydroelectric permits, state-issued water right permits, special recreation/recreation use permits, mineral prospecting, mineral use (such as phosphate and sodium), geophysical exploration, vegetation sales (firewood, Christmas trees, boughs, greenery, mushrooms, etc.), cultural resource permits, paleontological permits, fire prevention activity, state-issued air quality permits, concessionaire permits, etc.

**Permittee.** A person or company permitted to graze livestock on public land, although the correct term is lessee.

**Physiography.** The study and classification of the earth's surface features.

**Planning area.** The geographic area within which the BLM will make decisions during the planning process. A planning area boundary includes all lands regardless of jurisdiction; however, the BLM does not make decisions for non-BLM-administered lands in the planning area (*see decision area*).

**Policy.** This is a statement of guiding principles or procedures designed and intended to influence planning decisions, operating actions, or other BLM affairs. Policies are established interpretations of legislation, executive orders, regulations, or other presidential, secretarial, or management directives.

**Pre-contact resources (prehistoric resources).** Any material remains, structures, and items used or modified by people before Euro-Americans established a presence in the region.

**Prescribed fire.** A wildfire originating from a planned ignition to meet specific objectives identified in a written, approved, prescribed fire plan for which NEPA requirements (where applicable) have been met before ignition.

**Proper functioning condition (PFC).** A term describing stream health that is based on the presence of adequate vegetation, landform, and debris to dissipate energy, reduce erosion, and improve water quality.

**Public land.** Land or interest in land owned by the United States and administered by the Secretary of the Interior through the BLM without regard to how the United States acquired ownership (BLM 2005).<sup>11</sup>

**Range improvement.** An authorized physical modification or treatment that is designed to improve the production of forage, change the vegetation composition, control patterns of use, provide water, and stabilize soil and water conditions to restore, protect, and improve the condition of rangeland ecosystems to benefit livestock, wild horses and burros, and fish and wildlife. The term includes structures, treatment

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<sup>11</sup> US Department of the Interior, Bureau of Land Management. 2005. Handbook H-1601-1—Land Use Planning Handbook. Rel. 1-1693. Washington, DC. March 11, 2005. Internet website: [https://www.blm.gov/style/medialib/blm/ak/aktest/planning/planning\\_general.Par.65225.File.dat/blm\\_lup\\_handbook.pdf](https://www.blm.gov/style/medialib/blm/ak/aktest/planning/planning_general.Par.65225.File.dat/blm_lup_handbook.pdf).



projects, and use of mechanical devices or modifications achieved through mechanical means (43 CFR 4100.0-5).

**Reasonably foreseeable development scenario (RFD).** The prediction of the type and amount of oil and gas activity that would occur in a given area. The prediction is based on geologic factors, past history of drilling, projected demand for oil and gas, and industry interest.

**Reclamation.** The suite of actions taken within an area affected by human disturbance; the outcome of reclamation is intended to change the condition of the disturbed area to meet predetermined objectives or to make it acceptable for certain defined resources (for example, wildlife habitat, grazing, and ecosystem function).

**Recreation experiences.** Psychological outcomes realized either by recreation-tourism participants as a direct result of their on-site leisure engagements and recreation-tourism activity participation, or by nonparticipating community residents as a result of their interaction with visitors and guests within their community or interaction with the BLM and other public and private recreation-tourism providers and their actions.

**Recreation Management Area (RMA).** Includes SRMAs and ERMAs; see *Special Recreation Management Area (SRMA)* and *Extensive Recreation Management Area (ERMA)*.

**Recreation opportunities.** Favorable circumstances enabling visitors' engagement in a leisure activity to realize immediate psychological experiences and to attain more lasting, value-added beneficial outcomes.

**Recreation settings.** The collective distinguishing attributes of landscapes that influence and sometimes actually determine what kinds of recreation opportunities are produced.

**Renewable energy.** Energy resources that constantly renew themselves or that are regarded as practically inexhaustible. These include solar, wind, geothermal, hydropower, and biomass. Although particular geothermal formations can be depleted, the natural heat in the earth is a virtually inexhaustible reserve of potential energy.

**Resource management plan (RMP).** A set of decisions that establish management direction for land within an administrative area, as prescribed under the planning provisions of FLPMA of 1976, as amended (P.L. 94-579, 90 Stat. 2743); a document containing an assimilation of planning decisions developed through the planning process outlined in 43 CFR 1600, regardless of the scale at which the decisions were developed. Synonyms include land use plans and management framework plans.

**Restore/restoration.** Implementation of passive or active management actions designed to increase or maintain perennial herbaceous species and landscape cover of sagebrush so that plant communities are more resilient to disturbance and invasive species over the long term. The long-term goal is to create functional, high-quality habitat that is occupied by sage-grouse. A short-term goal may be to restore the landform, soils, and hydrology and to increase the percentage of preferred vegetation, seeding of desired species, or treatment of undesired species.

**Restriction/restricted use.** A limitation or constraint on public land uses and operations. Restrictions can be of any kind, but they most commonly apply to certain types of vehicle use, temporal or spatial constraints, or certain authorizations.

**Revision.** The process of completely rewriting the land use plan due to changes in the planning area that affect major portions of the plan or the entire plan.

**Right-of-way (ROW).** Federal lands that the BLM authorizes a holder to use or occupy under a grant pursuant to Title V of the FLPMA; examples are roads, pipelines, power lines, and fiber-optic lines.

**Right-of-way (ROW) avoidance area.** An area identified through resource management planning to be avoided but may be available for ROW location with special stipulations.

**Right-of-way (ROW) exclusion area.** An area identified through resource management planning that is not available for ROW location under any conditions.

**Riparian area.** A form of wetland transition between permanently saturated wetlands and upland areas. Riparian areas exhibit vegetation or physical characteristics that reflect the influence of permanent surface or subsurface water. Typical riparian areas include lands along, next to, or contiguous with perennially and intermittently flowing rivers and streams, glacial potholes, and the shores of lakes and reservoirs with stable water levels. Excluded are ephemeral streams or washes that lack vegetation and depend on free water in the soil.

**Road.** A linear route declared a road by the owner, managed for use by low-clearance vehicles having four or more wheels, and maintained for regular and continuous use.

**Rotation.** Grazing rotation between pastures in the allotment for the permitted time.

**Routes.** Multiple roads, trails, and primitive roads; a group or set of roads, trails, and primitive roads that represents less than 100 percent of the BLM transportation system. Generically, components of the transportation system.

**Sale (public land).** A method of land disposal pursuant to Section 203 of the FLPMA, whereby the United States receives a fair-market payment for the transfer of land from federal ownership. Public lands determined suitable for sale are offered on the BLM's initiative. The lands must be identified in the RMP. Any lands to be disposed of by sale that are not identified in the current RMP, or that do not meet the disposal criteria identified in the RMP, require a plan amendment before a sale can occur.

**Scoping process.** An early and open public participation process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.

**Seeding.** A vegetation treatment that includes the application of grass, forb, or shrub seed, either by air or from the ground. In areas of gentle terrain, ground applications of seed are often accomplished with a rangeland drill. Seeding allows the establishment of native species or placeholder species and restoration of disturbed areas to a perennial-dominated cover type, thereby decreasing the risk of a subsequent invasion by exotic plant species. Seeding would be used primarily as a follow-up treatment in areas where disturbance or the previously described treatments have removed exotic plant species and their residue.

**Sensitive soils.** Sensitive soils have a high risk of degradation from surface uses, such as the soils poorly suited to reclamation, badlands, soils with severe erosion hazard, soils on steep slopes, and hydric soils. Criteria used to determine soil sensitivity to surface uses are continually adapted as conditions change or as new information or technology becomes available.

**Short-term effect.** Occurs only during or immediately after implementation of an alternative.

**Special Recreation Management Area (SRMA).** An administrative public lands unit identified in land use plans where the existing or proposed recreation opportunities and recreation setting characteristics are recognized for their unique value, importance, or distinctiveness, especially as compared with other areas used for recreation (BLM 2014).<sup>12</sup>

**Special recreation permit (SRP).** An authorization that allows specified recreational uses of the public lands and related waters. Special recreation permits are issued as a means to manage visitor use and to protect natural and cultural resources. They are also used as a mechanism to authorize commercial, competitive, and vending use; organized group use and events; and individual or group use of special areas.

**Special status species.** BLM special status species that are listed, candidate, or proposed for listing under the Endangered Species Act. BLM sensitive species are also those requiring special management consideration to promote their conservation and to reduce the likelihood and need for future listing under the Endangered Species Act that are designated as BLM sensitive by a BLM State Director. All federally listed candidate species, proposed species, and delisted species in the 5 years following delisting are conserved as BLM sensitive species.

**Split-estate.** The circumstance where the surface of a particular parcel is owned by a different party than the minerals underlying the surface. Split-estates may have any combination of surface/subsurface owners: federal/state, federal/private, state/private, or percentage ownerships. When referring to the split-estate ownership on a particular parcel of land, it is generally necessary to describe the surface/subsurface ownership pattern of the parcel.

**Stabilize.** The process of stopping further damage from occurring.

**Standard.** A description of the physical and biological conditions or degree of function required for healthy, sustainable lands (for example, land health standards). To be expressed as a desired outcome (goal).

**Standard lease terms and conditions.** Areas may be open to leasing with no specific management decisions defined in an RMP; however, these areas are subject to lease terms and conditions as defined on the lease form (Form 3100-11, Offer to Lease and Lease for Oil and Gas; and Form 3200-24, Offer to Lease and Lease for Geothermal Resources).

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<sup>12</sup> US Department of Interior, Bureau of Land Management. 2014. Handbook H-8320-1—Planning for Recreation and Visitor Services. Rel. 8-85. Washington, DC. August 22, 2014. Internet website: [https://www.blm.gov/style/medialib/blm/wo/Information\\_Resources\\_Management/policy/blm\\_handbook.Par.36142.File.dat/H-8320-1%20Recreation%20and%20Visitor%20Services%20Planning.pdf](https://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/blm_handbook.Par.36142.File.dat/H-8320-1%20Recreation%20and%20Visitor%20Services%20Planning.pdf).

**State.** An integrated soil and vegetation unit having one or more biological communities that occur on a particular ecological site and that are functionally similar with respect to the three attributes (soil/site stability, hydrologic function, and biotic integrity) under natural disturbance regimes.

**Steep slopes.** Those that are 30 percent or greater.

**Stipulation (general).** A term or condition in an agreement or contract.

**Stipulation (oil and gas).** A provision that modifies standard oil and gas lease terms and conditions in order to protect other resource values or land uses and is attached to and made a part of the lease. Typical lease stipulations are NSO, timing limitations (TL), and controlled surface use. Lease stipulations are developed through the RMP process.

**Surface disturbance.** Surface-disturbing activities result from land uses and affect soils and vegetation to varying degrees depending on the amount, location, and type of disturbance; soil type; time of year; climate; and surface hydrology. Surface-disturbing activities remove the protective vegetation cover and soil crusts. Surface-disturbing activities can alter the soil's physical, chemical, and biological properties, which increases the soil's susceptibility to water and wind erosion and decreases its quality and site productivity.

**Surface-disturbing activities.** An action that alters the vegetation, surface and near-surface soil resources, or surface geologic features beyond natural site conditions and on a scale that affects other public land values. Examples of surface-disturbing activities are the operation of heavy equipment to construct well pads, roads, pits and reservoirs; installation of pipelines and power lines; and conducting several types of vegetation treatments (for example, prescribed fire). Surface-disturbing activities may be either authorized or prohibited.

**Surface uses.** All the various activities that may be present on the surface or near surface (for example, pipelines) of the public lands. The term does not refer to those subterranean activities (for example, underground mining) on public lands or federal mineral estate. When administered as a use restriction (for example, no surface use), this phrase prohibits all but specified resource uses and activities in a certain area to protect particular sensitive resource values and property. This designation typically applies to small-acreage sensitive resource sites (for example, a plant community study enclosure) and administrative sites (for example, a government yard) where only authorized agency personnel are admitted.

**Temporary/temporary use.** The opposite of permanent/permanent use. It is a relative term and has to be considered in the context of the resource values affected and the nature of the resource uses and activities taking place. Generally, a temporary activity is considered to be one that is not fixed in place and is of short duration.

**Terrestrial.** Living or growing in or on the land.

**Threatened species.** Any species that is likely to become endangered in the foreseeable future throughout all or a significant portion of its range. Under the Endangered Species Act in the United States, threatened is less protected than endangered. Designation as threatened or endangered is determined by the USFWS, as directed by the Endangered Species Act.

**Timber.** Standing trees, downed trees, or logs that are capable of being measured in board feet.

**Total maximum daily load (TMDL).** An estimate of the total quantity of pollutants (from all point, nonpoint, and natural sources) that may be allowed into waters without exceeding applicable water quality criteria.

**Traditional cultural property (TCPs; National Park Service definition).** A property that is eligible for inclusion in the NRHP based on its associations with the cultural practices, traditions, beliefs, lifeways, arts, crafts, or social institutions of a living community, as defined in National Park Service *Bulletin 38* (Parker and King 1998). TCPs are rooted in a traditional community's history and are important in maintaining the continuing cultural identity of the community. The cultural practices or beliefs that give a TCP its significance are, in many cases, still observed at the time a TCP is considered for inclusion in the NRHP. Because of this, it is sometimes perceived that the practices or beliefs themselves, not the property, make up the TCP. While the beliefs or practices associated with a TCP are of central importance, the NRHP does not include intangible resources. The TCP must be a physical property or place—that is, a district, site, building, structure, or object.

**Trail.** A linear route managed for human power (for example, hiking or bicycling), stock (for example, horseback riding), or OHV forms of transportation or for historical or heritage values. Trails are not generally managed for use by four-wheel drive or high-clearance vehicles.

**Transition.** A shift between two states. Transitions are not reversible by simply altering the intensity or direction of factors that produced the change. Instead, they require new inputs, such as revegetation or shrub removal. Practices such as these that accelerate succession are often expensive to apply.

**Transmission.** The movement or transfer of electric energy over an interconnected group of lines and associated equipment between points of supply and points where it is transformed for delivery to consumers or is delivered to other electric systems. Transmission is considered to end when the energy is transformed for distribution to the consumer.

**Transportation system.** The sum of the BLM's recognized inventory of linear features (roads, primitive roads, and trails) formally recognized, designated, and approved as part of the BLM's transportation system.

**Tribal interests.** Native American or Alaska Native economic rights, such as Indian trust assets, resource uses, access guaranteed by treaty rights, and subsistence uses.

**Unitized area.** A group of contiguous oil and gas lease holdings where the lessee holds an agreement with the federal government so that exploration, drilling, and production of the resource proceed in the most efficient and economical manner.

**Utility corridor.** Tract of land varying in width and forming a passageway through which various commodities, such as oil, gas, and electricity, are transported.

**Valid existing rights.** Documented legal rights or interests in the land that allow a person or entity to use said land for a specific purpose and that are still in effect. Such rights include fee title ownership, mineral rights, ROWs, easements, permits, and licenses. Such rights may have been reserved, acquired, leased, granted, permitted, or otherwise authorized over time.

**Visibility (air quality).** A measure of the ability to see and identify objects at different distances.

**Visual resources.** The visible physical features on a landscape, (topography, water, vegetation, animals, structures, and other features) that comprise the scenery of the area.

**Watershed.** Topographical region or area delineated by water draining to a particular watercourse or body of water.

**Wild and Scenic Study River.** Rivers identified for study by Congress under Section 5(a) of the Wild and Scenic Rivers Act or identified for study by the Secretary of Agriculture or the Secretary of the Interior under Section 5(d)(1) of the Wild and Scenic Rivers Act. These rivers are studied under the provisions of Section 4 of the Wild and Scenic Rivers Act (BLM 2012).<sup>13</sup>

**Eligible river.** A river or river segment found to meet criteria found in Sections 1(b) and 2(b) of the Wild and Scenic Rivers Act of being free flowing and possessing one or more outstandingly remarkable value.

**Suitable river.** An eligible river segment found through administrative study to meet the criteria for designation as a component of the National Wild and Scenic Rivers System, as specified in Section 4(a) of the Wild and Scenic Rivers Act.

**Wilderness.** A congressionally designated area of undeveloped federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed to preserve its natural conditions and that has the following characteristics:

- Generally appears to have been affected mainly by the forces of nature, with human imprints substantially unnoticeable
- Has outstanding opportunities for solitude or a primitive and unconfined type of recreation
- Has at least 5,000 acres or is large enough to make practical its preservation and use in an unimpaired condition
- May also contain ecological, geological, or other features of scientific, educational, scenic, or historical value

The definition is contained in Section 2(c) of the Wilderness Act of 1964 (78 Stat. 891).

**Wilderness characteristics.** Wilderness characteristics attributes are the area's size, its apparent naturalness, and outstanding opportunities for solitude or a primitive and unconfined type of recreation. They may also include supplemental values, such as ecological, geological, or other features of scientific, educational, scenic, or historical value. Lands with wilderness characteristics have been inventoried and determined by the BLM to contain wilderness characteristics, as defined in Section 2(c) of the Wilderness Act, as follows:

- Naturalness—The degree to which an area generally appears to have been affected primarily by the forces of nature with the imprint of people's work substantially unnoticeable

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<sup>13</sup> US Department of the Interior, Bureau of Land Management. 2012. Manual 6400—Wild and Scenic Rivers – Policy and Program Direction for Identification, Evaluation, Planning, and Management. Rel. 6-136. Washington, DC. July 13, 2012. Internet website: [https://www.blm.gov/style/medialib/blm/wo/Information\\_Resources\\_Management/policy/blm\\_manual.Par.76771.File.dat/6400.pdf](https://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/blm_manual.Par.76771.File.dat/6400.pdf).

- Opportunity—A situation or condition favorable for attainment of a goal
- Outstanding—1) Standing out among others of its kind, conspicuous, or prominent; 2) Superior to others of its kind, distinguished, and excellent
- Primitive and unconfined recreation—Nonmotorized, nonmechanized (except as provided by law), and undeveloped types of recreation
- Solitude—The state of being alone or remote from others (isolation); a lonely or secluded place

**Wildfire.** A general term describing any non-structure fire that occurs in the wild. Wildfires are categorized into two distinct types (USDA and DOI 2009):<sup>14</sup>

- Wildfires—Unplanned ignitions or prescribed fires that are declared wildfires
- Prescribed fires—Planned ignitions

**Withdrawal.** An action that restricts the use of public land and segregates the land from the operation of some or all of the public land and mineral laws. Withdrawals are also used to transfer jurisdiction of management of public lands to other federal agencies.

**Woody draw** - Small, upland deciduous woodlands typically dominated by green ash scattered throughout the Badlands region of North Dakota.

## 2.8 APPENDICES

Appendix A	Maps
Appendix B	Stipulations and Allocations Applicable to Fluid Minerals Leasing
Appendix C	Air Resources Management Plan
Appendix D	Design Features and Best Management Practices
Appendix E	Reclamation Standards
Appendix F	Coal Screening Process
Appendix G	Land Tenure Adjustment Categories
Appendix H	Recreation Management Areas
Appendix I	Evaluation of Proposed Areas of Critical Environmental Concern

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<sup>14</sup>US Department of Agriculture and US Department of the Interior. 2009. Guidance for Implementation of Federal Wildland Fire Management Policy. Wildland Fire Leadership Council. Internet website: [https://www.nifc.gov/policies/policies\\_documents/GIFWFMP.pdf](https://www.nifc.gov/policies/policies_documents/GIFWFMP.pdf). February 2009.

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# Appendix A

## Maps

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## APPENDIX A

### Maps

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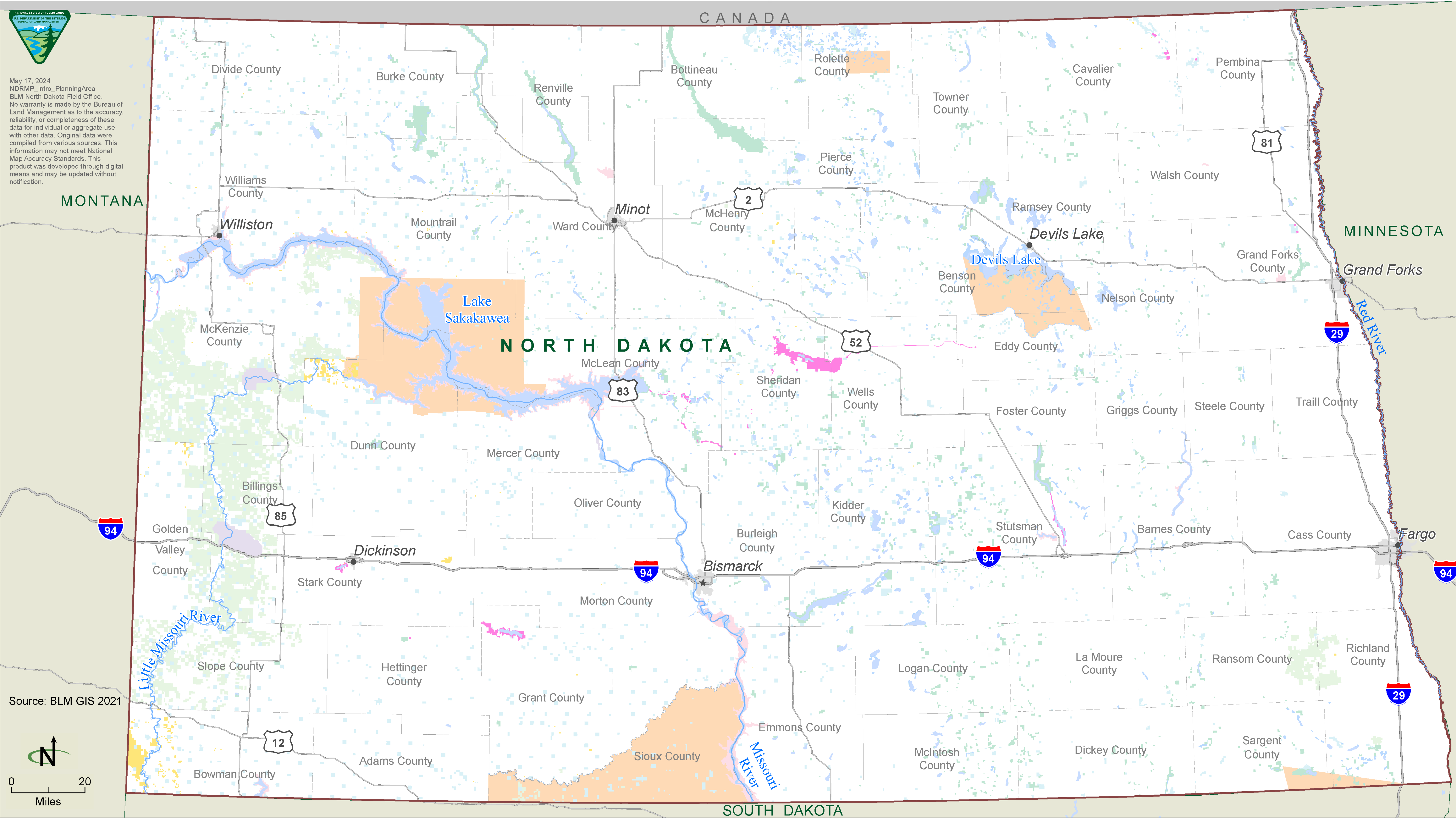
- 1-1 North Dakota Planning Area
- 1-2 BLM Surface Decision Area
- 1-3 BLM Coal Subsurface Decision Area
- 1-4 BLM Fluid Minerals Subsurface Decision Area
- 1-5 BLM Mineral Material Disposal, Locatable Minerals, and Nonenergy Solid Leasable Minerals Subsurface Decision Areas
  
- 2-1 Alternative D: Greater Sage-Grouse Habitat
- 2-2 Alternative D: Visual Resource Management
- 2-3 Alternative D: Right-of-Way Exclusion and Avoidance
- 2-4 Alternative D: Land Tenure
- 2-5 Alternative D: Fluid Minerals Leasing
- 2-6 Alternative D: Fluid Minerals Leasing, No Surface Occupancy
- 2-7 Alternative D: Fluid Minerals Leasing, Controlled Surface Use
- 2-8 Alternative D: Fluid Minerals Leasing, Timing Limitations
- 2-9 Alternative D: Coal Leasing
- 2-10 Alternative D: Nonenergy Solid Leasable Minerals
- 2-11 Alternative D: Locatable Minerals
- 2-12 Alternative D: Mineral Materials
- 2-13 Alternative D: Recreation Management Areas
- 2-14 Alternative D: Travel, Transportation Management, and Access
- 2-15 Alternative D: Livestock Grazing
- 2-16 Alternative D: Special Designations

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# Appendix A. Maps

Note: For best resolution, maps should be viewed at 100 percent on the computer screen.



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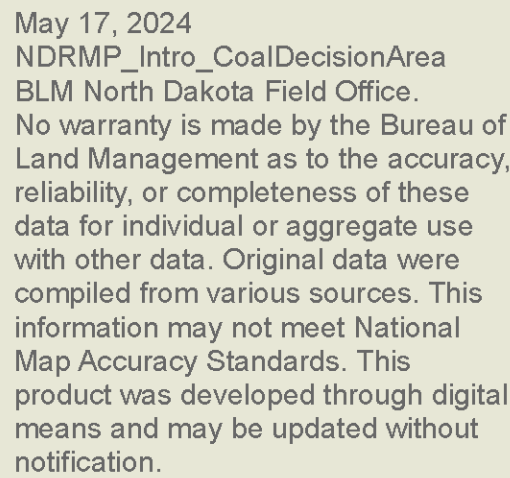




**Map 1-2**  
**BLM Surface Decision Area**

 Bureau of Land Management (surface decision area)     North Dakota RMP planning area

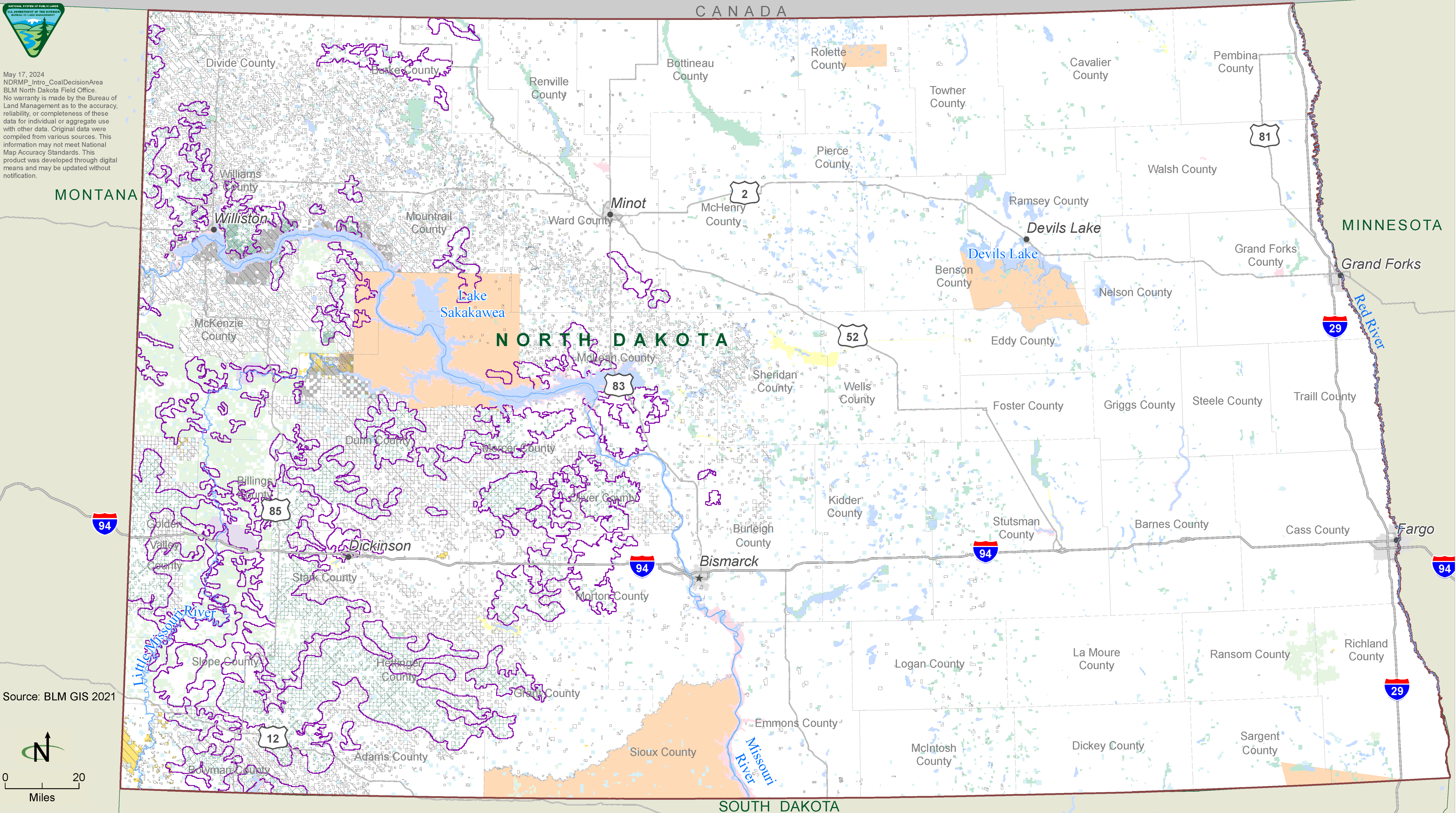


















May 17, 2024  
NDRMP\_Intro\_CoalDecisionArea  
BLM North Dakota Field Office.

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

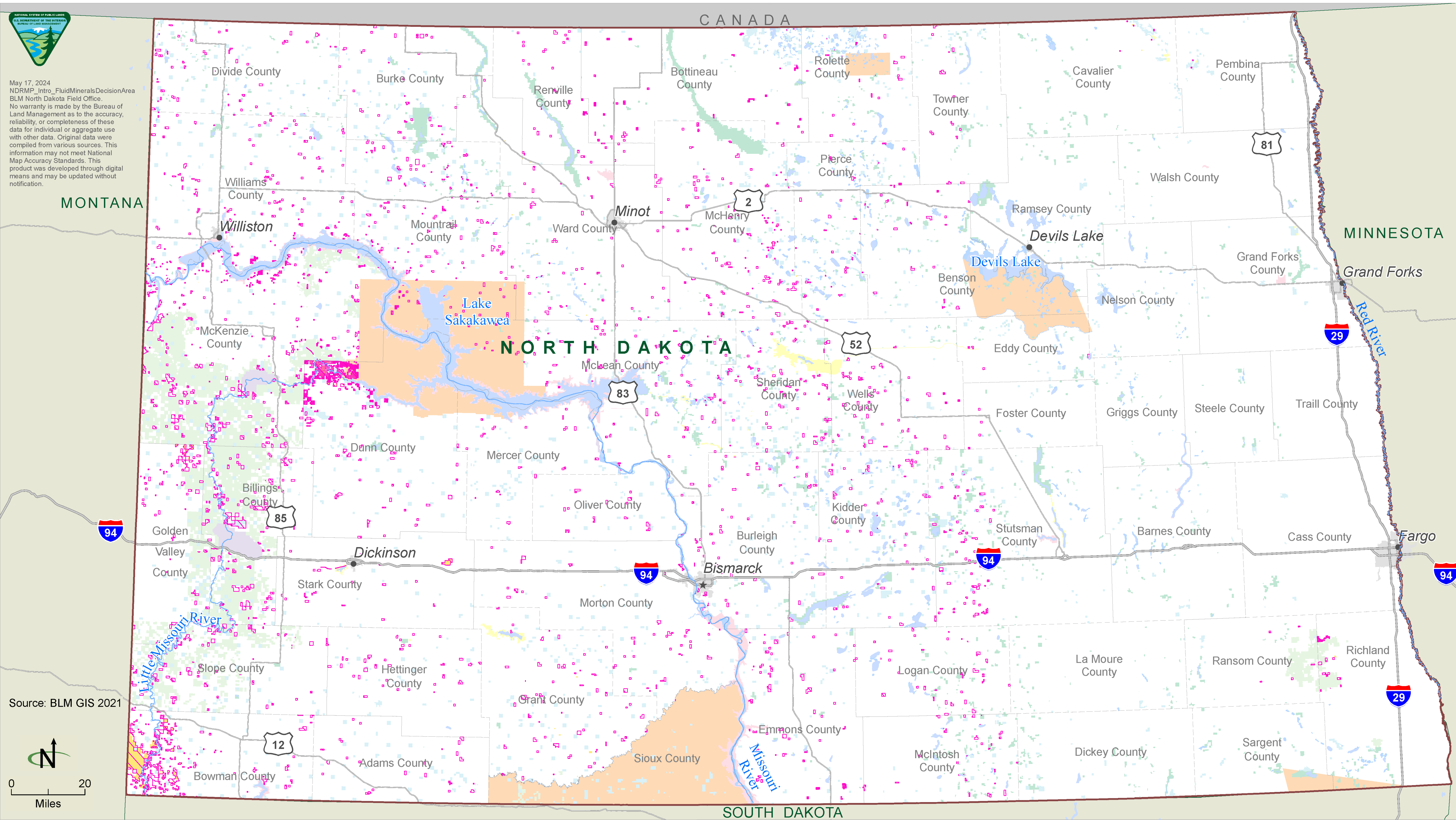
## Grand Forks



	Coal potential		Bureau of Land Management		US Forest Service		Water		Bureau of Reclamation
	BLM coal subsurface decision area within coal potential		Private		State		US Fish and Wildlife Service		North Dakota RMP planning area
	BLM coal subsurface decision area		Bureau of Indian Affairs		US Department of Defense		National Park Service		

Federal mineral ownership for coal and fluid minerals occurs in the same spatial locations in many places. However, because oil and gas fields are unacceptable to further coal leasing in all alternatives, coal and fluid mineral development are unlikely to occur in the same spatial location.

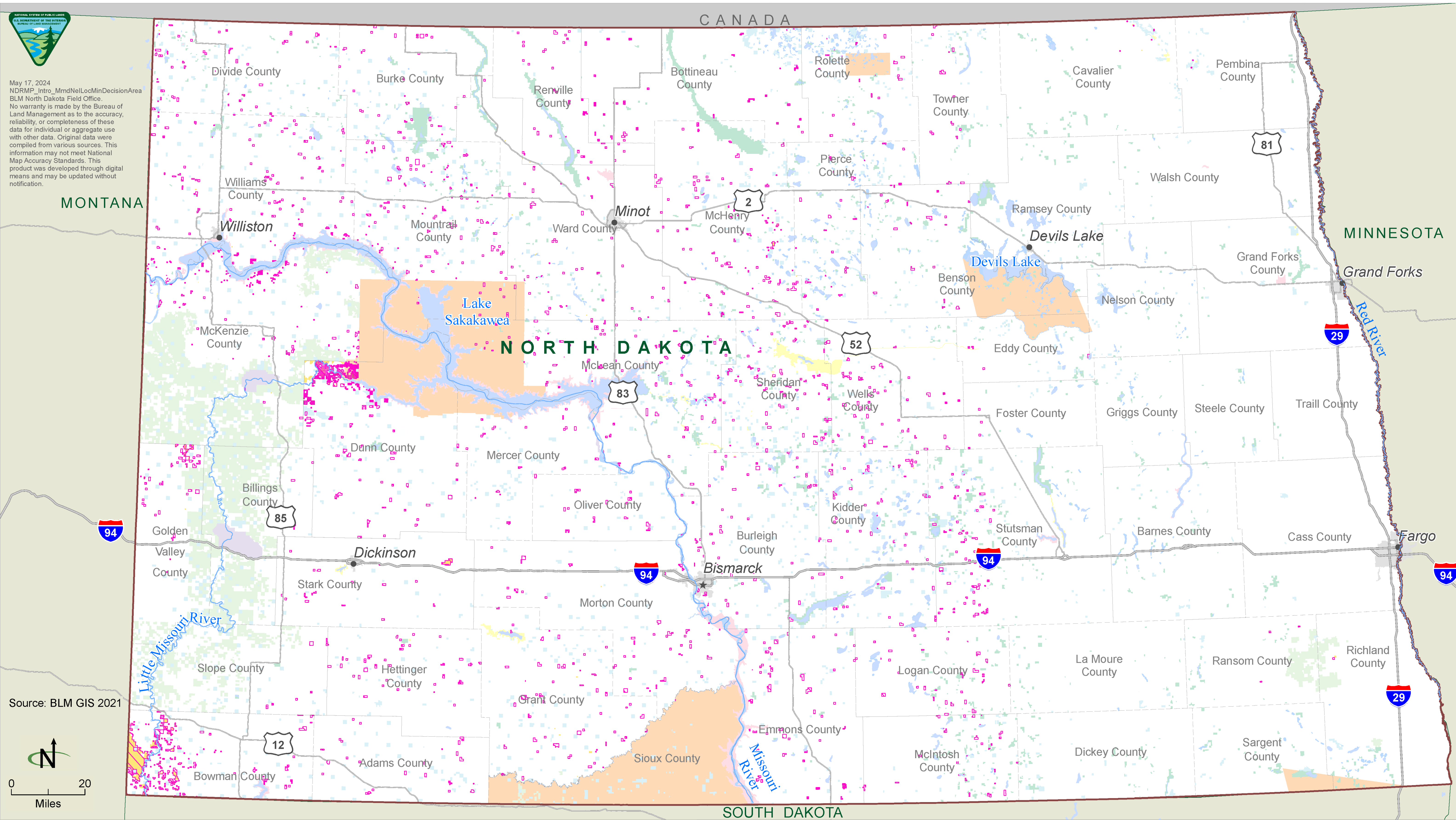




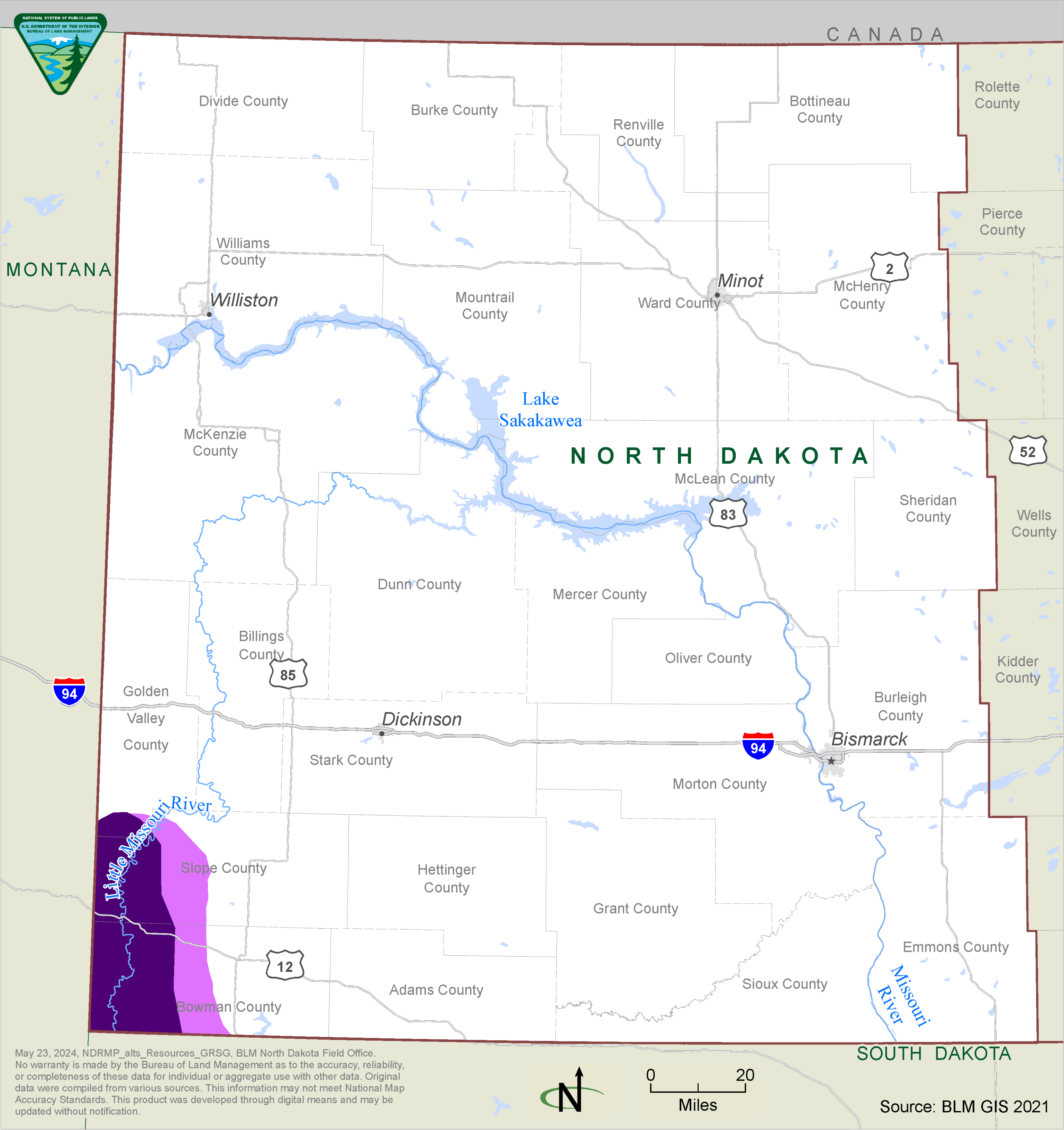
May 17, 2024  
NDRMP\_Intro\_FluidMineralsDecisionArea  
BLM North Dakota Field Office.  
No warranty is made by the Bureau of  
Land Management as to the accuracy,  
reliability, or completeness of these  
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compiled from various sources. This  
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Source: BLM GIS 2021



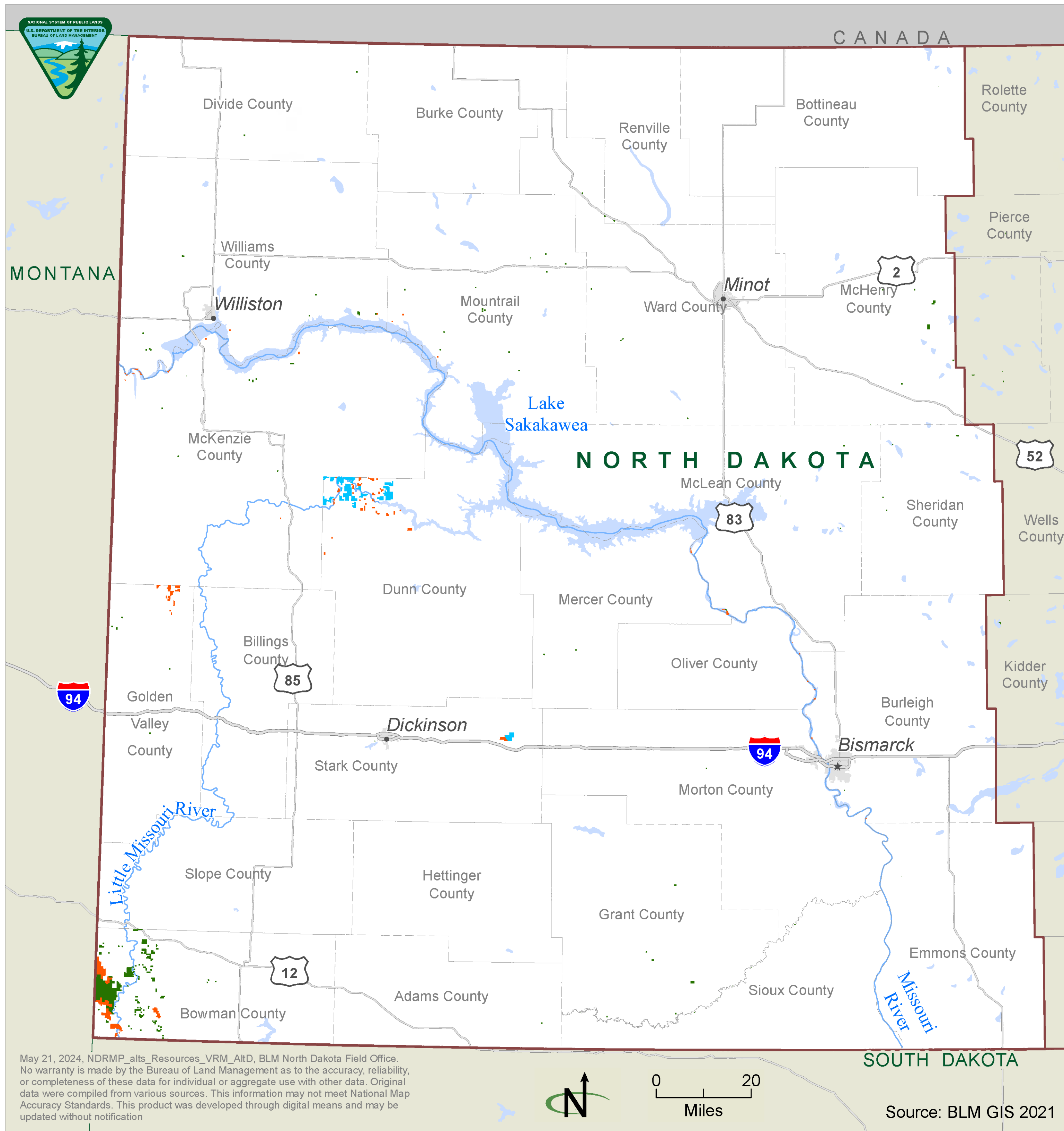


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May 23, 2024, NDRMP\_alts\_Resources\_GRSG, BLM North Dakota Field Office.  
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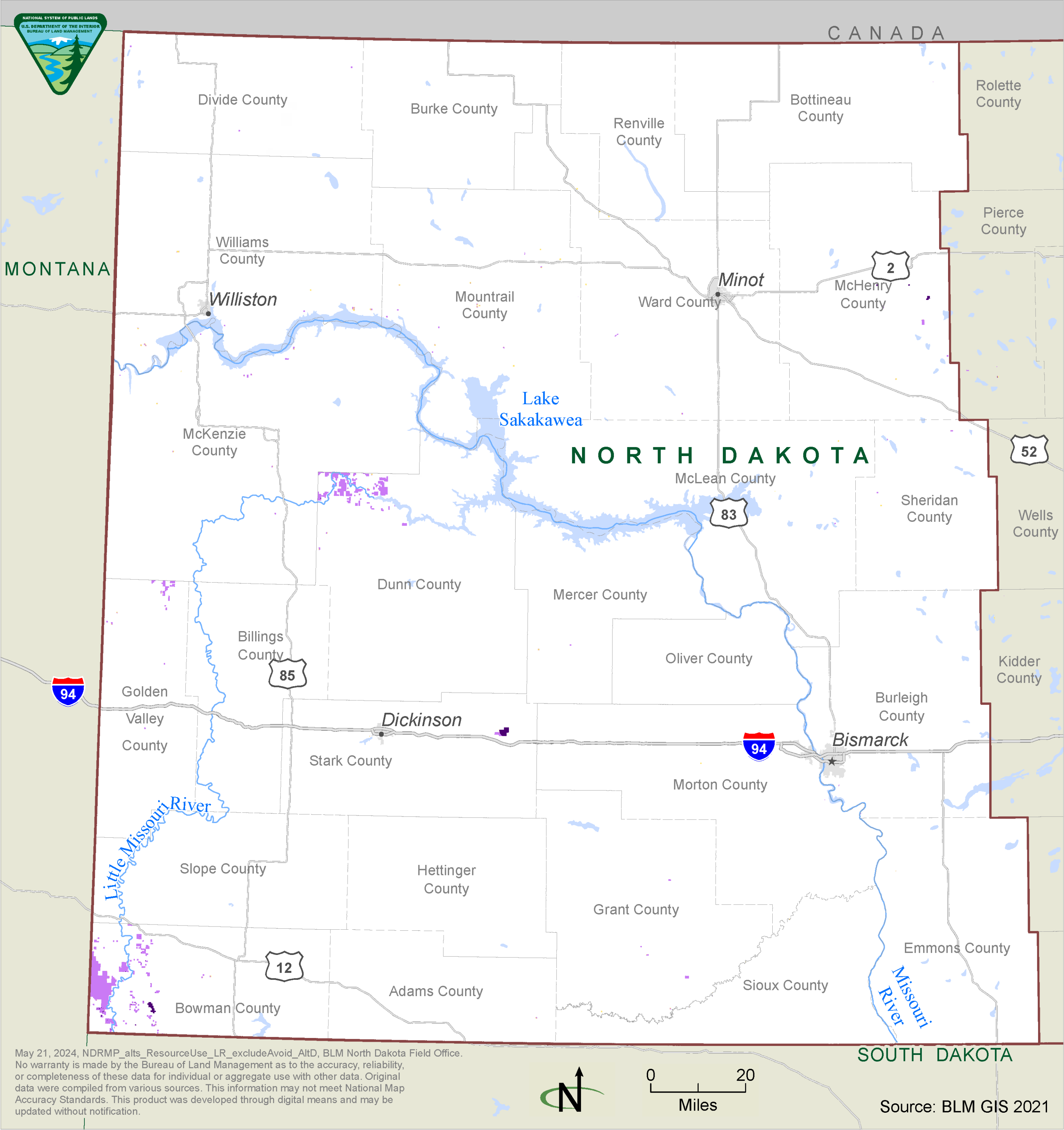
## Map 2-2

### Alternative D: Visual Resource Management

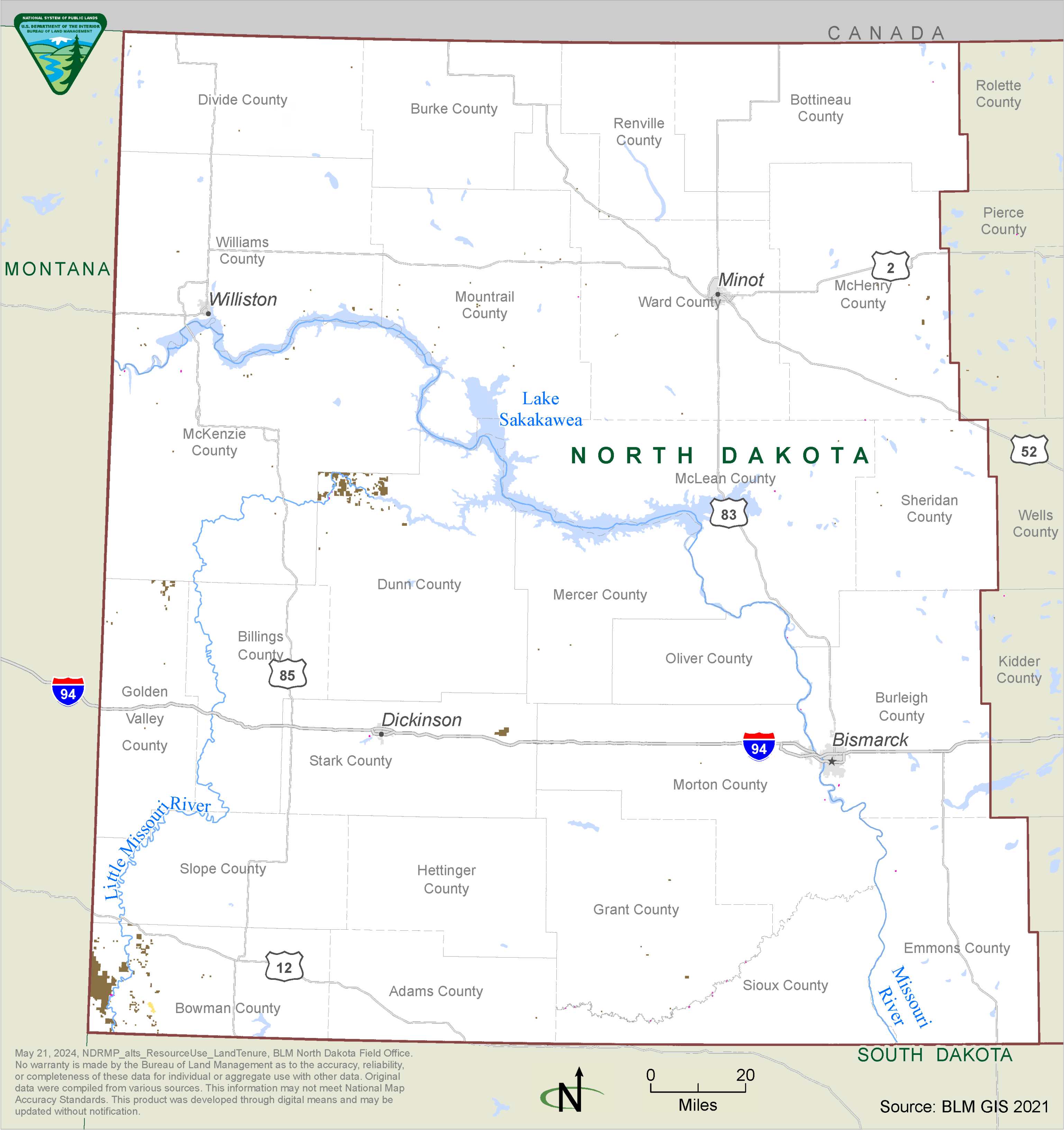
- VRM Class II
- VRM Class III
- VRM Class IV

Scattered parcels of BLM surface decision area in the eastern portion of the state would be managed as VRM Class IV

North Dakota RMP planning area, western half



May 21, 2024, NDRMP\_alts\_ResourceUse\_LR\_excludeAvoid\_AltD, BLM North Dakota Field Office.  
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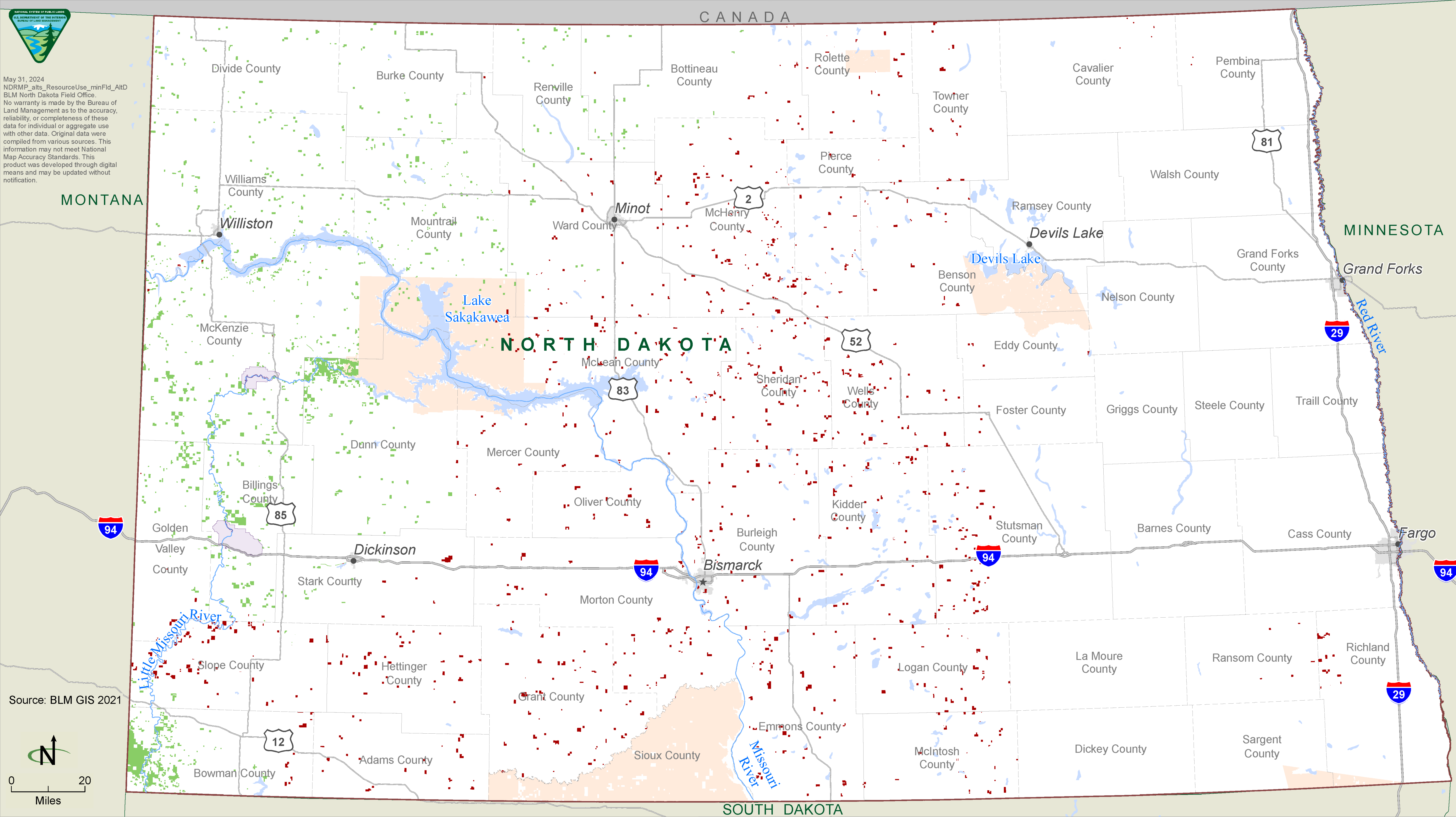


Map 2-4  
Alternative D: Land Tenure

- Land tenure category 1 (retention)
- Land tenure category 2 (available for disposal through methods other than sale)
- Land tenure category 3 (disposal, including sale)

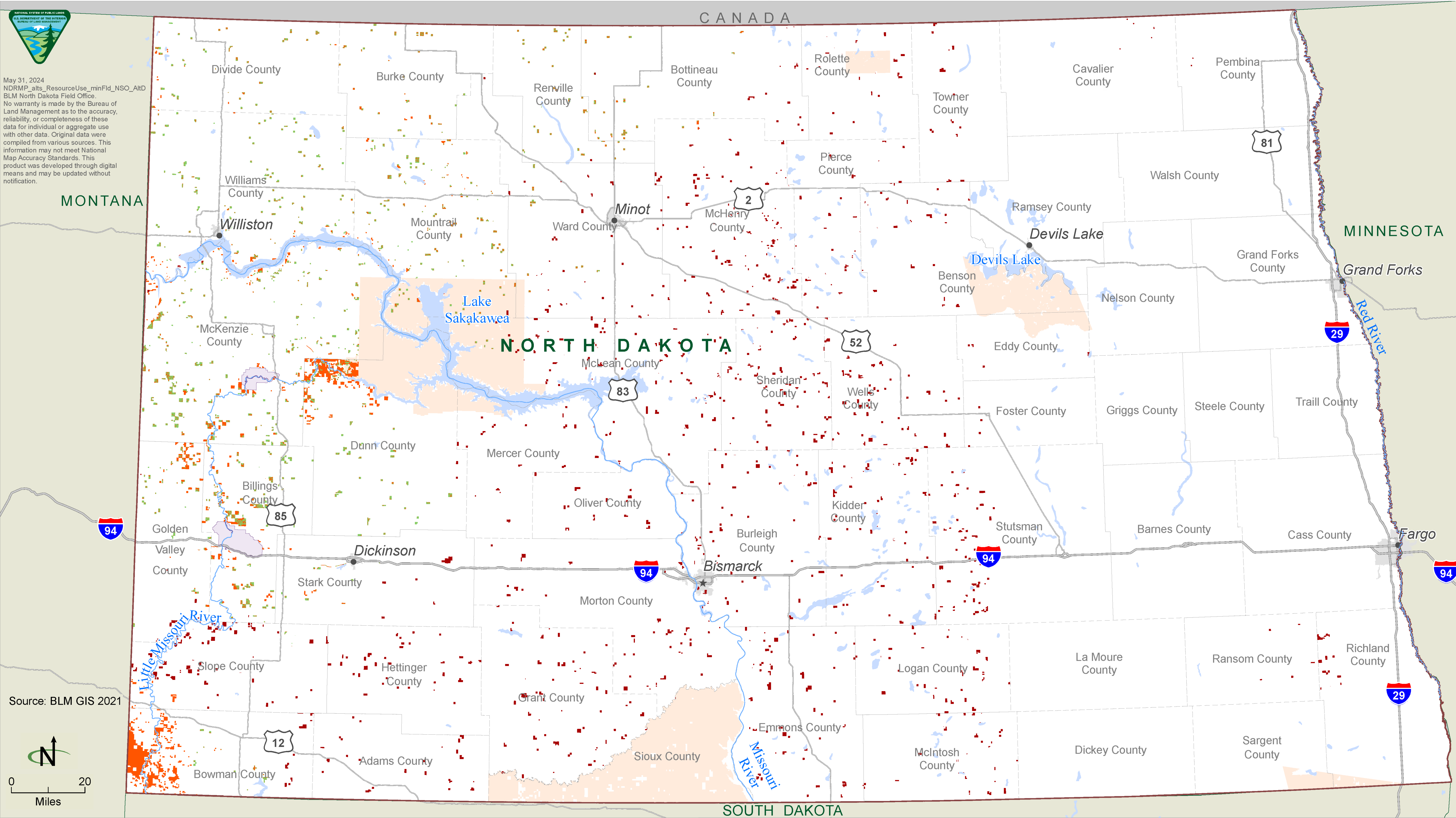
- Scattered parcels of the BLM surface decision area in the eastern portion of the state are managed as category 2 or 3
- North Dakota RMP planning area, western half





**Map 2-5**  
**Alternative D: Fluid Minerals Leasing**

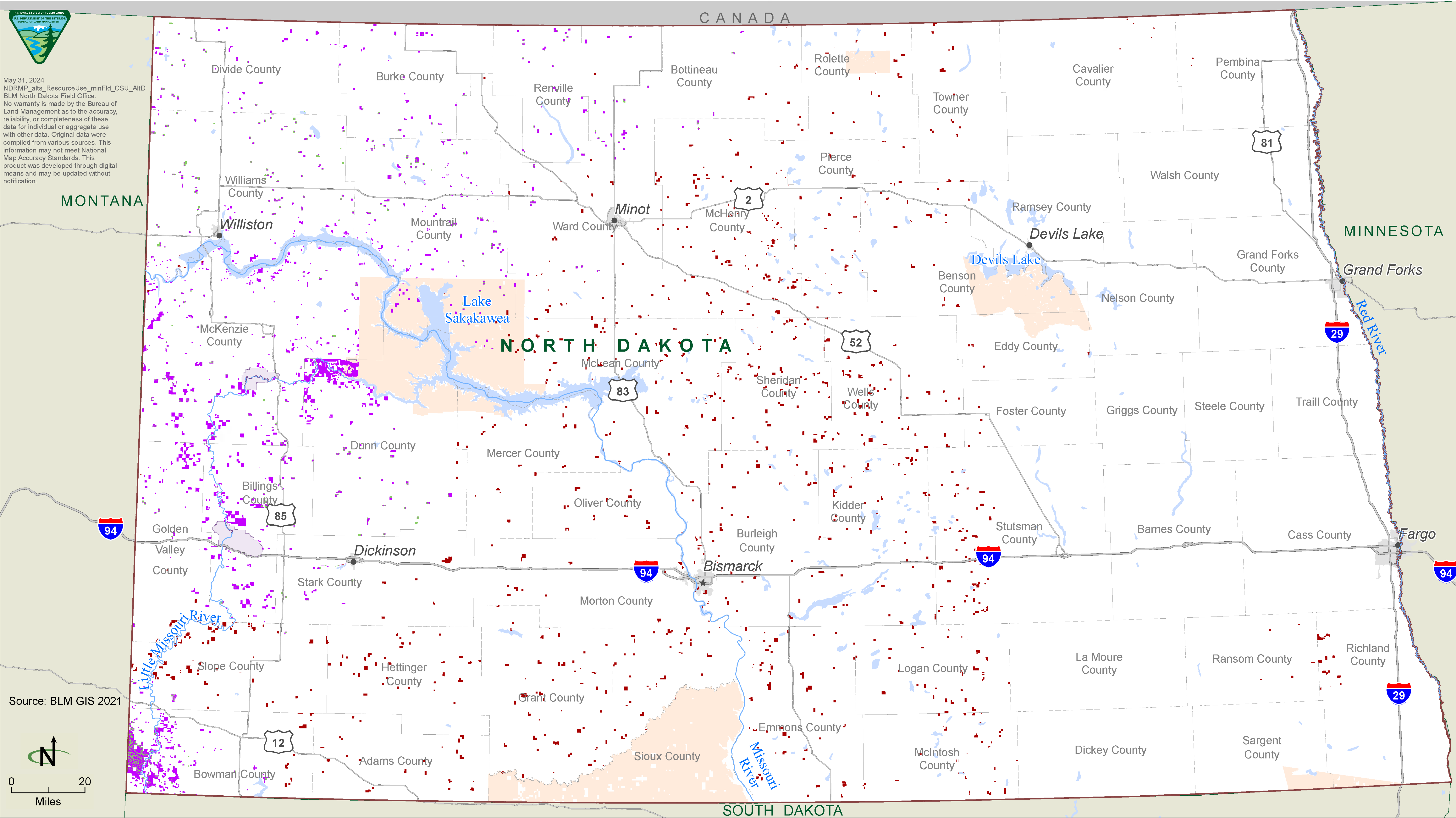
- Closed to fluid mineral leasing
- Open to fluid mineral leasing
- Bureau of Indian Affairs (BIA)
- National Park Service
- North Dakota RMP planning area



**Map 2-6**  
**Alternative D: Fluid Minerals Leasing, No Surface Occupancy**

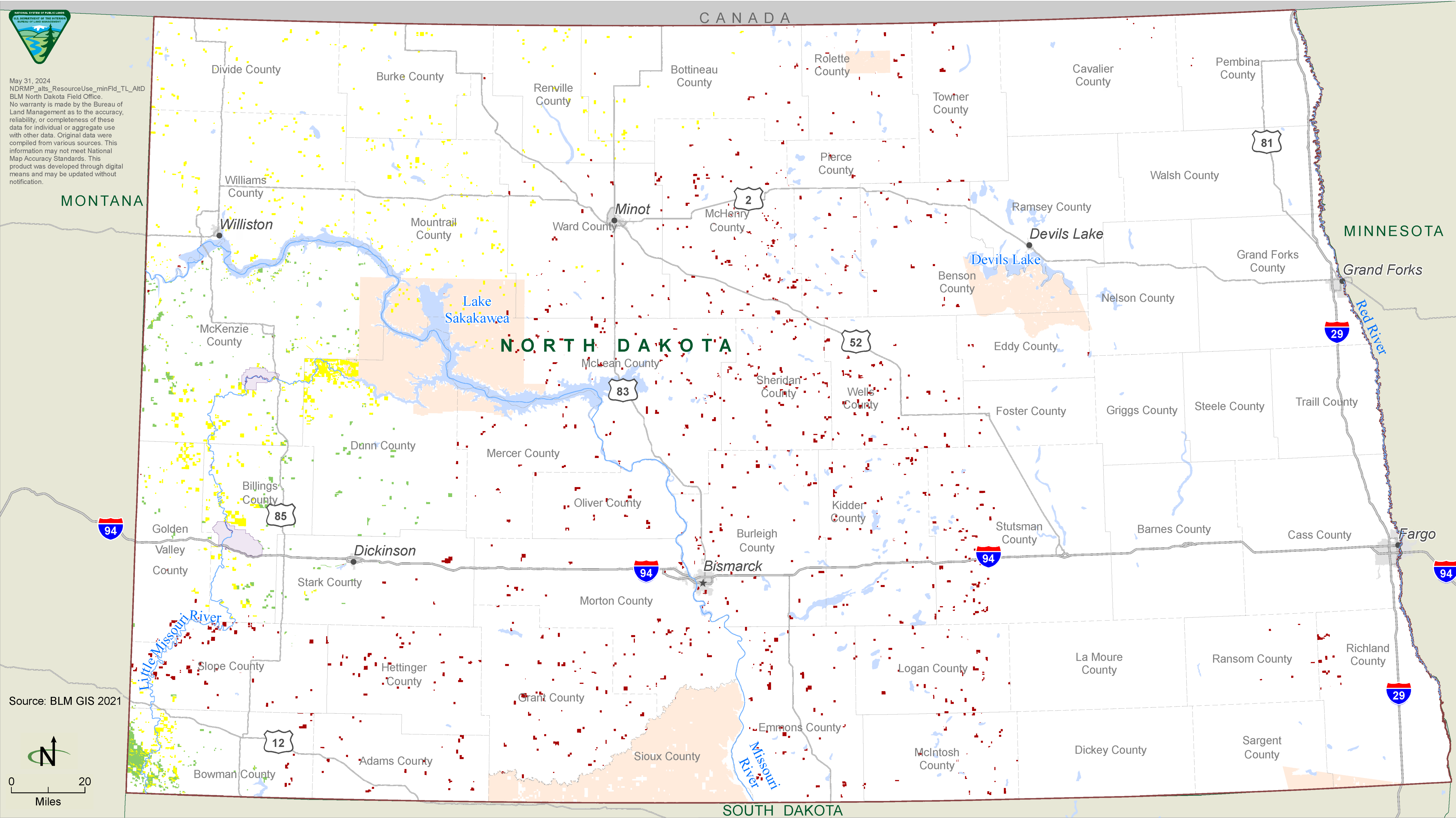
Closed to fluid mineral leasing	Bureau of Indian Affairs (BIA)	North Dakota RMP planning area
Open to fluid mineral leasing, subject to no surface occupancy	National Park Service	
Open to fluid mineral leasing		





**Map 2-7**  
**Alternative D: Fluid Minerals Leasing, Controlled Surface Use**

<span style="display: inline-block; width: 15px; height: 10px; background-color: red; border: 1px solid black;"></span> Closed to fluid mineral leasing	<span style="display: inline-block; width: 20px; height: 10px; background-color: orange; border: 1px solid black;"></span> Bureau of Indian Affairs (BIA)	<span style="display: inline-block; width: 20px; height: 10px; background-color: lightpurple; border: 1px solid black;"></span> North Dakota RMP planning area
<span style="display: inline-block; width: 20px; height: 10px; background-color: purple; border: 1px solid black;"></span> Open to fluid mineral leasing, subject to controlled surface use	<span style="display: inline-block; width: 20px; height: 10px; background-color: lightpurple; border: 1px solid black;"></span> National Park Service	
<span style="display: inline-block; width: 20px; height: 10px; background-color: green; border: 1px solid black;"></span> Open to fluid mineral leasing		



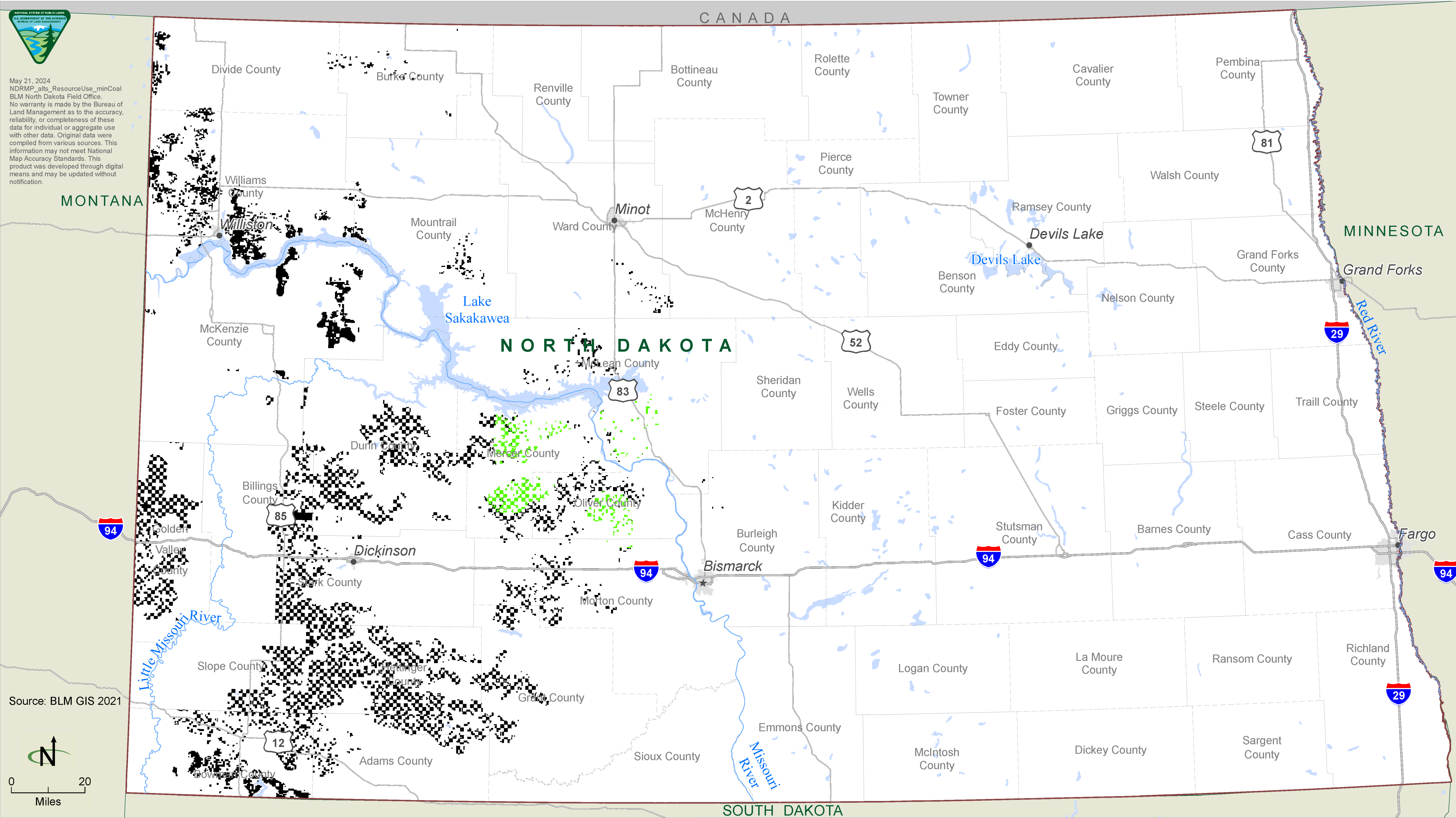
**Map 2-8**  
**Alternative D: Fluid Minerals Leasing, Timing Limitations**

■ Closed to fluid mineral leasing
  Bureau of Indian Affairs (BIA)
  North Dakota RMP planning area

■ Open to fluid mineral leasing, subject to timing limitation
  National Park Service

■ Open to fluid mineral leasing

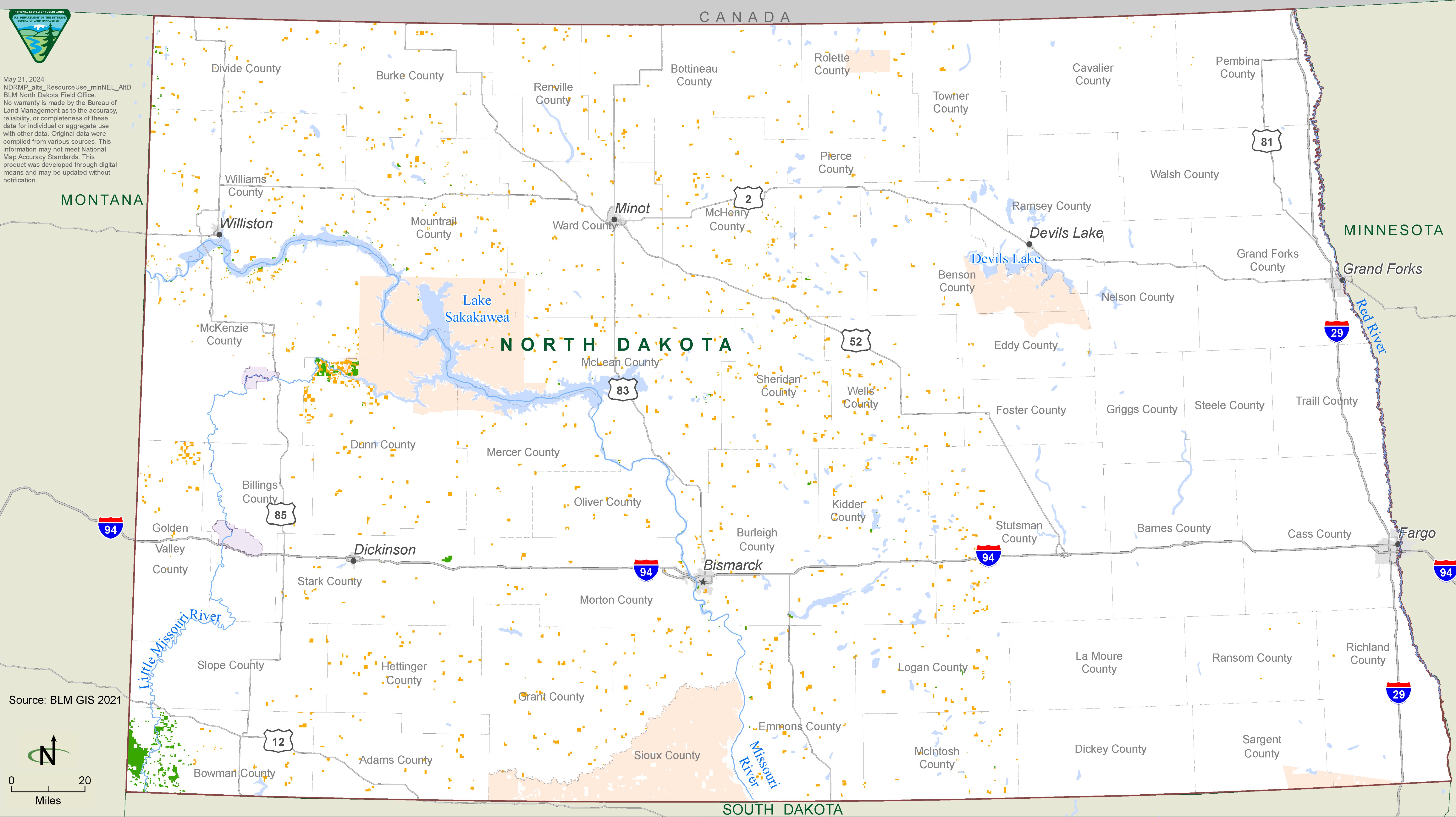









**Map 2-9**  
**Alternative D: Coal Leasing**

Legend:

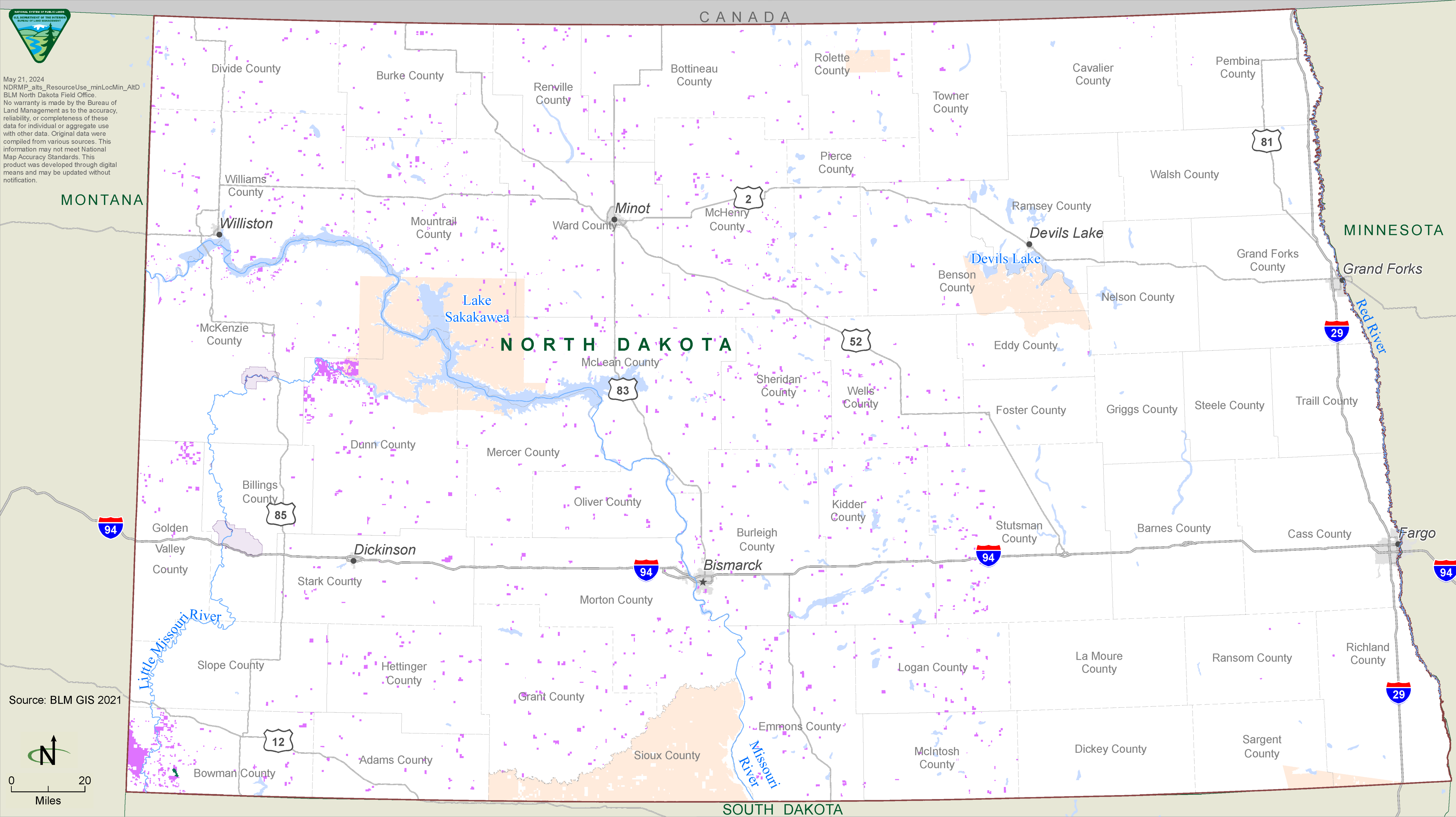
- Unacceptable
- Acceptable for coal development
- North Dakota RMP planning area




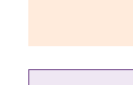



**Map 2-10**  
**Alternative D: Nonenergy Solid Leasable Minerals**

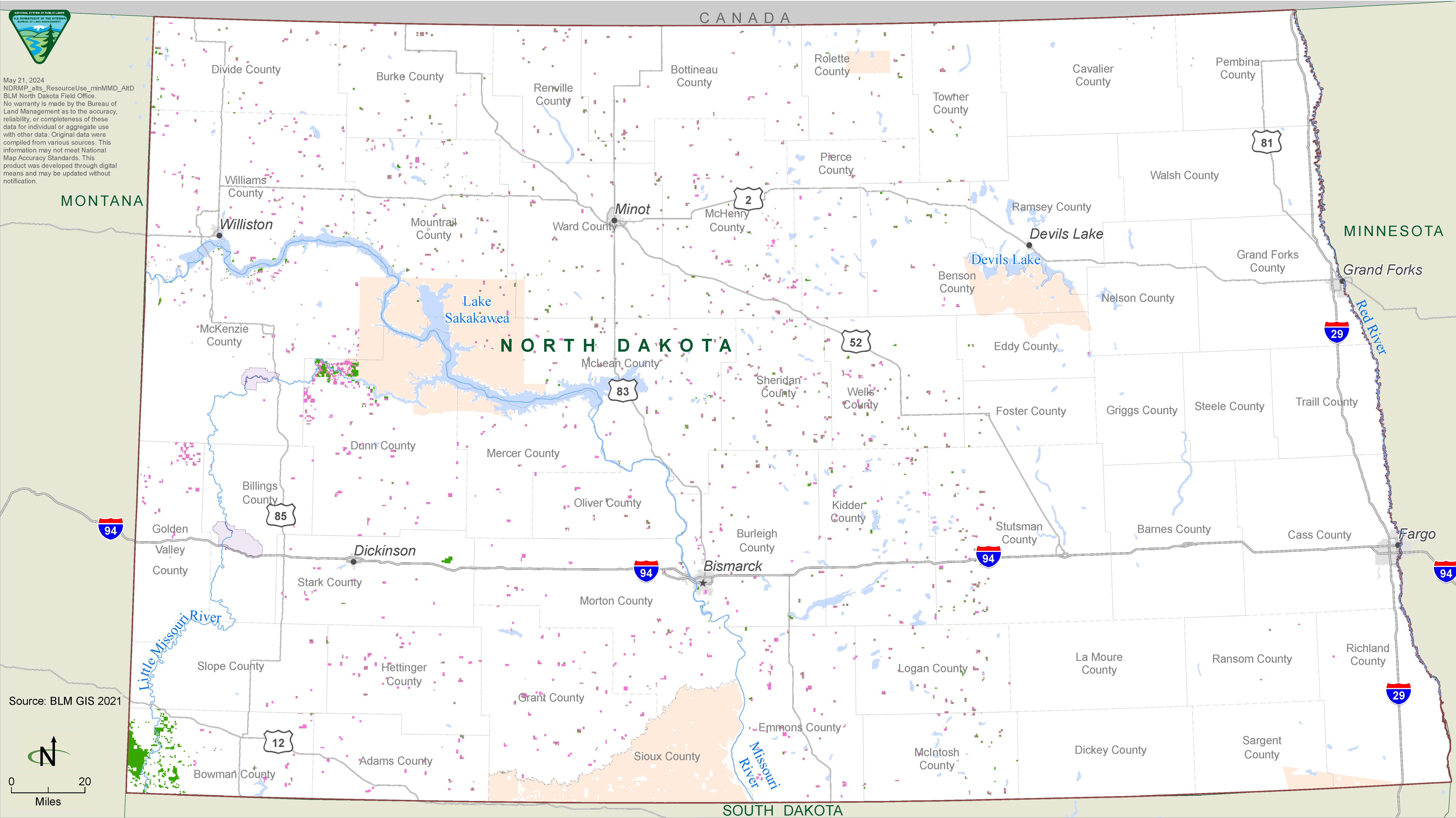
- |  |  |  |
|--|--|--|
|  Closed to nonenergy solid mineral leasing |  Bureau of Indian Affairs (BIA) |  North Dakota RMP planning area |
|  Open to nonenergy solid mineral leasing   |  National Park Service          |  |





**Map 2-11**  
**Alternative D: Locatable Minerals**

 Recommended for withdrawal from locatable mineral entry	 Bureau of Indian Affairs (BIA)	 North Dakota RMP planning area
 Open to locatable mineral entry	 National Park Service	

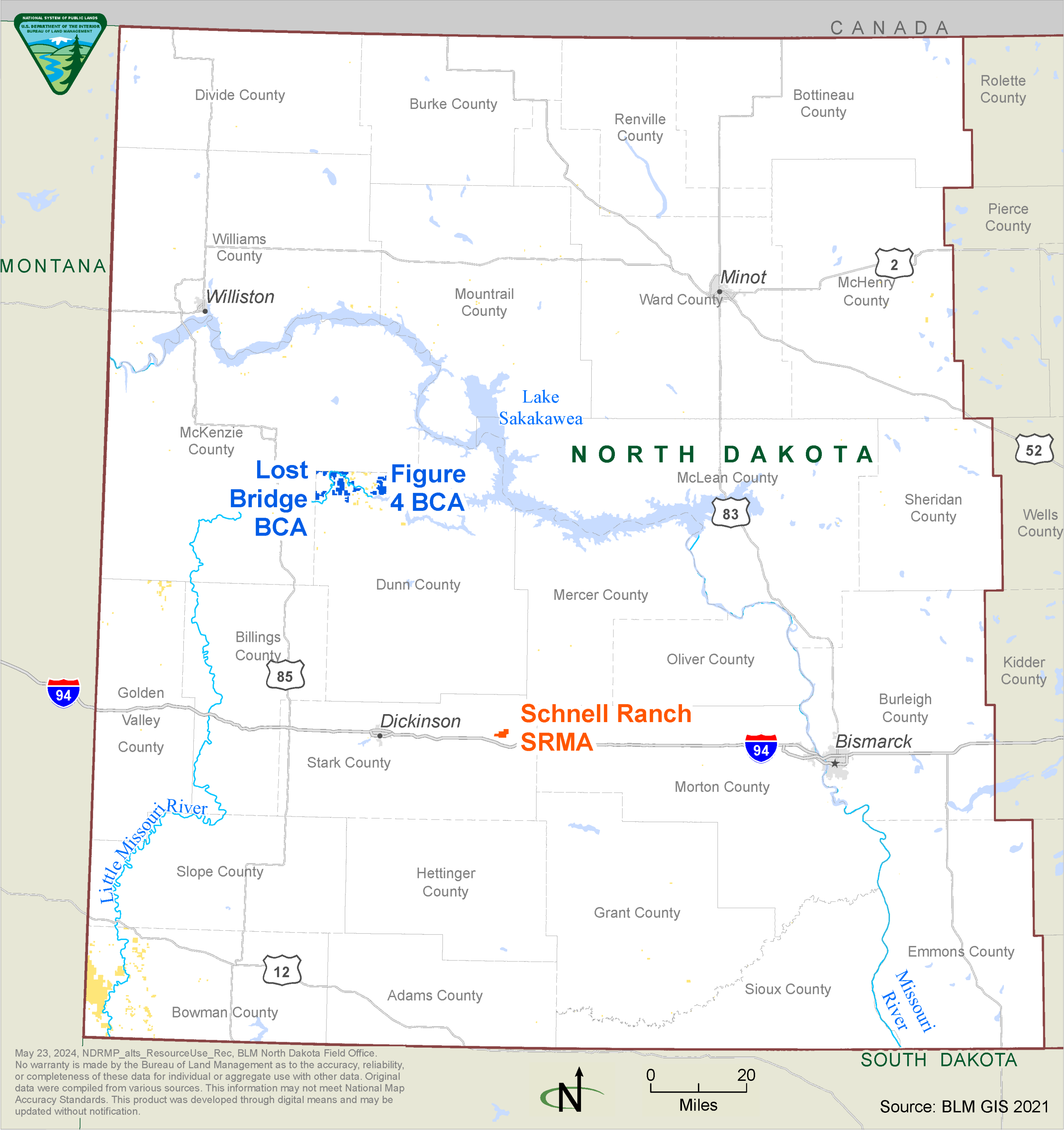


**Map 2-12**  
**Alternative D: Mineral Materials**

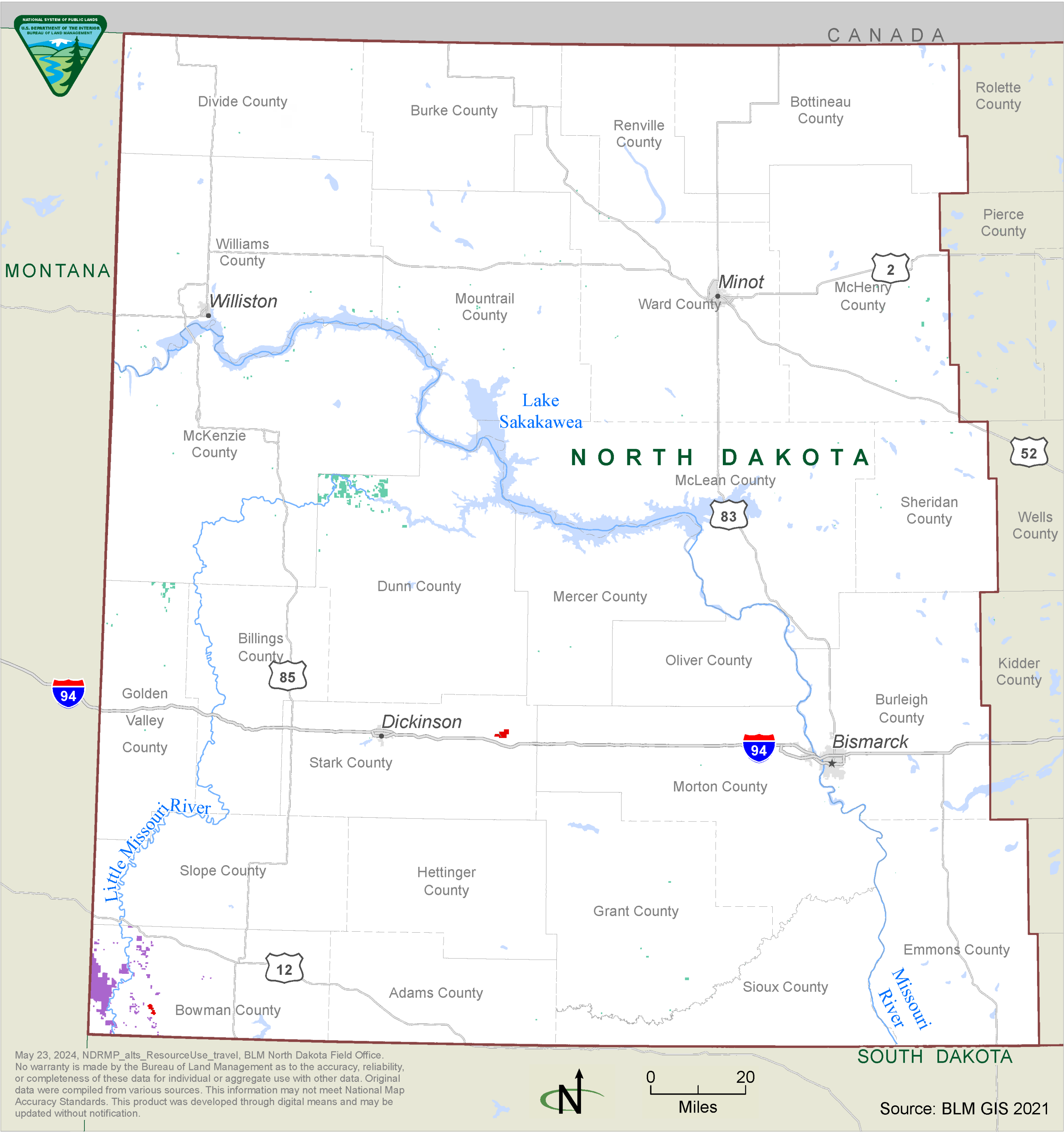
Legend:

- Green: Closed to mineral material disposal
- Pink: Open to mineral material disposal
- Orange: Bureau of Indian Affairs (BIA)
- Purple: National Park Service
- Red outline: North Dakota RMP planning area



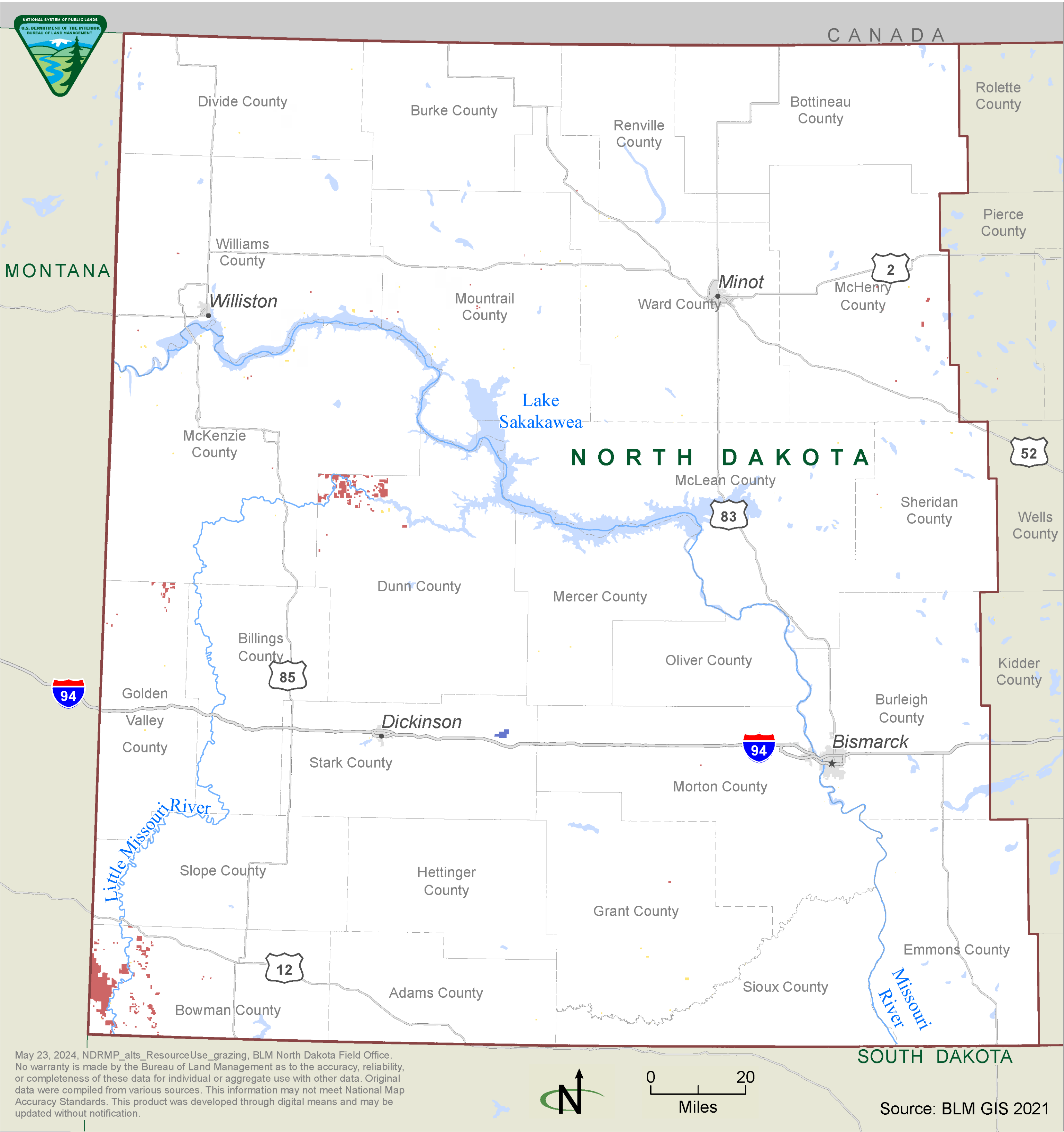


May 23, 2024, NDRMP\_alts\_ResourceUse\_Rec, BLM North Dakota Field Office.  
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.



**Map 2-14**  
**Alternative D: Travel, Transportation Management, and Access**

- Closed to OHV travel
- Seasonally limited to maintained roads for OHV travel, limited to designated routes for the remainder of the year
- Limited to OHV travel: limited to designated routes yearlong
- North Dakota RMP planning area, western half
- Scattered parcels of the BLM surface decision area in the eastern portion of the state are managed as limited to designated routes for OHV travel, yearlong.
- In spring (March 1–June 1), unsurfaced routes (for example, two-track routes) are closed (except for administrative or authorized purposes) to protect against erosion.



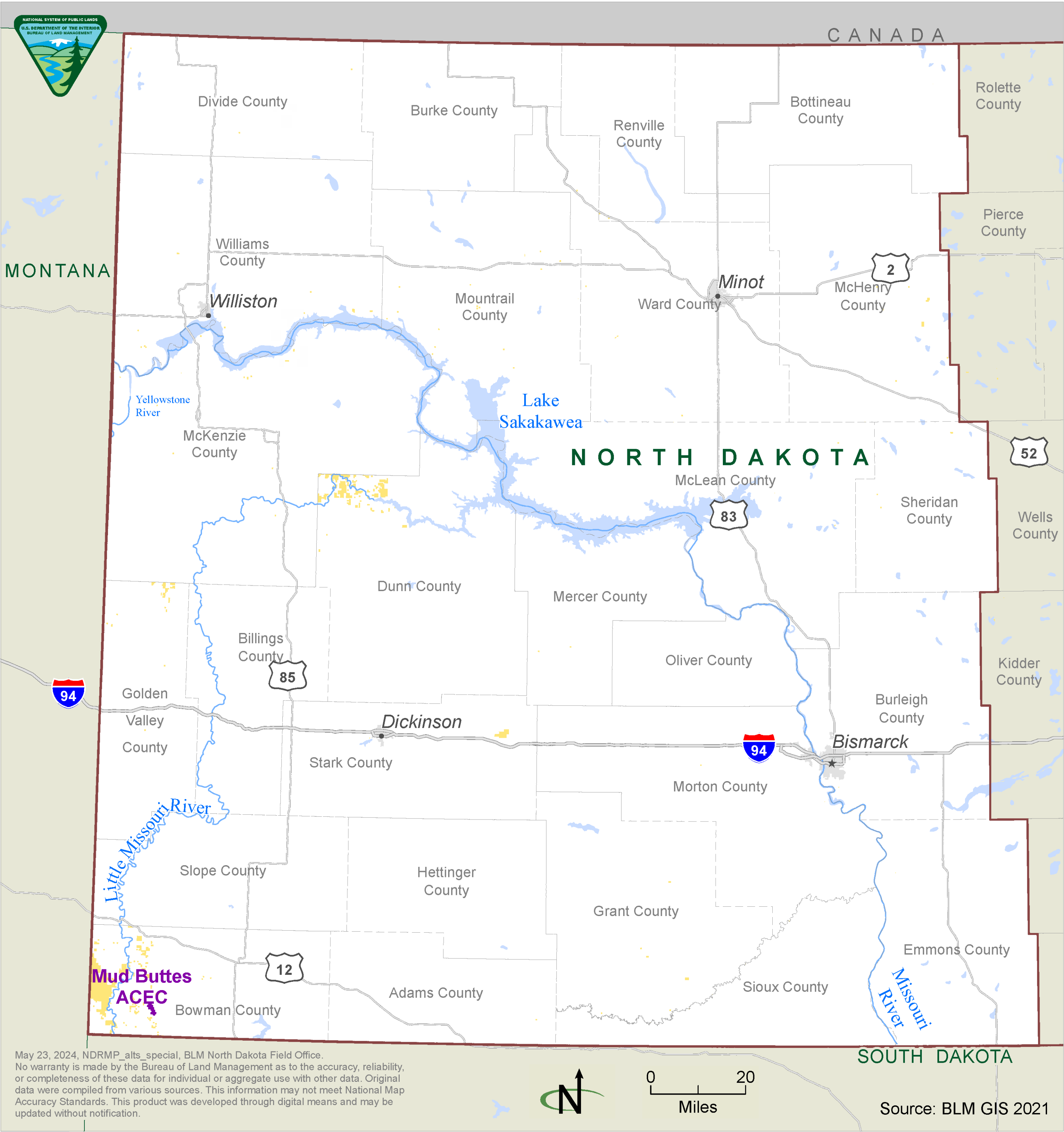
Map 2-15  
Alternative D: Livestock Grazing

- Unavailable for standard term livestock grazing leases, unleased
- Available for livestock grazing, unleased
- Available for livestock grazing, leased

North Dakota RMP planning area, western half

Scattered parcels of the BLM surface decision area in the eastern portion of the state are managed as available for livestock grazing





Map 2-16

Alternative D: Special Designations

- Area of Critical Environmental Concern (ACEC)
- Bureau of Land Management (surface decision area)
- North Dakota RMP planning area, western half

The Evaluation of Proposed Areas of Critical Environmental Concern, Figure 1, shows BLM-administered lands, counties, township and range for Mud Buttes ACEC.

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# Appendix B

Stipulations and Allocations Applicable to  
Fluid Minerals Leasing

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# Appendix B. Stipulations and Allocations Applicable to Fluid Minerals Leasing

This appendix lists the stipulations for fluid minerals leasing (e.g., oil, gas, helium, and geothermal) referred to throughout the Record of Decision for the North Dakota Resource Management Plan (RMP). The stipulations would not apply to activities and uses where they are contrary to laws, regulations, or specific program guidance, including locatable minerals development under the 1872 mining law. While they are not stipulations, this appendix also presents descriptions of the no leasing (NL) allocations for fluid minerals presented in the alternatives.

## **B.1 NO LEASING ALLOCATIONS**

### ***NL State-designated Source Water Protection Areas***

In the Approved RMP, close State-designated Source Water Protection Areas to fluid mineral leasing and geophysical exploration.

### ***NL Low Oil and Gas Development Potential Areas***

In the Approved RMP, close areas of low oil and gas development potential to fluid mineral leasing.

## **B.2 DESCRIPTION OF STIPULATIONS**

**Table B-1**, No Surface Occupancy Stipulations for Fluid Minerals Leasing, **Table B-2**, Controlled Surface Use Stipulations for Fluid Minerals Leasing, and **Table B-3**, Timing Limitation Stipulations Applicable to Fluid Minerals Leasing, provide details of the stipulations and restrictions by alternative. Three types of stipulations and restrictions could be applied to fluid minerals leases: no surface occupancy (NSO), controlled surface use (CSU), and timing limitation (TL).

NSO, CSU, and TL are stipulation decisions and apply to fluid minerals leasing and development of fluid mineral estate underlying Bureau of Land Management (BLM)-administered lands, privately owned lands, and state-owned lands. Stipulation decisions from this RMP do not apply to minerals underlying National Forest System lands, national wildlife refuges, National Park Service lands, Bureau of Reclamation lands, or Army Corps of Engineer lands. To lease minerals beneath surface lands administered by the US Department of Agriculture, US Forest Service (Forest Service), the BLM must receive consent to lease from the Forest Service. Also, the BLM must incorporate any accompanying stipulations required by forest land use plans or forest-wide programmatic leasing analyses.

Federal fluid mineral estate acres are greater than BLM-administered surface acres. In the planning area, the BLM administers 58,500 acres of surface estate and 489,300 acres of federal mineral estate for fluid minerals. The latter includes minerals administered by the BLM overlain by BLM-administered and private and state-owned land. Acreages are calculated on current information and may be adjusted in the future through plan maintenance as conditions warrant. Plan maintenance may be warranted if, for example, new minerals are acquired, or new wildlife habitat covered by a stipulation is discovered.

Lease stipulations and lease notices would be applied to all new leases and to expired leases that are reissued. On existing leases, the BLM would develop conditions of approval for applications for permits to

drill to achieve resource objectives of lease stipulations contained in the North Dakota RMP. New development on existing leases would have to comply with current management direction. This direction is consistent with Interior Board of Land Appeals decisions<sup>1</sup>. These decisions give the BLM discretion to modify surface operations to add specific mitigation measures, supported by site-specific National Environmental Policy Act (NEPA) analysis undertaken during the development phase on existing leases. Any additional mitigation measures would need to be justifiable, would still need to provide for lease development, and would need to be incorporated in a site-specific document.

### **B.2.1 Standard Terms and Conditions for Fluid Minerals Leasing**

Oil and gas development is subject to standard terms and conditions of the lease. Section 6 of the lease terms (BLM Form 3100-11, Offer to Lease and Lease for Oil and Gas) addresses the conduct of operations on an oil and gas lease, which provides basic environmental protections to resources, land uses and users. 43 CFR 3101.12 gives the BLM the ability to relocate proposed operations up to 2,625 feet (800 meters) and to prohibit surface-disturbing operations for a period not to exceed 90 days.

### **B.2.2 No Surface Occupancy**

Use or occupancy of the land surface for fluid minerals exploration or development and all activities associated with fluid minerals leasing are prohibited to protect identified resource values. Examples of these activities are truck-mounted drilling, stationary drill rigs in unison, geophysical exploration equipment off designated routes, and construction of wells or pads (refer to **Table B-1**).

The NSO stipulation is a category of major constraints. NSO areas are open to fluid minerals leasing, but surface occupancy or surface-disturbing activities associated with fluid minerals leasing cannot be conducted on the surface of the land. Access to fluid mineral deposits would require directional drilling or drilling from outside the boundaries of the NSO area. This differs from areas identified as closed to leasing in which neither the surface area nor mineral estate is available for fluid minerals leasing.

### **B.2.3 Controlled Surface Use**

CSU is a category of moderate constraint stipulations that allows some use and occupancy of BLM-administered land, while protecting identified resources or values. It is applicable to fluid minerals leasing and all activities associated with it, such as truck-mounted drilling, stationary drill rigs in unison, geophysical exploration equipment off designated routes, and construction of wells or pads. CSU areas are open to fluid minerals leasing, but the stipulation allows the BLM to require special operational constraints. Alternatively, the activity can be shifted more than 2,625 feet (800 meters) to protect the specified resource or value (refer to **Table B-2**).

### **B.2.4 Timing Limitations**

Areas identified for TL, a moderate constraint, are closed to fluid minerals exploration and development, surface-disturbing activities, and intensive human activity for periods that may exceed 90 days. This stipulation does not apply to operation and basic maintenance, including associated vehicle travel, unless otherwise specified. Construction, drilling, completions, and other operations considered to be intensive are

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<sup>1</sup> Yates Petroleum Corp., 176 Interior Board of Land Appeals 144 (2008) and William P. Maycock, 180 Interior Board of Land Appeals 1 (2010).

not allowed. Intensive maintenance, such as workovers on wells, is not permitted. Administrative activities are allowed at the discretion of the BLM Authorized Officer (refer to **Table B-3**).

### **B.2.5 Lease Notice**

A lease notice (LN) provides more-detailed information concerning limitations that already exist in law, lease terms, regulations, or operational orders. An LN also addresses special considerations for lessees when they plan their operations, but it does not impose additional restrictions. LNs are not an RMP-level decision, and new LNs may be added to fluid minerals leases at the time of sale. LNs apply only to leasable minerals, such as oil, gas, helium, and geothermal, and not to other types of leases, such as livestock grazing or coal leases (refer to **Table B-4**).

### **B.2.6 Condition of Approval**

Conditions of approval (COA) are requirements under which an application for permit to drill is approved, after a lease is issued. COAs are based on site-specific analysis and are designed to minimize, mitigate, or prevent effects on resource values or other uses of public lands. A particular condition of approval is not an RMP-level decision and is applicable only to fluid minerals leasing.

### **B.2.7 Project Mitigation and Monitoring**

Stipulations are designed to provide resource-specific protections. Permit holders are responsible for monitoring and reporting deemed necessary to document and maintain mandated protective measures. Also, the BLM retains the right to modify the operations of all surface and other disturbance activities caused by the presence of humans. BLM also has the right to require additional specific or specialized mitigation. This would be required after a lessee submits a detailed plan of development or other project proposal, a monitoring report, and an environmental analysis of such. BLM can require monitoring and mitigation on any federal mineral estate covered under this RMP, whether the estate be fee-fee or fee-federal land.

## **B.3 EXCEPTIONS, MODIFICATIONS, AND WAIVERS**

The BLM Authorized Officer could modify, make exceptions to, or waive stipulations and restrictions, subject to the stipulation's specific exceptions, modifications, or waivers. These actions provide a viable and effective means of applying adaptive management techniques to development of fluid minerals leases.

### **B.3.1 Standard Modification, Exception, and Waiver**

The standard exceptions, modifications, and waivers apply to all NSOs, CSUs, and TLs, unless otherwise stated. (In the following paragraphs, leasehold refers to fluid minerals leases.)

A *modification* is a change to the provisions of a lease stipulation or project, either temporarily or for the lease term or length of the project. Depending on the specific modification, the stipulation may or may not apply to all sites in the leasehold that the restrictive criteria are applied to. The BLM Authorized Officer may modify a stipulation or the area subject to the stipulation. This would be the case if he or she determines that the factors leading to its inclusion in the lease or project area have changed sufficiently.

The BLM Authorized Officer may modify a stipulation as a result of new information under one or more of the following circumstances:

- If the protection provided by the stipulation is no longer justified or necessary to meet resource objectives established in the RMP

- If the protection provided by the stipulation is no longer sufficient to meet resource objectives established in the RMP
- If the proposed operations would not cause unacceptable effects

The BLM Authorized Officer may require additional plans of development, surveys, mitigation proposals, or environmental analyses and may consult with other government agencies or the public to make this determination.

An *exception* is a one-time exemption for a particular site in the leasehold and is determined on a case-by-case basis. The exception continues to apply to all other sites in the leasehold. The BLM Authorized Officer may grant an exception to a stipulation. This would come about if he or she determines that the factors leading to its inclusion in the lease have changed sufficiently such that one of the following occurs:

- The protection provided by the stipulation is no longer justified or necessary to meet resource objectives established in the RMP
- The proposed operations would not cause unacceptable effects

The BLM Authorized Officer may require additional plans of development, surveys, mitigation proposals, or environmental analysis. He or she may consult with other government agencies or the public to make this determination.

A *waiver* is a permanent exemption from a lease stipulation. When a waiver is granted, the stipulation no longer applies anywhere in the leasehold. The BLM Authorized Officer may waive a stipulation. This would be the case if he or she determines that the factors leading to its inclusion in the lease or project no longer exist. The Authorized Officer may require additional plans of development, surveys, mitigation proposals, or environmental analysis. He or she may be required to consult with other government agencies or the public to make this determination.

The environmental analysis document prepared for site-specific proposals, such as oil and gas development, such as applications for permits to drill (APDs) and sundry notices, also needs to address any proposal to modify, except, or waive a surface stipulation.

**Table B-1**  
**No Surface Occupancy Stipulations for Fluid Minerals Leasing**

<b>Resource: Air Resources</b>	<b>Stipulation</b>	<b>Objective, Waiver, Exception, Modification</b>
<b>NSO New</b>  <b>Federal Class I Areas</b>	No surface occupancy is allowed within 1.0 mile of the boundary of the Lostwood Wilderness or the Theodore Roosevelt National Park Class I area	<p><b>Objective:</b> To protect the air quality and air quality related values within these Federally designated Class I areas.</p> <p><b>Exception, Modification, Waiver:</b> This stipulation may be waived or reduced, by the Authorized Officer, if the lessee or operator can demonstrate, to the satisfaction of the applicable federal land management agency, that operations will be conducted without causing unacceptable impacts such as degraded visibility, atmospheric deposition impacts, or increased atmospheric concentrations of air pollutants at or above an AAQS within the Class I area and that any adverse impacts will be adequately mitigated.</p>
<b>Resource: Soil Resources</b>	<b>Stipulation</b>	<b>Objective, Waiver, Exception, Modification</b>
<b>NSO 11-69</b>  <b>Badlands, Rock Outcrop</b>	Surface occupancy and use is prohibited on badlands and rock outcrops.	<p><b>Objective:</b> To prevent excessive soil erosion and to avoid disturbing areas subject to potential reclamation problems.</p> <p><b>Exception:</b> The Authorized Officer may not grant exceptions to this stipulation.</p> <p><b>Modification:</b> The Authorized Officer may modify the area affected by this stipulation if it is determined that portions of the leasehold do not include these types of areas.</p> <p><b>Waiver:</b> The Authorized Officer may waive this stipulation if it is determined that the entire leasehold does not include these types of areas.</p>

Resource: Water Resources	Stipulation	Objective, Waiver, Exception, Modification
<b>NSO New</b>  <b>Missouri River</b>	<p>Surface occupancy and use is prohibited within 0.50 miles of the ordinary high-water mark for the Missouri River, Lake Sakakawea, and Lake Oahe.</p>	<p><b>Objective:</b> To recognize the regional importance of the Missouri River as a state class I river used as a major supply of public drinking water. To protect water quality, riparian, wildlife, scenic, and recreational values along the major river corridor.</p> <p><b>Exceptions:</b> An exception may be granted by the Authorized Officer to allow surface occupancy and use within 0.50 miles but not closer than 1,000 feet of the ordinary high-water mark if the operator can demonstrate the following:</p> <ul style="list-style-type: none"> <li>• There are no practicable alternatives to locating facilities in these areas;</li> <li>• Terrain features are present that result in the drainage path of any spill or release being greater than 0.50 miles;</li> <li>• Terrain features are present that result in roads and facilities not being visible from the water;</li> <li>• All reclamation goals and objectives would be met; and</li> <li>• The Authorized Officer may require additional surveys, mitigation proposals, and best management practices.</li> </ul> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None</p>

Resource: <i>Water Resources</i>	Stipulation	Objective, Waiver, Exception, Modification
<b>NSO-11-70</b>  <b>Streams, Waterbodies, Riparian Areas, Wetlands, and Floodplains</b>	Surface occupancy and use is prohibited within perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas.	<p><b>Objective:</b> To protect the unique biological and hydrological features and functions associated with perennial and intermittent streams, lakes, ponds, reservoirs, floodplains, wetlands, and riparian areas.</p> <p><b>Waiver:</b> The Authorized Officer may waive this stipulation if it is determined that the entire leasehold does not include these types of areas.</p> <p><b>Exception:</b> No exceptions would be allowed in streams, natural lakes, or wetlands. An exception may be granted by the Authorized Officer for riparian areas, floodplains, and artificial ponds or reservoirs if the operator can demonstrate that:</p> <ul style="list-style-type: none"> <li>• there are no practicable alternatives to locating facilities in these areas,</li> <li>• the proposed actions would maintain or enhance resource functions, and</li> <li>• all reclamation goals and objectives would be met.</li> </ul> <p><b>Modification:</b> The Authorized Officer may modify the boundaries of the stipulated area if it is determined that portions of the leasehold do not include these types of areas.</p>

Resource: <i>Vegetation Communities</i>	Stipulation	Objective, Waiver, Exception, Modification
<b>NSO-New</b>  <b>Tallgrass Prairie</b>	Surface occupancy and use is prohibited in identified tallgrass prairie.	<p><b>Objective:</b> To protect tallgrass prairie.</p> <p><b>Waiver:</b> The Authorized Officer may waive this stipulation if it is determined that the entire leasehold does not include these types of areas.</p> <p><b>Exception:</b> The Authorized Officer may not grant exceptions to this stipulation.</p> <p><b>Modification:</b> The Authorized Officer may modify the area affected by this stipulation if it is determined that portions of the leasehold do not include these types of areas.</p>



Resource: Vegetation Communities	Stipulation	Objective, Waiver, Exception, Modification
NSO 11-24  Special Status Plants	No surface occupancy or use is allowed within 0.25 miles of special status plants or populations.	<p><b>Objective:</b> To protect and conserve rare plants, associated plant communities, and the habitat that supports them.</p> <p><b>Waiver:</b> The Authorized Officer may not waive this stipulation.</p> <p><b>Exception:</b> The Authorized Officer may not grant exceptions to this stipulation.</p> <p><b>Modification:</b> The Authorized Officer may modify the area affected by this stipulation if it is determined that land within 0.25 miles of the special status plant population does not provide potential habitat for these species.</p>

Resource: Riparian and Wetland Vegetation	Stipulation	Objective, Waiver, Exception, Modification
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See *Water Resources* and *Vegetation Communities*.

Resource: Terrestrial and Aquatic Wildlife Resources	Stipulation	Objective, Waiver, Exception, Modification
NSO-11-73  Other Raptor Nests	Surface occupancy and use is prohibited within 0.25 miles of raptor nest sites active within the preceding 7 years.	<p><b>Objective:</b> To protect nest sites of raptors identified as BLM priority species for management.</p> <p><b>Waiver:</b> The Authorized Officer may waive this stipulation if the entire leasehold is no longer within 0.25 miles of raptor nest sites active within the past 7 years or if the habitat has been altered to an extent, future use by nesting raptors is unlikely.</p> <p><b>Exception:</b> The Authorized Officer may grant an exception if the action will not result in nest territory abandonment.</p> <p><b>Modification:</b> The Authorized Officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within 0.25 miles of raptor nest sites active within the past 7 years.</p>

Resource: Terrestrial and Aquatic Wildlife Resources	Stipulation	Objective, Waiver, Exception, Modification
<b>NSO-New Wildlife Management Areas</b>	<p>Surface occupancy and use is prohibited within state Wildlife Management Areas.</p>	<p><b>Objective:</b> To protect wildlife and habitat in state Wildlife Management Areas.</p> <p><b>Waiver:</b> This stipulation may be waived by the Authorized Officer, in consultation with the North Dakota Game and Fish Department, determines that the entire leasehold no longer contains a state Wildlife Management Area.</p> <p><b>Exception:</b> An exception may be granted by the Authorized Officer, in consultation with the North Dakota Game and Fish Department, if the operator submits a plan demonstrating that impacts from the proposed action are acceptable or can be mitigated.</p> <p><b>Modification:</b> The boundaries of the area may be modified by the Authorized Officer, in consultation with the North Dakota Game and Fish Department, if it is determined the management boundaries can be changed.</p>

Resource: Special Status Species	Stipulation	Objective, Waiver, Exception, Modification
<p><b>NSO 11-111</b></p> <p><b>Greater Sage-Grouse Priority Habitat Management Area (PHMA)</b></p>	<p>Surface occupancy and use is prohibited within Greater Sage-Grouse PHMA.</p>	<p><b>Objective:</b> To protect the integrity of the habitat to maintain or improve Greater Sage-Grouse populations.</p> <p><b>Waiver:</b> The Authorized Officer may not this stipulation.</p> <p><b>Exception:</b> The BLM Authorized Officer may grant an exception to a fluid mineral lease NSO stipulation only where the proposed action:</p> <ul style="list-style-type: none"> <li>i. Will not have direct, indirect, or cumulative effects on Greater Sage-Grouse or its habitat; or</li> <li>ii. Is proposed to be undertaken as an alternative to a similar action occurring on a nearby parcel and will provide a clear conservation gain to Greater Sage-Grouse.</li> </ul> <p>Exceptions based on conservation gain (ii) may only be considered in (a) PHMA of mixed ownership where Federal minerals underlie less than fifty percent of the total surface, or (b) areas of the public lands where the proposed exception is an alternative to an action occurring on a nearby parcel subject to a valid Federal fluid mineral lease existing as of the date of this RMPA. Exceptions based on conservation gain must also include measures, such as enforceable institutional controls and buffers, sufficient to allow the BLM to conclude that such benefits will endure for the duration of the proposed action's impacts.</p> <p>Any exceptions to this lease stipulation may be approved by the BLM Authorized Officer only with the concurrence of the State Director. The BLM Authorized Officer may not grant an exception unless the applicable state wildlife agency, the USFWS, and the BLM unanimously find that the proposed action satisfies (i) or (ii). Such finding shall initially be made by a team of one field biologist or other Greater Sage-Grouse expert from each respective agency. In the event the initial finding is not unanimous, the finding may be elevated to the appropriate BLM State Director, USFWS State Ecological Services Director, and state wildlife agency head for final resolution. In the event their finding is not unanimous, the exception will not be granted. Approved exceptions will be made publicly available at least quarterly.</p> <p><b>Modification:</b> The Authorized Officer may not modify this stipulation.</p>

<b>Resource: Special Status Species</b>	<b>Stipulation</b>	<b>Objective, Waiver, Exception, Modification</b>
<b>NSO 11-35</b>  <b>Greater Sage-Grouse Strutting Grounds</b>	No surface occupancy or use is allowed within 0.25 miles of active Greater Sage-Grouse strutting grounds.	<b>Objective:</b> to protect sage grouse leks.  <b>Exception, Modification, Waiver:</b> This stipulation may be waived or reduced if circumstances change, or if the lessee can demonstrate that operations can be conducted without causing unacceptable impacts. Exceptions to this limitation in any particular year may be specifically approved in writing by the authorized officer. In all cases, the stipulation (including any modification) will be designed to present the least restrictive measure for avoiding unacceptable adverse impacts.
<b>NSO 11-38</b>  <b>Golden Eagle Nests</b>	No surface occupancy or use is allowed within 0.50 miles of golden eagle nests known to have been occupied at least once within the 7 previous years.	<b>Objective:</b> To protect golden eagle nesting territories.  <b>Exception, Modification, Waiver:</b> This stipulation may be waived or reduced if circumstances change, or if the lessee can demonstrate that operations can be conducted without causing unacceptable impacts. Exceptions to this limitation in any particular year may be specifically approved in writing by the authorized officer. In all cases, the stipulation (including any modification) will be designed to present the least restrictive measure for avoiding unacceptable adverse impacts.
<b>NSO-11-74</b>  <b>Bald Eagles</b>	Surface occupancy and use is prohibited within 0.50 miles of bald eagle nest sites active within the preceding 5 years.	<b>Objective:</b> To protect nest sites and nesting activities of bald eagles, a BLM priority species for management.  <b>Waiver:</b> The Authorized Officer may waive this stipulation if the entire leasehold is no longer within 0.50 miles of bald eagle nest sites active within the past 5 years or if the habitat has been altered to an extent, future use by nesting bald eagles is unlikely.  <b>Exception:</b> The Authorized Officer may grant an exception, subject to coordination with the USFWS, if the action will not result in nest territory abandonment.  <b>Modification:</b> The Authorized Officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within 0.5 mile of bald eagle nest sites active within the past 5 years.

<b>Resource: Special Status Species</b>	<b>Stipulation</b>	<b>Objective, Waiver, Exception, Modification</b>
<b>NSO-11-122</b>  <b>Peregrine Falcon Nests</b>	Surface occupancy and use is prohibited within 1 mile of peregrine falcon nests active within the preceding 7 years.	<p><b>Objective:</b> To protect nest sites and nesting activities of peregrine falcons, a BLM priority species for management.</p> <p><b>Waiver:</b> The Authorized Officer may waive this stipulation of the entire leasehold is no longer within one mile of peregrine falcon nest sites active within the past 7 years or if the habitat has been altered to an extent that future use by nesting peregrine falcons is unlikely.</p> <p><b>Exception:</b> The Authorized Officer may grant an exception if the action will not result in nest territory abandonment.</p> <p><b>Modification:</b> The Authorized Officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within one mile of peregrine falcon nest sites active within the past 7 years.</p>
<b>NSO-11-153</b>  <b>Interior Least Tern Active Nests</b>	Surface occupancy and use is prohibited within 0.25 miles of interior least tern active nests.	<p><b>Objective:</b> To protect and maintain habitat needed to support regional interior least tern populations.</p> <p><b>Waiver:</b> The stipulation may be waived if the Authorized Officer, in consultation with USFWS, determines that the entire leasehold can be occupied without adversely affecting interior least tern active nests.</p> <p><b>Exception:</b> An exception to this stipulation may be granted if the Authorized Officer, in consultation with the USFWS, determines that portions of the area can be occupied without adversely affecting interior least tern active nests.</p> <p><b>Modification:</b> The boundaries of the stipulated area may be modified if the Authorized Officer, in consultation with USFWS, determines that portions of the area can be occupied without adversely affecting interior least tern active nests. The Authorized Officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.</p>

Resource: Special Status Species	Stipulation	Objective, Waiver, Exception, Modification
<b>NSO-11-156</b>  <b>Piping Plover Critical Habitat</b>	Surface occupancy and use is prohibited in and within 0.25 miles of piping plover critical habitat.	<p><b>Objective:</b> To protect piping plover critical habitat and to maintain regional piping plover populations.</p> <p><b>Waiver:</b> The stipulation may be waived if the Authorized Officer, in consultation with USFWS, determines that the entire leasehold is no longer piping plover critical habitat.</p> <p><b>Exception:</b> An exception to this stipulation may be granted if the Authorized Officer, in consultation with the USFWS, determines that portions of the area can be occupied without adversely affecting piping plover critical habitat.</p> <p><b>Modification:</b> The boundaries of the stipulated area may be modified if the Authorized Officer, in consultation with USFWS, determines that portions of the area can be occupied without adversely affecting piping plover critical habitat. The Authorized Officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.</p>
<b>NSO-New</b>  <b>Dakota Skipper Habitat</b>	Surface occupancy and use is prohibited within 500 meters of occupied Dakota skipper habitat.	<p><b>Objective:</b> To protect Dakota skipper habitat and to maintain regional populations.</p> <p><b>Waiver:</b> The stipulation may be waived if the Authorized Officer, in consultation with USFWS, determines that the entire leasehold is no longer occupied Dakota skipper habitat.</p> <p><b>Exception:</b> An exception to this stipulation may be granted if the Authorized Officer, in consultation with the USFWS, determines that portions of the area can be occupied without adversely affecting Dakota skipper habitat.</p> <p><b>Modification:</b> The boundaries of the stipulated area may be modified if the Authorized Officer, in consultation with USFWS, determines that portions of the area can be occupied without adversely affecting Dakota skipper habitat. The Authorized Officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.</p>

Resource: Special Status Species	Stipulation	Objective, Waiver, Exception, Modification
NSO-New  Pallid Sturgeon Habitat	Surface occupancy and use is prohibited within 0.50 miles of the ordinary high-water mark of identified pallid sturgeon habitat.	<p><b>Objective:</b> To protect pallid sturgeon habitat.</p> <p><b>Waiver:</b> The Authorized Officer may waive this stipulation if the entire leasehold is no longer within 0.50 miles of the water's edge of the Yellowstone or Missouri Rivers.</p> <p><b>Exception:</b> The Authorized Officer, subject to consultation with the USFWS, may grant an exception if the action will not impair habitat of the pallid sturgeon.</p> <p><b>Modification:</b> The Authorized Officer may modify the boundaries of the stipulated area if portions of the leasehold are not within 0.50 miles of the water's edge of the Yellowstone or Missouri Rivers.</p>
Resource: Cultural Resources	Stipulation	Objective, Waiver, Exception, Modification
NSO 11-40  Fort Union Trading Post National Historic Landmark	No surface occupancy or use is allowed in a visible area within a 3.5-mile radius of the Fort Union Trading Post National Historic Landmark.	<p><b>Objective:</b> To protect the Fort Union viewshed.</p> <p>Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.</p> <p><b>Exception, Modification, Waiver:</b> This stipulation may be waived or reduced if circumstances change, or if the lessee can demonstrate that operations can be conducted without causing unacceptable impacts. Exceptions to this limitation in any particular year may be specifically approved in writing by the authorized officer. In all cases, the stipulation (including any modification) will be designed to present the least restrictive measure for avoiding unacceptable adverse impacts.</p>
NSO-New  Doaks Butte	At the Doaks Butte (32BO222) site, no surface occupancy or use is allowed within 300 feet of the site boundary.	<p><b>Objective:</b> To protect the site for further archaeological research.</p> <p><b>Waiver:</b> The Authorized Officer may not waive this stipulation.</p> <p><b>Exception:</b> The Authorized Officer may not grant an exception to this stipulation.</p> <p><b>Modification:</b> The Authorized Officer may not modify this stipulation.</p>



Resource: <i>Cultural Resources</i>	Stipulation	Objective, Waiver, Exception, Modification
<p><b>NSO-New</b></p> <p><b>Significant Cultural Resources, NRHP-Eligible Properties and Districts, and TCPs</b></p>	<p>Surface occupancy and use is prohibited within the boundaries of, and for a distance of 100 feet from, the boundaries of:</p> <ul style="list-style-type: none"> <li>• sites or areas designated or sites or areas that meet the criteria for allocation for designation for scientific use, conservation use, traditional use (socio-cultural use), public use, and experimental use;</li> <li>• the boundaries of sites or districts determined eligible for or included on the NRHP; and</li> <li>• the boundaries of traditional cultural properties, or sites or areas designated as such, or sites or areas that meet the criteria for allocation for designation for traditional use (socio-cultural use), or cultural properties determined to be of particular importance to Native American groups. Such properties include, but are not limited to, burial locations, pictograph and petroglyph sites, vision quest locations, plant-gathering locations, and areas considered sacred or used for religious purposes.</li> </ul>	<p><b>Objective:</b> To protect and avoid disturbance and inadvertent impacts to significant cultural properties, districts, and their settings; NRHP-eligible properties and districts; TCPs or those designated for traditional use and the settings in which they occur; and those properties determined to be of particular importance to American Indian groups.</p> <p><b>Waiver:</b> The Authorized Officer may not waive this stipulation.</p> <p><b>Exception:</b> An exception to this stipulation may be granted by the Authorized Officer if the conditions described below are met.</p> <ul style="list-style-type: none"> <li>• The lessee or project proponent submits a plan demonstrating that adverse impacts or effects to the cultural property can be avoided by project redesign or relocation within the buffer area; or the project is located so that it and any associated surface disturbance will not alter the characteristics of the cultural or historic property by diminishing the integrity of the property's location, design, setting, materials, workmanship, feeling, or association; or so that there will be no destruction, damage, or alteration to all or part of the cultural resource's visual, atmospheric, or audible elements that could diminish the integrity of the property's significant historic features (e.g., project placed behind a hill or screened from view or by some other method within the buffer area).</li> <li>• The lessee or project proponent submits a plan demonstrating that the adverse impacts to cultural properties can be mitigated through data recovery and extensive recordation. Where impacts to cultural resources cannot be mitigated to the satisfaction of the BLM, surface occupancy in the area will be prohibited.</li> <li>• The lessee or operator submits a plan demonstrating that operations will be designed or located in such a manner as to have a minimal impact to the natural setting and characteristics of the immediate area and demonstrating that adverse impacts to TCPs or sites designated for traditional use can be mitigated in consultation with affected American Indian Tribes or American Indian groups.</li> </ul> <p><b>Modification:</b> The Authorized Officer may not modify this stipulation.</p>

Resource: <i>Paleontological Resources</i>	Stipulation	Objective, Waiver, Exception, Modification
<b>NSO-11-85</b>  <b>Paleontological Resources</b>	Surface occupancy and use is prohibited in significant paleontological localities.	<p><b>Objective:</b> To preserve and protect significant vertebrate fossils and paleontological localities.</p> <p><b>Waiver:</b> None</p> <p><b>Exception:</b> An exception may be granted by the Authorized Officer if the lessee or project proponent submits a plan demonstrating that the adverse impacts to paleontological localities can be mitigated through data recovery and extensive recordation. Where impacts to paleontological resources cannot be mitigated to the satisfaction of the BLM, surface occupancy on that area will be prohibited.</p> <p><b>Modification:</b> None</p>
Resource: <i>Solid Leasable Minerals</i>	Stipulation	Objective, Waiver, Exception, Modification
<b>NSO-11-63</b>  <b>Coal</b>	Prohibit surface occupancy and use in an authorized federal coal lease existing prior to the time the oil and gas lease was issued, in conformance with 43 CFR 3400.1.	<p><b>Objective:</b> To protect existing coal leases with approved mining plans.</p> <p><b>Waiver:</b> This stipulation can be waived by the Authorized Officer if it is determined that all coal lease operations within the leasehold have been completed or the lease is terminated, canceled, or relinquished.</p> <p><b>Exception:</b> An exception may be granted by the Authorized Officer if the operator submits a plan of operations that is compatible with existing or planned coal mining operations and approved by all affected parties.</p> <p><b>Modification:</b> The area affected by this stipulation can be modified by the Authorized Officer if it is determined that portions of the area are not needed for existing or planned mining operations or where mining operations have been completed and the modification is approved by all affected parties.</p>

<b>Resource: Recreation</b>	<b>Stipulation</b>	<b>Objective, Waiver, Exception, Modification</b>
<b>NSO-New</b>  <b>National Historic Trails</b>	<p>Surface occupancy and use is prohibited within the National Trail Management Corridor of designated National Historic Trails. Designated Historic Trails include the Lewis and Clark Trail. The River Corridor is the designated historic trail for the Lewis and Clark Trail. To protect the Lewis and Clark Trail and associated settings, this stipulation will be applied to the water portion of the Missouri River and its reservoirs and the Yellowstone River, and the Trail Management Corridor which extends out 0.50 miles from the high water mark of the rivers and reservoirs.</p>	<p><b>Objective:</b> To protect the nature and purpose; trail resources, qualities, values, and associated settings; and primary use or uses of the historic trail, in accordance with National Trail System Act.</p> <p><b>Waiver:</b> None.</p> <p><b>Exception:</b> An exception to this stipulation may be granted by the Authorized Officer if the lessee or project proponent completes a comprehensive trail inventory, as outlined in Manual 6280, and presents a proposal which demonstrates resource values are not affected or that adverse impacts can be adequately mitigated to prevent impact to:</p> <ul style="list-style-type: none"> <li>• The nature and purposes of the National Trail.</li> <li>• National Trail resources, qualities, values, and associated settings.</li> <li>• National Trail primary use or uses.</li> <li>• The National Trail from the cumulative or trail-wide perspective.</li> </ul> <p><b>Modification:</b> None.</p>
<b>NSO-New</b>  <b>North Country National Scenic Trail</b>	<p>Surface occupancy and use is prohibited within management corridor of the existing North Country National Scenic Trail which extends 0.50 miles on either side of the trail centerline.</p>	<p><b>Objective:</b> To preserve and protect scenic character of the landscape along the trail.</p> <p><b>Waiver:</b> A waiver may be granted if the trail is moved from current location.</p> <p><b>Exception:</b> An exception may be granted if this portion of the trail is relocated or if operator submits a plan that demonstrates the impacts to the area and the user experiences can be mitigated.</p> <p><b>Modification:</b> A modification may be granted should the trail be relocated or impacts of the action will not be noticed by users of the trail.</p>

Resource: <i>Recreation</i>	Stipulation	Objective, Waiver, Exception, Modification
NSO-New  Backcountry Conservation Areas (BCAs)	Surface occupancy and use is prohibited in BCAs.	<p><b>Objective:</b> To preserve the generally intact, undeveloped public lands that contain priority habitats for recreationally important wildlife species and that provide high-quality wildlife-dependent recreation opportunities afforded by those species.</p> <p><b>Waiver:</b> A waiver may be granted should the boundary of the BCA change through land exchanges resulting in the entire lease no longer being part of the BCA.</p> <p><b>Exception:</b> An exception to this stipulation may be granted by the Authorized Officer if the operator submits a plan that demonstrates that the impacts from the proposed action are minimal or can be adequately mitigated.</p> <p><b>Modification:</b> A modification may be granted should the boundary of the BCA change through land exchanges resulting in portions of the lease no longer being part of the BCA.</p>

Resource: <i>Special Designations</i>	Stipulation	Objective, Waiver, Exception, Modification
NSO-New  Areas of Critical Environmental Concern (ACECs)	Surface occupancy and use is prohibited within Mud Buttes ACEC.	<p><b>Objective:</b> To preserve and protect significant vertebrate fossils and paleontological resources.</p> <p><b>Waiver:</b> None.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p>

**Table B-2**  
**Controlled Surface Use Stipulations for Fluid Minerals Leasing**

<b>Resource: Air Resources</b>	<b>Stipulation</b>	<b>Objective, Waiver, Exception, Modification</b>
<b>CSU – New</b>  <b>Federal Class I Areas</b>	<p>Surface use and occupancy within 2 miles of the boundary of the Lostwood Wilderness or Theodore Roosevelt National Park is subject to the following conditions: prior to surface occupancy and use, the operator must submit an air analysis, including near field dispersion modeling, that demonstrates that proposed exploration or development operations will not result in adverse impacts to air quality and air quality related values and will meet air quality goals, objectives, standards, and thresholds for the Class I areas. The BLM may require modifications to or disapprove a proposed activity that would result in an adverse impact to air quality, exceed an AAQS, or exceed a level of concern for an air quality related value.</p>	<p><b>Objective:</b> To meet the air quality objectives within the federally designated Class 1 areas.</p> <p><b>Exception:</b> An exception to this stipulation may be granted by the Authorized Officer if the operator submits a plan demonstrating, to the satisfaction of the applicable federal land management agency, that operations will be conducted without causing unacceptable impacts such as degraded visibility, atmospheric deposition impacts, or increased atmospheric concentrations of air pollutants at or above an AAQS within the Class I area and any adverse impacts will be adequately mitigated.</p> <p><b>Modification:</b> The BLM may consider a modification to this stipulation if (1) there are no practical alternatives, (2) impacts can be fully mitigated, and (3) the action is designed to enhance the protection of air resource(s).</p> <p><b>Waiver:</b> This stipulation may be waived, if the Authorized Officer determines that the entire leasehold can be occupied without adversely affecting air resources.</p>

Resource: Soil Resources	Stipulation	Objective, Waiver, Exception, Modification
<p><b>CSU-12-24</b></p> <p><b>Soils, Sensitive Soils</b></p>	<p>Surface occupancy and use is subject to the following operating constraints: prior to surface disturbance on sensitive soils, a reclamation plan must be approved by the administrative officer. Sensitive soils are determined using a combination of slope and soil erodibility. The plan must demonstrate the following:</p> <ul style="list-style-type: none"> <li>• no other practicable alternatives exist for relocating the activity,</li> <li>• the activity will be located to reduce impacts to soil and water resources,</li> <li>• site productivity will be maintained or restored,</li> <li>• surface runoff and sedimentation will be adequately controlled,</li> <li>• on- and off-site areas will be protected from accelerated erosion,</li> <li>• that no areas susceptible to mass wasting would be disturbed, and</li> <li>• surface-disturbing activities will be prohibited during extended wet periods.</li> </ul>	<p><b>Objective:</b> To maintain the chemical, physical, and biotic properties of soils which includes maintaining soil productivity, soil stability, and soil biotic properties. This will prevent excessive erosion, potential mass wasting, and improve the likelihood of successful reclamation.</p> <p><b>Exception:</b> The Authorized Officer may grant an exception to this stipulation if the operator can demonstrate that the proposed action will not contribute to degradation of the soil resource (e.g., excessive soil erosion, mass wasting, and/or lost productivity) or downslope resource conditions (e.g., reduced water quality due to sedimentation).</p> <p><b>Modification:</b> The Authorized Officer may modify the area affected by this stipulation if it is determined that portions of the leasehold do not contain sensitive soils.</p> <p><b>Waiver:</b> The Authorized Officer may waive this stipulation if it is determined that the entire leasehold does not contain sensitive soils.</p>

Resource: <i>Water Resources</i>	Stipulation	Objective, Waiver, Exception, Modification
<b>CSU NEW</b>  <b>Riparian Areas, Wetlands, Streams, and Waterbodies</b>	Surface occupancy and use is subject to the following operating constraints: Prior to surface occupancy and use within 300 feet of riparian areas, wetlands, ephemeral, intermittent, and perennial drainages, and waterbodies, a plan must be approved by the BLM Authorized Officer with design features that demonstrate how actions would maintain or improve the functionality of the resource. The plan would address: 1) mitigation to reduce impacts to a level where the project is neutral or positive to the resource; 2) interim and final reclamation; and 3) monitoring. Following established protocols, the operator must conduct monitoring capable of detecting early signs of changing conditions.	<p><b>Objective:</b> Protection of surface water, wetland, and riparian area resources.</p> <p><b>Exception:</b> The Authorized Officer may grant an exception to this stipulation if the operator can demonstrate that the proposed action would not impact surface water, wetland or riparian function, or associated water quality.</p> <p><b>Modification:</b> The area affected by this stipulation can be modified by the Authorized Officer if it is determined that portions of the lease area do not contain riparian areas, wetlands, streams, or waterbodies.</p> <p><b>Waiver:</b> This stipulation can be waived by the Authorized Officer if it is determined that the entire lease area does not contain riparian areas, wetlands, streams, or waterbodies.</p>

Resource: <i>Vegetation Communities</i>	Stipulation	Objective, Waiver, Exception, Modification
<b>CSU-New</b>  <b>Woody Draws</b>	Surface occupancy and use within woody draws is subject to a plan approved by the BLM to maintain functionality of the habitat.	<p><b>Objective:</b> To protect the biological features and diversity of woody draws.</p> <p><b>Exception:</b> The Authorized Officer may grant an exception to this stipulation if the operator can demonstrate that the proposed action would not adversely impact the biological features of the wooded draw.</p> <p><b>Modification:</b> The area affected by this stipulation can be modified by the Authorized Officer if it is determined that portions of the lease area do not contain woody draws.</p> <p><b>Waiver:</b> This stipulation can be waived by the Authorized Officer if it is determined that the entire lease area does not contain woody draws.</p>



Resource: Vegetation Communities	Stipulation	Objective, Waiver, Exception, Modification
<b>CSU-12-53</b>  <b>Invasive Species and Noxious Weeds</b>	<p>Surface occupancy and use is subject to the following operating constraints: Noxious weed(s) has been identified within the boundaries of the lease parcel. If the operator(s) chooses to disrupt/build roads/build facilities on the parcel, then the operator(s) will be responsible for providing an Integrated Weed Management plan, and the operator also will be responsible for the cost of treatment and monitoring throughout the duration of the project.</p>	<p><b>Objective:</b> To prevent the spread and introduction of noxious weeds and ensure desired results of past treatment(s).</p> <p><b>Exception:</b> The exception to this stipulation may be granted if BLM determines and if current weed site inventory indicates that the portion of the lease identified for surface-disturbing activities does not contain noxious weed(s). If inventory shows no noxious weeds present, the operator must continue to monitor for noxious weeds throughout the duration of the project.</p> <p><b>Modification:</b> The boundaries of the stipulated area to be inventoried for noxious weeds may be modified if BLM determines that a large portion of the lease identified for surface disturbing activities does not contain noxious weed species. Such as during pre- drill/onsite inspection for noxious weed species determines that the area proposed for access and/or the construction of a drill pad has not noxious weeds present. If inventory shows no noxious weeds present, the operator must continue to monitor for noxious weeds throughout the duration of the project.</p> <p><b>Waiver:</b> The stipulation may be waived by the Authorized Officer if the noxious weed site inventory determines that the lease is found not to have noxious weed species present. If inventory shows no noxious weeds present, the operator must continue to monitor for noxious weeds throughout the duration of the project.</p>

Resource: Vegetation Communities	Stipulation	Objective, Waiver, Exception, Modification
<p><b>CSU-12-11</b></p> <p><b>Special Status Plant Species</b></p>	<p>Surface occupancy and use is subject to the following special operating constraint: A field inspection will be conducted for special status plant species by the lessee prior to any surface disturbance. A list of special status plant species and any known populations or suitable habitat will be provided to the lessee after the issuance of the lease. Plant species on the list are subject to change over time as new information becomes available. Plant inventories must be conducted at the time of year when the target species are most easily identifiable (for example, when flowering or fruiting). An acceptable report must be provided to the BLM documenting the presence or absence of special status plants in the area proposed for surface disturbing activities. The findings of this report may result in restrictions to the operator's plans or may preclude use and occupancy.</p>	<p><b>Objective:</b> To protect and conserve rare plants, associated plant communities and the habitat that supports them.</p> <p><b>Exception:</b> An exception may be granted if the BLM determines that the portion of the lease identified for surface-disturbing activities does not support special status plant species or provide potential habitat for these species.</p> <p><b>Modification:</b> The boundaries of the area to be inventoried for special status plants may be modified if the BLM determines that a large portion of the lease identified for surface-disturbing activities does not support special status plant species or provide potential habitat for these species.</p> <p><b>Waiver:</b> The field inspection and plant inventory may be waived by the Authorized Officer if it is determined that the subject lease occurs in an area with no known populations of special status plant species and that the area doesn't provide habitat for those species.</p>

Resource: Vegetation Communities	Stipulation	Objective, Waiver, Exception, Modification
<b>CSU-12-12</b>  <b>Threatened, Endangered, or Other Special Status Species</b>	<p>Surface occupancy or use is subject to the following special operating constraints:</p> <p>The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. The BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. The BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. The BLM will not approve any ground-disturbing activity that may affect any such species or requirements of the Endangered Species Act as amended, 16 USC et seq., including completion of any required procedure for conference or consultation.</p>	<p><b>Objective:</b> To protect threatened, endangered, or other special status species.</p> <p><b>Waiver:</b> None.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p>

Resource: Special Status Species	Stipulation	Objective, Waiver, Exception, Modification
<p><b>CSU 12-46</b></p> <p><b>Greater Sage-Grouse General Habitat Management Area (GHMA)</b></p>	<p>All identified Greater Sage-Grouse habitat within GHMA is subject to the following operating constraints:</p> <ul style="list-style-type: none"> <li>a) Maintain Greater Sage-Grouse habitat to promote movement and genetic diversity of Greater Sage-Grouse populations</li> <li>b) To minimize the impacts of surface disturbing/disruptive activities and ensure maintenance of habitat for sustainable populations of Greater Sage-Grouse within GHMA, surface disturbing and disruptive activities are subject to the following requirements.</li> <li>c) Surface disturbing/disruptive activities will prevent or minimize disturbance to Greater Sage-Grouse or their habitat. Except as identified above or during emergency situations, activities will not compromise the habitat.</li> <li>d) Continuous noise (related to long-term operations and/or activities) will be no greater than 49 decibels at 0.25 miles from the perimeter of the lek.</li> <li>e) Temporary noise (related to installation, maintenance, one-time use, emergency operations, etc.) exceeding 49 decibels at 0.25 miles from the perimeter of a lek or surface disturbing/disruptive activities may be allowed, but only from 10:00 a.m. to 4:00 p.m. between March 15 and May 15.</li> </ul>	<p><b>Objective:</b> Within the Greater Sage Grouse GHMA, maintain integrity of the habitat, to support sustainable Greater Sage-Grouse population.</p> <p><b>Exception:</b> The Authorized Officer may grant an exception to specific requirements of this stipulation if the action, as proposed or conditioned will not compromise the functionality of the habitat for Greater Sage-Grouse and meet the goals for Great Sage-Grouse habitat.</p> <p><b>Modification:</b> The Authorized Officer may modify the area subject to the stipulation if an environmental analysis finds a portion of the GHMA is nonessential or no longer Greater Sage-Grouse habitat.</p> <p><b>Waiver:</b> The Authorized Officer may waive this stipulation if no portion of the leasehold is within 2 miles of the perimeter of an active lek.</p>

Resource: Special Status Species	Stipulation	Objective, Waiver, Exception, Modification
<p><b>CSU 12-46</b></p> <p><b>Greater Sage-Grouse General Habitat Management Area (GHMA)</b></p> <p><i>(continued)</i></p>	<p>f) Manage water developments to reduce the spread of West Nile virus within sage-grouse habitat areas. Site and/or minimize linear rights-of-way to reduce disturbance to sagebrush habitats.</p> <p>g) Maximize placement of new utility developments (power lines, pipelines, etc.) and transportation routes in existing utility or transportation corridors.</p> <p>h) Power lines will be buried, eliminated, designed or sited in a manner which does not impact sage- grouse.</p> <p>i) Placement of other high-profile structures, exceeding 10 feet in height, will be eliminated, designed or sited in a manner which does not impact sage-grouse. Remote monitoring of production facilities must be utilized and all permit applications must contain a plan to reduce the frequency of vehicle use.</p> <p>j) Maximize the area of interim reclamation on long-term access roads and well pads including reshaping, topsoiling and revegetating cut and fill slopes.</p> <p>k) Restore disturbed areas at final reclamation to pre-disturbance conditions or desired plant community.</p>	<p>(see above)</p>

Resource: Special Status Species	Stipulation	Objective, Waiver, Exception, Modification
<p><b>CSU 12-46</b></p> <p><b>Greater Sage-Grouse General Habitat Management Area (GHMA)</b></p> <p><i>(continued)</i></p>	<p>l) Permanent (longer than 2 months) structures which create movement must be designed or sited to minimize impacts to sage-grouse.</p> <p>m) Consider use of off-site mitigation, (e.g., creation of sagebrush habitat, purchase conservation easements, or buying down grazing) with proponent dollars to offset habitat losses.</p> <p>n) Consider creation of a "Mitigation Trust Account" when impacts cannot be avoided, minimized, or effectively mitigated through other means. If approved by the BLM, the proponent may contribute funding to maintain habitat function based on the estimated cost of habitat treatments or other mitigation needed to maintain the functions of impacted habitats. Off-site mitigation should only be considered when no feasible options are available to adequately mitigate within and immediately adjacent to the impacted site, or when the off- site location will provide more effective mitigation of the impact than can be achieved on-site.</p>	<p><i>(see above)</i></p>

Resource: Special Status Species	Stipulation	Objective, Waiver, Exception, Modification
<b>CSU 12-29</b>  <b>Black-Tailed Prairie Dogs</b>	<p>Surface occupancy and use within occupied black-tailed prairie dog colonies would be allowed with design features that maintain functionality of the habitat.</p>	<p><b>Objective:</b> To protect black-tailed prairie dog habitat, a BLM priority species for management, as well as obligate species.</p> <p><b>Waiver:</b> The Authorized Officer may waive this stipulation if the entire leasehold is no longer within prairie dog colonies active within the past 10 years.</p> <p><b>Exception:</b> The Authorized Officer may grant an exception if the action will not impair the function or suitability of the prairie dog habitat</p> <p><b>Modification:</b> The Authorized Officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer prairie dog habitat active within the past 10 years.</p>
<b>CSU-12-36</b>  <b>Sharp-Tailed Grouse and Greater Prairie Chicken Leks</b>	<p>Oil and gas leasing within 2 miles of a lek will be subject to a plan approved by BLM that provides adequate mitigation measures and conservation actions to protect breeding, nesting, and brood-rearing habitats and limit disturbance in a manner that will support the long-term populations associated with the lek and surrounding habitat.</p>	<p><b>Objective:</b> Protection of sharp-tailed grouse and greater prairie-chicken nesting and brood rearing habitat.</p> <p><b>Waiver:</b> This stipulation can be waived if the Authorized Officer determines that the entire leasehold no longer is within 2 miles of sharp-tailed grouse and greater prairie-chicken leks.</p> <p><b>Exception:</b> An exception to this stipulation can be granted by the Authorized Officer if the operator submits a plan that demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.</p> <p><b>Modification:</b> The boundaries of the stipulated area can be modified if the Authorized Officer determines that portions of the area no longer are within 2 miles of sharp-tailed grouse and greater prairie-chicken leks.</p>



<b>Resource: Special Status Species</b>	<b>Stipulation</b>	<b>Objective, Waiver, Exception, Modification</b>
<b>CSU-New</b>  <b>Interior Least Tern Active Nests</b>	Surface occupancy and use within 0.50 miles of interior least tern active nests is subject to a plan approved by the BLM to maintain functionality of the habitat.	<p><b>Objective:</b> Protection of interior least tern active nests.</p> <p><b>Waiver:</b> This stipulation can be waived if the Authorized Officer determines that the entire leasehold no longer is within 0.5 mile of interior least tern active nests.</p> <p><b>Exception:</b> An exception to this stipulation can be granted by the Authorized Officer if the operator submits a plan that demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.</p> <p><b>Modification:</b> The boundaries of the stipulated area can be modified if the Authorized Officer determines that portions of the area no longer are within 0.50 mile of interior least tern active nests.</p>
<b>CSU-New</b>  <b>Piping Plover Critical Habitat</b>	Surface occupancy and use within 0.50 miles of piping plover critical habitat is subject to a plan approved by the BLM to maintain functionality of the habitat.	<p><b>Objective:</b> Protection of piping plover critical habitat.</p> <p><b>Waiver:</b> This stipulation can be waived if the Authorized Officer determines that the entire leasehold no longer is within 0.5 mile of piping plover critical habitat.</p> <p><b>Exception:</b> An exception to this stipulation can be granted by the Authorized Officer if the operator submits a plan that demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.</p> <p><b>Modification:</b> The boundaries of the stipulated area can be modified if the Authorized Officer determines that portions of the area no longer are within 0.50 mile of piping plover critical habitat.</p>

Resource: Special Status Species	Stipulation	Objective, Waiver, Exception, Modification
<b>CSU-New</b>  <b>Dakota Skipper Habitat</b>	<p>Surface occupancy and use within 0.62 miles (1 kilometer) of occupied Dakota skipper habitat is subject to a plan approved by the BLM to minimize disturbance.</p>	<p><b>Objective:</b> To protect Dakota skipper habitat and to maintain regional populations.</p> <p><b>Waiver:</b> The stipulation may be waived if the Authorized Officer, in consultation with USFWS, determines that the entire leasehold is no longer within 0.62 miles of Dakota skipper habitat.</p> <p><b>Exception:</b> An exception to this stipulation may be granted if the Authorized Officer, in consultation with the USFWS, determines that portions of the area can be occupied without adversely affecting Dakota skipper habitat.</p> <p><b>Modification:</b> The boundaries of the stipulated area may be modified if the Authorized Officer, in consultation with USFWS, determines that portions of the area can be occupied without adversely affecting Dakota skipper habitat. The Authorized Officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.</p>

<b>Resource: Cultural Resources</b>	<b>Stipulation</b>	<b>Objective, Waiver, Exception, Modification</b>
<b>CSU-New</b>  <b>Historic Sites</b>	<p>Apply design criteria to mitigate visual impacts within 2 miles surrounding Lynch Knife River Flint Quarry District, Knife River Indian Villages National Historic Site, Writing Rock State Historic Site (32DV4), Doaks Butte (32BO222), Killdeer Mountain Battle Study Area (32DUx1120), Medicine Rock State Historic Site (32GT129), Theodore Roosevelt's Elkhorn Ranch and Greater Elkhorn Ranchlands District, Custer Military Trail Archaeological District, Fort Clark Archaeological District, Chateau de Mores State Historic Site (32BI60), Fort Buford State Historic Site/Confluence (32WI25), Huff National Historic Landmark (32MO11), Double Ditch State Historic Site (32BL8), Menoken National Historic Landmark (32BL2), Turtle Effigy State Historic Site (32ME1270), Pulver Mounds (32ML112), and Cross Ranch Archaeological District.</p>	<p><b>Objective:</b> To protect the viewshed of historic sites.</p> <p><b>Exception, Modification, Waiver:</b> This stipulation may be waived or reduced if circumstances change, or if the lessee can demonstrate that operations can be conducted without causing unacceptable impacts. Exceptions to this limitation in any particular year may be specifically approved in writing by the authorized officer. In all cases, the stipulation (including any modification) will be designed to present the least restrictive measure for avoiding unacceptable adverse impacts.</p>

<b>Resource: Visual Resources</b>	<b>Stipulation</b>	<b>Objective, Waiver, Exception, Modification</b>
<b>CSU-New</b>  <b>National Park Service Units</b>	<p>All surface disturbing activities and construction of semi-permanent and permanent facilities within 3 miles of the boundary of Theodore Roosevelt National Park, Knife River Indian Villages National Historic Site, and Fort Union Trading Post National Historic Landmark, or the management corridor for Lewis &amp; Clark National Historic Trail, or the management corridor of the North Country National Scenic Trail. Surface disturbing activities will require consultation with the NPS and may require special design including location, painting, and camouflage to blend with the natural surroundings and meet the visual quality objectives for the NPS.</p>	<p><b>Objective:</b> To protect features critical to the visitor experience such as viewsheds, soundscapes, night skies, and air quality of National Park Service units.</p> <p><b>Waiver:</b> A modification may be granted should the North Country National Scenic Trail being the reason for the CSU, and it be relocated resulting in in the entire lease no longer being within three miles of the trail.</p> <p><b>Exception:</b> An exception to this stipulation may be granted by the Authorized Officer if the operator submits a plan that demonstrates that the impacts from the proposed action would not be visible from the National Park Service boundary, corridor, or trail.</p> <p><b>Modification:</b> A modification may be granted should the North Country National Scenic Trail being the reason for the CSU, and it be relocated resulting in portions of the lease no longer being within three miles of the trail.</p>

**Table B-3**  
**Timing Limitation Stipulations Applicable to Fluid Minerals Leasing**

<b>Resource: Terrestrial and Aquatic Wildlife Resources</b>	<b>Stipulation</b>	<b>Objective, Waiver, Exception, Modification</b>
<b>TL-NEW</b>  <b>Big Game Birthing Areas</b>	<p>No surface use is allowed from April 1 through June 30 in big game birthing areas to protect mule deer, elk, and antelope from disturbance. This stipulation does not apply to operation and maintenance of production facilities unless the findings of analysis demonstrate the continued need for such mitigation and that less stringent project-specific mitigation measures would be insufficient.</p>	<p><b>Objective:</b> To protect mule deer, elk, and antelope birthing areas from disturbance and facilitate long-term maintenance of wildlife populations.</p> <p><b>Waiver:</b> This stipulation may be waived if the authorized officer, in consultation with state game agency, determines that the entire leasehold no longer contains big game birthing areas.</p> <p><b>Exception:</b> An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.</p> <p><b>Modification:</b> The boundaries of the stipulated area may be modified if the Authorized Officer determines that portions of the area no longer contain birthing habitat for big game species. The dates for the timing restriction may be modified if new wildlife use information indicates that the dates are not valid for the leasehold.</p>
<b>TL-13-33</b>  <b>Active Raptor Nests</b>	<p>Surface use is prohibited within 0.50 miles of active raptor nest sites from March 1 through July 31.</p>	<p><b>Objective:</b> To protect nesting activities associated with raptors identified as BLM priority species for management.</p> <p><b>Waiver:</b> The Authorized Officer may waive this stipulation if the entire leasehold is no longer within 0.50 miles of an active raptor nest.</p> <p><b>Exception:</b> The Authorized Officer may grant an exception if the action will not result in nest territory abandonment or decrease productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior.</p> <p><b>Modification:</b> The Authorized Officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within 0.50 miles of an active raptor nest.</p>

Resource: Terrestrial and Aquatic Wildlife Resources	Stipulation	Objective, Waiver, Exception, Modification
<b>TL 13-15</b>  <b>Waterfowl Nesting Habitat</b>	No seismic exploration is allowed within 500 feet of waterfowl nesting habitat from March 1 through July 1 to protect nesting waterfowl. This stipulation does not apply to the operation and maintenance of production facilities.	<b>Objective:</b> To protect nesting waterfowl.  Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.
<b>TL 13-18</b>  <b>Bighorn Sheep Lambing Range</b>	No surface use is allowed on bighorn sheep lambing range during the following time period: April 1 to June 15. This stipulation does not apply to the operation and maintenance of production facilities.	<b>Objective:</b> To protect bighorn sheep lambing activities.  Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.
<b>TL 13-19</b>  <b>Bighorn Sheep Winter Range</b>	No surface use is allowed on bighorn sheep winter range during the following time period: December 1 to April 1. This stipulation does not apply to the operation and maintenance of production facilities.	<b>Objective:</b> To protect bighorn sheep winter range activities.  Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.  <b>Exception, Modification, Waiver:</b> This stipulation may be waived or reduced if circumstances change, or if the lessee can demonstrate that operations can be conducted without causing unacceptable impacts. Exceptions to this limitation in any particular year may be specifically approved in writing by the authorized officer. In all cases, the stipulation (including any modification) will be designed to present the least restrictive measure for avoiding unacceptable adverse impacts

Resource: Special Status Species	Stipulation	Objective, Waiver, Exception, Modification
<b>TL 13- 5</b>  <b>Ferruginous Hawk Nests</b>	<p>No surface use is allowed within 0.50 miles of occupied ferruginous hawk nests known to be occupied at least once within the 7 previous years during the following time period: March 15 to July 15. No seismic exploration, construction, or other development would be allowed within 1.2 miles of occupied nests between March 15 and July 15.</p>	<p><b>Objective:</b> To protect ferruginous hawk nesting.</p> <p>Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.</p> <p><b>Exception, Modification, Waiver</b> This stipulation may be waived or reduced if circumstances change, or if the lessee can demonstrate that operations can be conducted without causing unacceptable impacts. Exceptions to this limitation in any particular year may be specifically approved in writing by the authorized officer. In all cases, the stipulation (including any modification) will be designed to present the least restrictive measure for avoiding unacceptable adverse impacts</p>
<b>TL- NEW</b>  <b>Sprague's Pipit Habitat</b>	<p>Surface use is prohibited from April 15 through July 15 in Sprague's pipit habitat. This stipulation does not apply to operation and maintenance of production facilities.</p>	<p><b>Objective:</b> The protection of nesting and breeding habitat and the reproductive potential for Sprague's pipit.</p> <p><b>Waiver:</b> The stipulation may be waived if the Authorized Officer determines that the entire leasehold no longer has Sprague's pipit habitat or nest sites are inactive.</p> <p><b>Exception:</b> An exception to this stipulation may be granted by the Authorized Officer if the operator submits a plan which demonstrates that the proposed action will not affect Sprague's pipit or their habitat.</p> <p><b>Modification:</b> The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer are within 1 mile of Sprague's pipit. Distance may be reduced if natural barriers (e.g., vegetation or terrain) reduce line-of-sight distance or nest visibility. The timing restriction dates may be modified if new information indicates that the dates are not valid for the leasehold.</p>



**Table B-4**  
**Lease Notices Applicable to Fluid Minerals Leasing**

Lease Notice #	Lease Notice
<b>LN-14-1</b>	<p><b><u>Land Use Authorization</u></b></p> <p>Land Use Authorizations incorporate specific surface land uses allowed on BLM-administered lands by authorized officers and those surface uses acquired by the BLM on lands administered by other entities. These BLM authorizations include rights-of-way, leases, permits, conservation easements, and Recreation and Public Purpose leases and patents. The rights acquired, reserved, or withdrawn by the BLM for specified purposes include non-oil and gas leases, conservation easements, archeological easements, road easements, fence easements and administrative site withdrawals. The existence of such land use authorizations shall not preclude the leasing of the oil and gas. The locations of land use authorizations are noted on the oil and gas plats and in the BLM's automated database (MLRS). The plats are a visual source noting location; MLRS provides location by legal description through the Geographic Cross Reference program. The specifically authorized acreage for land use should be avoided by oil and gas exploration and development activities. All authorized surface land uses are valid claims to prior existing rights unless the authorization states otherwise. The right of the Secretary to issue future land use authorizations on an oil and gas lease is reserved by provision of Section 29 of the Mineral Leasing Act, 30 U.S.C.</p>
<b>LN 14-2</b>	<p><b><u>Cultural Resources</u></b></p> <p>The Surface Management Agency is responsible for assuring that the leased lands are examined to determine if cultural resources are present and to specify mitigation measures. This notice would be consistent with the present Montana State Office guidance for cultural resource protection related to oil and gas operations (NTL-MSO-85-1).</p>
<b>LN 14-3</b>	<p><b><u>Paleontological Resources</u></b></p> <p>The lessee or operator shall immediately bring to the attention of the Surface Management Agency (SMA) any paleontological resources, or any other objects of scientific interest, discovered as a result of approved operations under this lease, and shall leave such discoveries intact and undisturbed until directed to proceed by the SMA.</p>
<b>LN 14-4</b>	<p><b><u>Cemetery</u></b></p> <p>Portions of the lands in this parcel are occupied by a cemetery. As per the Standard Stipulation (May 2001) attached to this lease, occupancy will be excluded from the cemetery and a 300 foot buffer zone around the cemetery.</p>
<b>LN 14-11</b>	<p><b><u>Greater Sage-grouse Habitat</u></b></p> <p>The lease may, in part or in total, contain important greater sage grouse habitats as identified by the BLM, either currently or prospectively. The operator may be required to implement specific measures to reduce impacts of oil and gas operations on the greater sage grouse populations and habitat quality. Such measures shall be developed during the application for permit to drill on-site and environmental review process and will be consistent with the lease rights granted.</p>

Lease Notice #	Lease Notice
LN 14-12	<p><b><u>Paleontological Resource Inventory Requirement</u></b></p> <p>This lease has been identified as being located within geologic units rated as being moderate to very high potential for containing significant paleontological resources. The locations meet the criteria for class 3, 4 and/or 5 as set forth in the Potential Fossil Yield Classification System, WO IM 2008-009, Attachment 2-2. The BLM is responsible for assuring that the leased lands are examined to determine if paleontological resources are present and to specify mitigation measures. Guidance for application of this requirement can be found in WO IM 2008-009 dated October 15, 2007, and WO IM 2009-011 dated October 10, 2008.</p> <p>Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or project proponent shall contact the BLM to determine if a paleontological resource inventory is required. If an inventory is required, the lessee or project proponent will complete the inventory subject to the following:</p> <ul style="list-style-type: none"> <li>• the project proponent must engage the services of a qualified paleontologist, acceptable to the BLM, to conduct the inventory.</li> <li>• the project proponent will, at a minimum, inventory a 10-acre area or larger to incorporate possible project relocation which may result from environmental or other resource considerations.</li> <li>• paleontological inventory may identify resources that may require mitigation to the satisfaction of the BLM as directed by WO IM 2009-011.</li> </ul>
LN 14-13	<p><b><u>Grassland/Wetland Easement</u></b></p> <p>The lease parcel is encumbered with a USFWS Wetland and/or Grassland Easement to restrict draining, burning, filling, or leveling of wetlands and/or protection of grassland depending on the specific easement. The operator may be required to implement specific measures to reduce the impacts of oil and gas operations on wetlands or grasslands on easements. Additional measures may be developed during the application for permit to drill during the on-site inspection, as well as the environmental review process, consistent with the lease rights granted and in accordance with 43 CFR 3101.1-2.</p>
LN 14-14	<p><b><u>Cultural Visual Setting</u></b></p> <p>The lease is located adjacent to known historic properties that are or may be eligible for listing on the National Register of Historic Places (NRHP). The lease may in part or whole contribute to the importance of the historic properties and values and listing on the NRHP. The operator may be required to implement specific measures to reduce impacts of oil and gas operations on historic properties and values. These measures may include, but are not limited to, project design, location, painting, and camouflage. Such measures shall be developed during the on-site inspection and environmental review of the application for permit to drill (APD) and shall be consistent with lease rights. The goal of this Lease Notice is to provide information to the lessee and operator that would help design and locate oil and gas facilities to preserve the integrity and value of historical properties that are or may be listed on the National Register of Historic Places. This notice is consistent with the present Montana guidance for cultural resource protection related to oil and gas operations (NTL-MSO-85-1).</p>

Lease Notice #	Lease Notice
LN 14-15	<p><b><u>Sprague's Pipit</u></b>  The lease area may contain habitat for the federal candidate Sprague's pipit. The operator may be required to implement specific measures to reduce impacts of oil and gas operations on Sprague's pipits, their habitat and overall population. Such measures would be developed during the application for permit to drill and environmental review processes, consistent with lease rights.</p> <p>If the USFWS lists the Sprague's pipit as threatened or endangered under the Endangered Species Act, the BLM would enter into formal consultation on proposed permits that may affect the Sprague's pipit and its habitat. Restrictions, modifications, or denial of permits could result from the consultation process.</p>
LN-14-18	<p><b><u>Air Resource Analysis</u></b>  The lessee/operator is given notice that prior to project-specific approval, additional air resource analyses may be required in order to comply with the NEPA, FLPMA, and/or other applicable laws and regulations. Analyses may include equipment and operations information, emission inventory development, dispersion modeling or photochemical grid modeling for air quality and/or air quality related value impact analysis, and/or emission control determinations. These analyses may result in the imposition of additional project-specific control measures to protect air resources.</p>
LN-14-20	<p><b><u>Migratory Bird Treaty Act</u></b>  The Operator is responsible for compliance with provisions of the Act by implementing one of the following measures:</p> <ul style="list-style-type: none"> <li>a) avoidance by timing; ground disturbing activities will not occur from April 15 to July 15,</li> <li>b) habitat manipulation; render proposed project footprints unsuitable for nesting prior to the arrival of migratory birds (blading or pre-clearing of vegetation must occur prior to April 15 within the year and area scheduled for activities between April 15 and July 15 of that year to deter nesting, or</li> <li>c) survey-buffer-monitor; surveys will be conducted by a BLM approved biologist within the area of the proposed action and a 300-foot buffer from the proposed project footprint between April 15 to July 15 if activities are proposed within this timeframe. If nesting birds are found, activities would not be allowed within 0.10 miles of nests until after the birds have fledged. If active nests are not found, construction activities must occur within 7 days of the survey. If this does not occur, new surveys must be conducted. Survey reports will be submitted to the appropriate BLM Office.</li> </ul>
LN-14-21	<p><b><u>Black-footed Ferret Surveys</u></b>  Surface occupancy or use is subject to the following special operating constraints: prior to surface disturbance, prairie dog colonies and complexes 80 acres or more in size will be examined to determine the presence or absence of black-footed ferrets. The findings of this examination may result in some restrictions to the operator's plans or may even preclude use and occupancy. The lessee or operator may, at their own option, conduct an examination to determine the presence or absence of black-footed ferrets. This examination must be done by or under the supervision of a qualified resource specialist approved by the surface management agency. An acceptable report must be provided to the surface management agency documenting the presence or absence of black footed ferrets and identifying the anticipated effects of the proposed action on the black-footed ferret and its habitat.</p>

Lease Notice #	Lease Notice
LN-14-23	<p><b><u>Setback from Human Occupied Residences Requirement</u></b></p> <p>The lease area may contain human occupied residences. Under Regulation 43 CFR 3101.1-2 and terms of the lease (BLM Form 3100-11), the authorized officer may require reasonable measures to minimize adverse impacts to other resource values, land uses, and users not addressed in lease stipulations at the time operations are proposed. Such reasonable measures may include, but are not limited to, modification of siting or design of facilities, which may require relocating proposed operations up to 200 meters, but not off the leasehold.</p> <p>The setback requirement of 500 feet from human occupied residences has been established based upon the best information available. The following condition of approval may be applied as a result of the APD process during the on-site inspection and the environmental review unless an acceptable plan for mitigation of impacts is reached between the resident, lessee and BLM:</p> <ul style="list-style-type: none"> <li>• Facilities will not be allowed within 500 feet of human occupied residences. The intent of this Lease Notice is to provide information to the lessee that would help design and locate oil and gas facilities to preserve the aesthetic qualities around human occupied residences.</li> </ul>
LN-14-27	<p><b><u>Sprague's Pipit Habitat</u></b></p> <p>The lease area may contain habitat for the federal candidate Sprague's pipit. The operator may be required to implement specific measures to reduce impacts of oil and gas operations on Sprague's pipits, their habitat and overall population. Such measures would be developed during the APD and environmental review processes, consistent with lease rights.</p> <p>If the USFWS lists the Sprague's pipit as threatened or endangered under the ESA, the BLM would enter into formal consultation on proposed permits that may affect the Sprague's pipit and its habitat. Restrictions, modifications, or denial of permits could result from the consultation process.</p>
LN-14-29	<p><b><u>Paleontological Resources</u></b></p> <p>The lessee or operator shall immediately bring to the attention of the Surface Management Agency (SMA) any paleontological resources or any other objects of scientific interest discovered as a result of approved operations under this lease, and shall leave such discoveries intact and undisturbed until directed to proceed by the SMA.</p>

Lease Notice #	Lease Notice
LN-14-33	<p><b><u>Cultural Inventory Requirement</u></b></p> <p>An inventory of those portions of the leased lands subject to proposed disturbance may be required prior to any surface disturbance to determine whether cultural resources are present and to identify needed mitigation measures. Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator shall:</p> <ol style="list-style-type: none"> <li>1. Contact the SMA to determine whether a cultural resource inventory is required. If an inventory is required, then:</li> <li>2. The SMA will complete the required inventory; or the lessee or operator, at their option may engage the services of a cultural resource consultant acceptable to the SMA to conduct a cultural resource inventory of the area of proposed surface disturbance. The operator may elect to inventory an area larger than the standard ten-acre minimum to cover possible site relocation which may result from environmental or other considerations. An acceptable inventory report is to be submitted to the SMA for review and approval no later than that time when an otherwise complete application for approval of drilling or subsequent surface-disturbing operation is submitted.</li> <li>3. Implement mitigation measures required by the SMA. Mitigation may include the relocation of proposed lease-related activities or other protective measures such as data recovery and extensive recordation. Where impacts to cultural resources cannot be mitigated to the satisfaction of the SMA, surface occupancy on that area must be prohibited. The lessee or operator shall immediately bring to the attention of the SMA any cultural resources discovered as a result of approved operations under this lease and shall not disturb such discoveries until directed to proceed by the SMA..</li> </ol>
LN-14-39	<p><b><u>Raptors</u></b></p> <p>The lease area may contain raptor nest sites active within the last 7 years. At the development stage when surface-disturbing activities are proposed, an active nest inventory of the project area may be required. If active nests are found within 0.25 miles of the proposed action, surface occupancy and use may be prohibited. If active nests are found within 0.50 miles of the proposed action, surface and occupancy and use may be restricted from March 1 through July 31. The BLM may require modification to exploration or development proposals to protect active raptor nests or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized, or mitigated.</p>
LN-14-40	<p><b><u>Big Game Winter Range and Migration Corridors</u></b></p> <p>The lease area may contain habitat for big game winter range and/or migration corridors delineated by Montana Fish, Wildlife and Parks. The lessee/operator is given notice that prior to project-specific approval, the authorized officer may require modifications to exploration and development proposals to conserve or restore habitat necessary to sustain local and regional big-game populations (Secretarial Order 3362, February 9, 2018 and 43 CFR 3101.1-2). The objective of the requirements would be to conserve, restore, minimize, avoid and/or limit activities that could impact habitat for big game winter range and/or migration corridors. Site-specific requirements would be identified during environmental review processes and would be developed into the project proposal as terms and conditions of the subsequent approval.</p>

Lease Notice #	Lease Notice
<b>LN-TES</b>  <b>Threatened, Endangered, or Other Special Status Species</b>	<p>Surface occupancy or use is subject to the following special operating constraints:</p> <p>The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. The BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. The BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. The BLM will not approve any ground-disturbing activity that may affect any such species or requirements of the Endangered Species Act, as amended, 16 USC et seq., including completion of any required procedure for conference or consultation.</p>
<b>LN-TES 16-2</b>  <b>Endangered Species Act Section 7 Consultation</b>	<p>The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. The BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. The BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. The BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 USC 1531 et seq., including completion of any required procedure for conference or consultation.</p>
<b>Resource: Vegetation Communities</b>	Lease Notice
<b>Surface Management Agency Review</b>	<p>The SMA is responsible for ensuring that the leased land is examined before any surface-disturbing activities begin; this is to determine the effects on any plant or animal species, listed or proposed for listing as endangered or threatened, or their habitats. The findings of this examination may result in some restrictions to the operator's plans or even disallow use and occupancy that would be in violation of the Endangered Species Act of 1973 by detrimentally affecting endangered or threatened species or their habitats.</p> <p>The lessee/operator should, unless notified by the authorized officer of the SMA that the examination is not necessary, conduct the examination on the leased lands at lessee/operator's cost. This examination must be done by or under the supervision of a qualified resources specialist approved by the SMA. An acceptable report must be provided to the SMA, identifying the anticipated effects of a proposed action on endangered or threatened species or their habitats.</p>

Lease Notice #	Lease Notice
<b>LN-New Waste Prevention</b>	The lessee or operator is required to reduce the waste of natural gas from venting, flaring, and leaks during oil and gas production activities on federal leases in order to comply with the Federal Onshore Oil and Gas Leasing program, MLA, NEPA, FLPMA, Federal Oil and Gas Royalty Management Act, and/or other applicable laws and regulations. The lessee or operator must certify to capture gas produced and may be required to complete a waste minimization plan, including a leak detection and repair program that provides for regular inspections of the oil and gas production facilities.

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# Appendix C

## Air Resources Management Plan



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# Appendix C. Air Resources Management Plan

## C.1 INTRODUCTION

The condition of air resources directly relates to human health as well as economic and social development, making the management of these resources an important aspect of the North Dakota Field Office (NDFO) Resource Management Plan and Environmental Impact Statement (RMP/EIS). Primary air quality management authority and responsibility for the planning area rests with the North Dakota Department of Environmental Quality (North Dakota DEQ) Division of Air Quality (for non-Tribal areas of the planning area) and with the US Environmental Protection Agency for Tribal areas. However, the Bureau of Land Management (BLM) also has the authority and responsibility under the Federal Land Policy and Management Act to manage public lands in a manner that will protect the quality of air and atmospheric values (43 United States Code 1701 (a)(8)).

Air quality and atmospheric conditions are constantly changing and continuously influenced by seasonal and regional characteristics, including meteorological patterns, geographic features, and various sources of air pollutant emissions. The dynamic nature of air resources requires a management strategy that is flexible and responsive to change and includes continuous implementation over the life of the RMP. The purpose of this Air Resources Management Plan (ARMP) is to further clarify the goals and objectives of the NDFO RMP/EIS and management actions related to air resource management, set forth in Chapter 2, Table 2-2 of the Proposed RMP and Final EIS<sup>1</sup>.

This ARMP describes air resources management actions and the BLM's commitment for managing air resources and BLM-authorized activities that have the potential to adversely impact air resources within the NDFO planning area. The air resource management actions described in **Chapter 2** of the Approved RMP, **Appendix B**, Stipulations and Allocations Applicable to Fluid Minerals Leasing, and **Appendix D**, Design Features and Best Management Practices, in conjunction with the measures included in this ARMP, comprise the blueprint for an adaptive management strategy for managing air resources under the NDFO RMP/EIS.

## C.2 GENERAL CONDITIONS

### C.2.1 Revisions to the ARMP

This ARMP may be modified as necessary to comply with law, regulation, and policy and to address new information and changing circumstances. Changes to the goals, objectives, or management actions set forth in the NDFO RMP/EIS would require maintenance or amendment of the RMP, while changes to implementation, including modifying this ARMP, may be made without maintaining or amending the RMP.

### C.2.2 Actions to Protect Air Quality

The BLM may require specific actions and measures to protect air resources and air quality related values, such as visibility and nitrogen deposition, that may include air monitoring, air quality modeling, and mitigation measures to meet air quality goals and objectives. The BLM will ensure implementation of

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<sup>1</sup> <https://eplanning.blm.gov/eplanning-ui/project/1505069/570>

reasonable mitigation, control measures, and design features through appropriate mechanisms, including lease stipulations and conditions of approval, notices to lessees, and permit terms and conditions as provided for by law and consistent with lease rights and obligations. The BLM will ensure air resource management strategies and control measures are enforceable by including implementation of this ARMP as a management action in the NDFO RMP/EIS and by including project-specific conditions (both operator-committed and required mitigation) in a Record of Decision for each authorization where applicable.

### **C.3 REVIEW OF AIR RESOURCES DATA**

The BLM will conduct periodic reviews of relevant air resources management data in order to implement and determine the effectiveness of this ARMP. In addition, the review would be used to determine if the air analysis (including the photochemical grid modeling study) conducted for the NDFO RMP/EIS should be updated. Based on the review of emissions, activity levels, and air monitoring data, relevant modeling data or air modeling studies, and oil and gas activity projections, the BLM will determine if current air resources management actions are meeting the goals and objectives established in the NDFO RMP/EIS. Based on the review of air resources management data and evaluation of current strategies, the BLM will determine if the ARMP should be modified. The BLM, in collaboration with the North Dakota DEQ and the US Environmental Protection Agency, may update or modify strategies to effectively manage air resources within the planning area. The review of air resources data will include the tasks described in the following subsections.

#### **C.3.1 Emissions and Activity Level Tracking**

At least every 3 years, the BLM will track the number and locations of new oil and gas wells drilled in the federal mineral estate, the number existing producing wells, and an estimate of the number of plugged and abandoned wells on the federal mineral estate within the planning area. These numbers would be compared to the planning area reasonably foreseeable development scenario level of oil and gas development identified in the NDFO RMP/EIS and the level of federal oil and gas development included in the photochemical grid modeling assessment conducted to inform the air analysis in the NDFO RMP/EIS. In addition, at least every 3 years, the BLM will estimate air pollutant emissions from oil and gas wells drilled and associated operations producing from the federal mineral estate within the planning area. Emissions estimates would be based on well types, well numbers, and knowledge of typical equipment and operations. The emissions estimates will also account for implemented mitigation measures and for new emission control regulations as they become effective. Each 3-year oil and gas emission inventory will be compared to emission estimates for the reasonably foreseeable development scenario level of oil and gas development identified in the NDFO RMP/EIS and the level of federal oil and gas development included in the photochemical grid modeling assessment conducted to inform the air analysis in the NDFO RMP/EIS.

#### **C.3.2 Air Monitoring Data Evaluation**

At least every 3 years, the BLM will conduct a review and evaluation of current air monitoring data and trends from air monitoring sites within the planning area that could be impacted by BLM-authorized activities that have the potential to adversely impact air resources. This review will be used to evaluate the status of current air quality conditions, including measured concentrations approaching or exceeding National or North Dakota Ambient Air Quality Standards (NAAQS or NDAAQS) or measured adverse impacts to air quality related values at Class I areas within the planning area.

### **C.3.3 Activity-Level Projections**

At least every 3 years, the BLM will conduct a review of available oil and gas development projections that include estimates of future federal oil and gas activities within the planning area for the coming 3- to 5-year period and would compare the projections to the level of predicted future development included in the air analysis (including the photochemical grid modeling study) conducted for the NDFO RMP/EIS.

### **C.3.4 Air Modeling Study Evaluation**

At least every 3 years, the BLM will review air quality modeling studies conducted by BLM, North Dakota DEQ, or other federal or Tribal agencies within the previous 3 years that include emissions sources that are authorized by BLM or affected by BLM-authorized activities and that evaluate potential impacts to air quality within the planning area.

## **C.4 AIR RESOURCE PROTECTION**

The BLM recognizes that many of the activities that it authorizes, permits, or allows generate air pollutant emissions that have the potential to adversely impact air quality and air quality related values. The primary mechanism to reduce air quality impacts is to reduce emissions (mitigation). Identification and implementation of appropriate emission reduction measures is effective at the project authorization stage where the proposed action is defined in terms of temporal and spatial characteristics and technological specifications. The NDFO RMP/EIS and this ARMP include specific actions designed to mitigate the potential impacts on air quality from BLM-authorized actions.

### **C.4.1 Analysis of Impacts from Authorized Actions**

The BLM may conduct, or require the project proponent to conduct, an air analysis to determine the magnitude of potential emissions and impacts on air resources prior to authorization of an oil and gas permit application or plan of development for activities with the potential to adversely impact air resources. The BLM will determine, on a case-by-case basis, the appropriate level of air analysis necessary to assess potential air quality impacts from proposed actions that have the potential to adversely impact air resources. The air analysis will be used to disclose potential impacts and determine any potential mitigation strategies to minimize adverse impacts. When determining the appropriate level of air analysis to be conducted, the BLM would consider the following criteria to identify pollutants of concern and inform its decision:

- a) magnitude of potential air emissions from the proposed activity;
- b) duration of proposed activity;
- c) proximity to a federally mandated Class I area or sensitive Class II area (as identified on a case-by-case basis by North Dakota DEQ or a federal land management or Tribal agency), population center, or other sensitive receptor;
- d) location within or adjacent to a nonattainment or maintenance area;
- e) meteorological and geographic conditions;
- f) existing air quality conditions, including measured exceedances of NAAQS or NDAAQS and measured adverse impacts on air quality related values;
- g) intensity of existing and projected development in the area; and
- h) issues identified during project scoping.

**C.4.2 Emissions Inventory**

The BLM may compile, or require the project proponent to compile and submit, an emissions inventory of direct and indirect emissions associated with the proposed project. The emissions inventory will include estimated emissions of regulated air pollutants from all sources related to the proposed activity, including fugitive emissions and greenhouse gas emissions, for each year for the life of the project. The BLM will review the emissions inventory to determine its completeness and accuracy.

**C.4.3 Lease Notice and Stipulations**

The BLM will implement the following Lease Notice and Stipulations to address potential impacts on air quality and air quality related values from federally authorized oil and gas development:

- a) Lease Notice – The lessee/operator is given notice that prior to project-specific approval, additional air resource analyses may be required in order to comply with the National Environmental Policy Act, Federal Land Policy and Management Act, and/or other applicable laws and regulations. Analyses may include equipment and operations information, emission inventory development, dispersion modeling or photochemical grid modeling for air quality and/or air quality related value impact analysis, and/or emission control determinations. These analyses may result in the imposition of additional project-specific control measures to protect air resources.
- b) Controlled Surface Use Stipulation – Surface use and occupancy within 2 miles of the boundary of the Lostwood Wilderness or Theodore Roosevelt National Park is subject to the following conditions: Prior to surface occupancy and use, the operator must submit an air analysis, including near field dispersion modeling, that demonstrates that proposed exploration or development operations will not result in adverse impacts to air quality and air quality related values and will meet air quality goals, objectives, standards, and thresholds for the Class I areas. The BLM may require modifications to or disapprove a proposed activity that would result in an adverse impact to air quality, exceed an ambient air quality standard (AAQS), or exceed a threshold of concern for an air quality related value.
- c) Controlled Surface Use Stipulation - Surface use and occupancy is subject to approval of a waste minimization plan that includes design features to minimize air pollutants released from venting, flaring, and leaks during drilling, completion, and production operations.
- d) No Surface Use Stipulation - No surface occupancy is allowed within 1.0 mile of the boundary of the Lostwood Wilderness or the Theodore Roosevelt National Park Class I area.

**C.4.4 Design Features and Best Management Practices**

- a) Venting and Flaring – Surface use and occupancy is subject to approval of a waste minimization plan that includes design features to minimize air pollutants released from venting, flaring, and leaks during drilling, completion, and production operations.
- b) Fugitive Dust – Proponents of development projects that have the potential to generate fugitive dust emissions may be required to submit a fugitive dust control plan and may be required to implement fugitive dust control measures as determined on a case-by-case basis by the BLM including:
  - 1. application of water or other approved or allowable dust suppressants,
  - 2. modification or cessation of operations during periods of high wind,
  - 3. installation of wind/dust barriers,

4. installation of vegetation, gravel, or other surface coverage to exposed dirt surfaces,
  5. other dust control design features determined as necessary by the authorized officer.
- c) Oil and Gas Operations – Operators and project proponents will comply with all local, state, tribal, and federal regulations for the control of emissions of regulated air pollutants from oil and gas operations and will to the maximum extent feasible plan, coordinate, and incorporate design features for the reduction of volatile organic compounds, hazardous air pollutants, and greenhouse gas (GHG) emissions from oil and gas activities such as:
1. reduced emissions completion and closed loop drilling technology;
  2. electric, natural gas, or enhanced engine (tier IV) technology for drill rig, completion, and mud pumping engines;
  3. closed storage tanks rather than open tanks or pits;
  4. vapor recovery units on condensate, produced water, and oil storage tanks;
  5. vapor balancing during condensate and oil tanker truck loading;
  6. electric, solar, or air driven pneumatic devices;
  7. electric or solar powered pumpjack engines;
  8. optimized glycol circulation rates on glycol dehydrators;
  9. replacement of wet seals with dry seals in centrifugal compressors;
  10. replacement of worn rod packing in reciprocating compressors;
  11. automated plunger lift systems; and
  12. leak detection and repair program.
- d) Coal Mining Operations – Operators and project proponents will comply with all local, state, tribal, and federal regulations for the control of emissions of regulated air pollutants from mining operations and will, to the maximum extent feasible, plan, coordinate, and incorporate design features for the reduction of volatile organic compounds, hazardous air pollutants, and GHG emissions from coal mining activities such as:
1. electric powered mining equipment
  2. fugitive dust control plan
  3. storage pile management to minimize dust emissions and methane off gassing
  4. pre-mining drainage of methane (i.e., methane recovery wells)
- e) Federal Class I Areas – Surface use and occupancy within 2 miles of the boundary of the Lostwood Wilderness or Theodore Roosevelt National Park is subject to the following conditions; prior to surface occupancy and use, the operator must submit an air analysis, including near field dispersion modeling, that demonstrates that proposed exploration or development operations will not result in adverse impacts to air quality and air quality related values and will meet air quality goals, objectives, standards and thresholds for the Class I areas. The BLM may require modifications to or disapprove a proposed activity that would result in an adverse impact to air quality, exceed an AAQS, or exceed a level of concern for an air quality related value.
- f) GHG Emissions – The BLM will minimize impacts to climate change from anthropogenic GHG emissions associated with its authorizations, routine maintenance, and administrative operations by seeking opportunities to reduce the use of fossil fuels and may require and implement GHG reduction strategies in its authorizations and operations such as:
1. use electric or solar powered tools and equipment
  2. use electric vehicles



3. use alternative (non-fossil fuel) energy sources at facilities and authorized operations
4. reduce use of fossil fuel vehicles on BLM-managed roads and trails
5. provide increased access for human, animal, and electric powered recreation

#### **C.4.5 Management Direction for Air Resources**

- a) The BLM will use authorization, leasing stipulations, and conditions of approval for mineral development activities to support the air quality goals and prevent significant impacts in the Approved RMP.
- b) The BLM will work cooperatively with the North Dakota DEQ and Tribal and local agencies to minimize impacts on air quality from BLM-authorized actions.
- c) The BLM will support air resource monitoring to determine existing conditions, long-term trends, and the effectiveness of air resource management strategies. The BLM will work collaboratively with state, local, and Tribal agencies; industry; and stakeholders to gather, share, and analyze air quality monitoring data to achieve air quality goals and objectives.
- d) The BLM will prioritize rights-of-way actions for gas-gathering pipelines and consider other management actions to reduce gas venting and flaring.
- e) To prevent air quality or air quality related value degradation, the BLM will request operators to incorporate strategies such as field design features (for example, reinjection, cogeneration, centralized facilities, three-phase transport, and delivery systems), emissions controls, or design features to reduce venting and flaring from BLM-authorized oil and gas wells in the Approved RMP.
- f) To minimize fugitive dust emissions from BLM-authorized activities, the BLM will require a fugitive dust control plan or dust abatement measures developed in coordination with Tribal, state, and local agencies and based on best management practices in the Approved RMP.
- g) The BLM will, where feasible, promote the design of field systems that reduce air emissions, such as liquids-gathering and delivery systems, centralized treatment systems, storage facilities, and field compression systems.
- h) The BLM will develop and apply conditions of approval to reduce impacts on air resources when the analysis at the permitting or project stage shows significant adverse impacts on ambient air quality standards or air quality related values.
- i) The BLM will support, conduct, or require a regional air modeling analysis, as needed, to assess cumulative air quality impacts from reasonably foreseeable emissions-producing activities in the planning area. Cumulative air quality modeling is part of a comprehensive strategy to prevent BLM-permitted activities from causing or contributing to violations of ambient air quality standards or causing significant adverse impacts on air quality related values.
- j) The BLM will determine, on a case-by-case basis and in accordance with the ARMP, the appropriate level of air analysis necessary to determine potential air quality impacts from proposed actions and subsequent potential mitigation strategies for project-level EISs and EAs.
- k) The BLM will consider and prioritize actions that reduce or mitigate GHG emissions, such as enhanced energy efficiency, use of lower GHG-emitting technologies, capture or beneficial use of methane emissions, and/or sequestration of carbon dioxide through enhanced oil recovery.

- l) The BLM will prioritize processing of rights-of-way applications for infrastructure (for example, pipelines) that maximize the recovery and delivery of natural gas from well sites to meet the objectives of reducing lost product and minimizing air pollutant emissions from venting and flaring.

## **C.5 AIR MONITORING**

The BLM recognizes that ambient air monitoring provides valuable data for determining current and background concentrations of air pollutants, describing long-term trends in air pollutant concentrations, and evaluating the effectiveness of air emissions control strategies.

### **C.5.1 Regional Air Monitoring**

The BLM will facilitate cooperative engagements with industry, North Dakota DEQ, Forest Service, National Park Service, US Environmental Protection Agency, Tribal governments, local counties, or other entities to establish, fund, operate, and maintain air monitoring sites within the planning area to assess air quality conditions that may be affected by emissions from BLM-authorized actions under the NDFO RMP/EIS. The BLM will facilitate the sharing of air monitoring data collected for purposes of this section with other agencies and the public.

### **C.5.2 Pre-Construction and Project Air Monitoring**

The BLM may require project proponents of oil and gas development proposals or proponents of other emission-generating projects, such as solid mineral development that have the potential to cause adverse air quality impacts, to submit air monitoring data from a site within, adjacent to, or representative of the proposed development area. The BLM may require proponents to submit representative air monitoring data or conduct pre-construction air monitoring for the purpose of establishing baseline air quality conditions prior to development of a proposed project. The BLM may require operators to submit representative air monitoring data or conduct air monitoring for the life of an approved project for the purpose of determining impacts attributable to the project over time and to determine the effectiveness of the BLM's management actions related to the project.

Air monitoring requirements will be determined by the BLM in collaboration with North Dakota DEQ, based on the absence of existing representative air monitoring data and the criteria to inform its decisions listed in Section C4.1 of this ARMP. If the BLM determines that baseline monitoring is necessary, the project proponent may be required to provide a minimum of 1 year of baseline ambient air monitoring data for the pollutant(s) of concern obtained from a site that meets North Dakota DEQ air monitoring standards. The operator or project proponent will be responsible for siting, installing, operating, and maintaining any air monitoring equipment and for reporting air monitoring data to North Dakota DEQ and the BLM. The BLM and North Dakota DEQ will work cooperatively to determine a mechanism to submit and approve air monitoring siting, operation, and monitoring data and ensure that ambient air monitoring data collected as a condition of approval for BLM-authorized activities will be made publicly available.

## **C.6 AIR MODELING**

The BLM recognizes that air quality modeling (including screening models, air dispersion models, and photochemical modeling systems) are useful tools for predicting project-specific impacts on air quality, predicting the potential effectiveness of control measures and strategies, and for predicting trends in regional concentrations of air pollutants from multiple sources. As part of this ARMP, the BLM commits to the measures described in this section with regards to air quality modeling.

### **C.6.1 Project-Specific Modeling**

The BLM may require project proponents of oil and gas development activities or proponents of other emission-generating projects, such as solid mineral development, to conduct air quality modeling to analyze potential impacts from the proposed project. Air quality modeling may be required for pollutant(s) of concern in the absence of other available data to ensure compliance with laws and regulations or to determine the effectiveness of emission control strategies. The BLM may, upon review and approval, allow project proponents to provide results from other modeling analyses that include the proposed project. The BLM will not require an air modeling analysis when the project proponent can demonstrate that the project will result in no net increase in emissions of the pollutant(s) of concern. The decision for conducting air quality modeling will be based on BLM's criteria to inform its decisions listed in **Section C.4.1** of this ARMP.

### **C.6.2 Modeling Protocol**

If a project-specific modeling analysis is required, the BLM will determine the methodology and parameters to be modeled through the development of a modeling protocol. The modeling protocol would be developed collaboratively between the BLM and project proponent with input from the North Dakota DEQ and other affected federal land managers and would be approved by the BLM before the initiation of the air quality modeling.

### **C.6.3 Regional Air Modeling**

Regional air modeling involves the analysis of potential impacts on air quality over a large geographic area, typically multi-state, and for multiple emissions source groups and pollutants. The BLM will support and participate in regional modeling efforts through multi-state and/or multi-agency organizations such as Western Governors' Association – Western Regional Air Partnership and the Intermountain West Data Warehouse. In addition, the BLM may, contingent upon available funding, initiate, conduct, or facilitate a regional air modeling analysis to determine regional impacts from its authorized activities. If a regional modeling analysis is initiated by the BLM, a modeling protocol will be developed collaboratively among the BLM, North Dakota DEQ, and other affected federal agencies and land managers. Final approval and acceptance of the protocol will be determined by the BLM before the initiation of the regional air quality modeling.

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# Appendix D

## Design Features and Best Management Practices

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# Appendix D. Design Features and Best Management Practices

## D.1 DESIGN FEATURES

The United States Department of the Interior, Bureau of Land Management (BLM) will use the design features discussed in this appendix to meet statutory requirements for environmental protection and to comply with resource-specific goals and objectives set forward in the North Dakota Resource Management Plan (RMP)/Environmental Impact Statement (EIS). The BLM will apply design features to modify the operations of authorized land uses or activities to meet these obligations.

The BLM will apply these measures to avoid, minimize, rectify, reduce, and compensate for effects if an evaluation of the authorization area indicates the presence of resources of concern. These include air, cultural and paleontological resources, soils, water, vegetation, recreation values, visual resources, and important wildlife habitat. The intent is to reduce effects associated with authorized land uses or activities such as road, pipeline, or power line construction, mineral development, range improvements, and recreation.

The design features for authorizations will be identified as part of the National Environmental Policy Act of 1969 (NEPA) process. This will come about through interdisciplinary analysis involving resource specialists, project proponents, government entities, landowners, and other surface management agencies. Those measures selected for implementation will be identified in the record of decision (ROD) (for an EIS) or Decision Record (for an environmental assessment [EA] or categorical exclusion) for those authorizations. The measures chosen will inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM-administered lands and minerals, consistent with the mining laws, and will mitigate effects from those authorizations.

Because these actions create a clear obligation for the BLM—to ensure any proposed mitigation action adopted in the environmental review process is performed—they will ensure that mitigation will reduce environmental effects in the implementation stage and include binding mechanisms for enforcement<sup>1</sup>.

Because of site-specific circumstances and local resource conditions, some design features may not apply to some or all activities (e.g., a resource or conflict is not present on a given site), or they may require slight variations from what is described in this appendix. The BLM may add additional measures it deems necessary through the environmental analysis and as developed through coordination with other federal, state, and local regulatory and resource agencies. Application of design features is subject to valid existing rights and technical and economic feasibility.

The BLM will monitor the effectiveness of design features to determine whether they are achieving resource objectives and accomplishing desired goals. Timely adjustments would be made as necessary to meet the resource goals and objectives.

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<sup>1</sup> Council on Environmental Quality memorandum for heads of federal departments and agencies, *Appropriate Use of Mitigation and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact*, January 14, 2011.



The list included in this appendix is not limiting but references the most frequently used sources. The BLM may add additional site-specific restrictions it deems necessary by further environmental analysis and as developed through coordination with other federal, state, and local regulatory and resource agencies.

Because design features change or are modified, based on new information, the BLM will update the guidelines periodically. As new publications are developed, the BLM may consider those best management practices (BMPs) that they contain. In addition, many BLM handbooks (such as BLM Manual 9113, Roads, and 9213, Interagency Standards for Fire and Aviation Operation) also contain BMP-type measures for minimizing effects. Note that BLM's Information Bulletin 2021-003 highlights the status of the 2016 Waste Prevention Rule and provides guidance; the BLM is updating its waste prevention rules as of early 2024 (see proposed rules here: <https://www.federalregister.gov/documents/2022/11/30/2022-25345/waste-prevention-production-subject-to-royalties-and-resource-conservation>). (These BLM-specific guidance and direction documents are not referenced in this appendix.)

The EIS for this RMP does not decide or dictate the exact wording or inclusion of these design features. Rather, they are used in the RMP and EIS process as a tool to help demonstrate at the land use plan scale how they will be applied when subsequent activity plans and site-specific authorizations are considered.

The design features and their wording are matters of policy. As such, specific wording is subject to change, primarily through administrative review, not through the RMP and EIS process. Any further changes that may be made in the continuing refinement of these design features and any development of program-specific standard procedures will be handled in another forum, which will include appropriate public involvement and input. These design features are not to be confused with actual oil and gas stipulations, which can be found in **Appendix B**, Stipulations and Allocations Applicable to Fluid Minerals Leasing.

**Table D-1**  
**Implementation-Level Design Features**

Resource	Design Feature
<b>Air Quality</b>	
<b>DF-01, Venting and Flaring</b>	Additional air resource analyses may be required in order to comply with the NEPA, FLPMA, and/or other applicable laws and regulations. Analyses may include equipment and operations information, emission inventory development, dispersion modeling or photochemical grid modeling for air quality and/or air quality related value impact analysis, and/or emission control determinations. These analyses may result in the imposition of additional project-specific control measures to protect air resources.
<b>DF-02, Fugitive Dust</b>	Proponents of development projects that have the potential to generate fugitive dust emissions may be required to submit a fugitive dust control plan and may be required to implement fugitive dust control measures as determined on a case-by-case basis by the Authorized Officer including: <ol style="list-style-type: none"> <li>1. application of water or other approved or allowable dust suppressants,</li> <li>2. modification or cessation of operations during periods of high wind,</li> <li>3. installation of wind/dust barriers,</li> <li>4. installation of vegetation, gravel, or other surface coverage to exposed dirt surfaces,</li> <li>5. other dust control design features determined as necessary by the Authorized Officer.</li> </ol>

Resource	Design Feature
<b>DF-03, Oil and Gas Operations</b>	<p>Operators and project proponents will comply with all local, state, Tribal, and federal regulations for the control of emissions of regulated air pollutants from oil and gas operations and will to the maximum extent feasible plan, coordinate, and incorporate design features for the reduction of volatile organic compounds, hazardous air pollutants, and greenhouse gas (GHG) emissions from oil and gas activities such as:</p> <ol style="list-style-type: none"> <li>1. reduced emissions completion and closed loop drilling technology;</li> <li>2. electric, natural gas, or enhanced engine (tier IV) technology for drill rig, completion, and mud pumping engines;</li> <li>3. closed storage tanks rather than open tanks or pits;</li> <li>4. vapor recovery units on condensate, produced water, and oil storage tanks;</li> <li>5. vapor balancing during condensate and oil tanker truck loading;</li> <li>6. electric, solar, or air driven pneumatic devices;</li> <li>7. electric or solar powered pumpjack engines;</li> <li>8. optimized glycol circulation rates on glycol dehydrators;</li> <li>9. replacement of wet seals with dry seals in centrifugal compressors;</li> <li>10. replacement of worn rod packing in reciprocating compressors;</li> <li>11. automated plunger lift systems; and</li> <li>12. leak detection and repair program.</li> </ol>
<b>DF-04, Coal Mining Operations</b>	<p>Operators and project proponents will comply with all local, state, Tribal, and federal regulations for the control of emissions of regulated air pollutants from mining operations and will, to the maximum extent feasible, plan, coordinate, and incorporate design features for the reduction of volatile organic compounds, hazardous air pollutants, and GHG emissions from coal mining activities such as:</p> <ol style="list-style-type: none"> <li>1. electric powered mining equipment</li> <li>2. fugitive dust control plan</li> <li>3. storage pile management to minimize dust emissions and methane off gassing</li> <li>4. pre-mining drainage of methane (i.e., methane recovery wells)</li> </ol>
<b>DF-05, Federal Class I Areas</b>	<p>Surface use and occupancy within 2 miles of the boundary of the Lostwood Wilderness or Theodore Roosevelt National Park is subject to the following conditions; prior to surface occupancy and use, the operator must submit an air analysis, including near field dispersion modeling, that demonstrates that proposed exploration or development operations will not result in adverse impacts to air quality and air quality related values and will meet air quality goals, objectives, standards and thresholds for the Class I areas. The BLM may require modifications to or disapprove a proposed activity that would result in an adverse impact to air quality, exceed an AAQS, or exceed a level of concern for an air quality related value.</p>

Resource	Design Feature
<b>Cultural Resources</b>	
<b>DF-06, NRHP Eligible Sites</b>	Surface disturbance is prohibited within National Register of Historic Places (NRHP)-eligible properties, districts, and cultural sites allocated to conservation for future, traditional, and public use. Some leased areas may be found to contain historical properties or resources protected under the National Historic Preservation Act, the American Indian Religious Freedom Act, the Native American Graves Protection and Repatriation Act, Executive Order 13007, or other statutes and executive orders. The BLM will not approve any ground-disturbing activities that may affect any such properties or resources until it completes its obligations under applicable requirements of the National Historic Preservation Act and other authorities. The BLM may require modification to development proposals to protect such properties or may disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized, or mitigated.
<b>DF-07, Historic Landmarks and Districts</b>	All surface-disturbing activities and construction of semi-permanent and permanent facilities within 2 miles of the following locations Lynch Knife River Flint Quarry District, Knife River Indian Villages National Historic Site, Writing Rock State Historic Site (32DV4), Doaks Butte (32BO222), Killdeer Mountain Battle Study Area (32DUx1120), Medicine Rock State Historic Site (32GT129), Theodore Roosevelt's Elkhorn Ranch and Greater Elkhorn Ranchlands District, Fort Union Trading Post National Historic Landmark, Custer Military Trail Archaeological District, Fort Clark Archaeological District, Chateau de Mores State Historic Site (32BI60), Fort Buford State Historic Site/Confluence (32WI25), Huff National Historic Landmark (32MO11), Double Ditch State Historic Site (32BL8), Menoken National Historic Landmark (32BL2), Turtle Effigy State Historic Site (32ME1270), Pulver Mounds (32ML112), and Cross Ranch Archaeological District may require special design including location, painting, and camouflage to blend with the natural surroundings.
<b>DF-08, Doaks Butte</b>	Surface disturbance is prohibited within the Doaks Buttes (32BO222) site and disturbance is avoided consistent with management decisions within 300 feet of the site boundary.
<b>Paleontological Resources</b>	
<b>DF-9, Significant Paleontological Localities</b>	Surface disturbance should be avoided in significant paleontological localities. If no practical alternative exists for relocating the activity, an exception may be granted by the BLM Authorized Officer if the project proponent submits a plan demonstrating that the adverse impacts can be mitigated through data recovery and extensive recordation. Where impacts to paleontological resources cannot be mitigated to the satisfaction of the BLM Authorized Officer, surface disturbance on that area will be prohibited.
<b>Soil Resources</b>	
<b>DF-10, Sensitive Soils</b>	Surface disturbance on sensitive soils may be prohibited. If no practical alternative exists for relocating the activity, an exception may be granted by the BLM Authorized Officer subject to approval of a reclamation plan demonstrating the following: (1) that no practical alternative exists for relocating the activity, (2) the activity will be located to reduce effects on soil and water resources, (3) site productivity will be maintained or restored, (4) surface runoff and sedimentation will be adequately controlled, (5) on- and off-site areas will be protected from accelerated erosion, such as rilling, gully, piping, and mass wasting; water quality and quantity will be in conformance with state and federal water quality laws, (6) no areas susceptible to mass wasting will be disturbed, and (7) surface-disturbing activities will be prohibited during extended wet periods; construction will not be allowed when soils are frozen.

Resource	Design Feature
<b>DF-11, Steep Slopes</b>	Surface disturbance on slopes greater than 30 percent may be prohibited. If no practical alternative exists for relocating the activity, an exception may be granted by the BLM Authorized Officer subject to approval of a reclamation plan demonstrating the following: (1) that no practical alternative exists for relocating the activity, (2) the activity will be located to reduce effects on soil and water resources, (3) site productivity will be maintained or restored, (4) surface runoff and sedimentation will be adequately controlled, (5) on- and off-site areas will be protected from accelerated erosion, such as rilling, gullying, piping, and mass wasting; water quality and quantity will be in conformance with state and federal water quality laws, (6) no areas susceptible to mass wasting will be disturbed, and (7) surface-disturbing activities will be prohibited during extended wet periods; construction will not be allowed when soils are frozen.
<b>DF-12, Wet Soil Conditions</b>	Surface-disturbing activities may be prohibited during wet soil conditions, when vehicles or equipment can create ruts 4 inches or greater, in order to prevent soil mixing and compaction.
<b>Water, Riparian, Wetlands, and Floodplains</b>	
<b>DF-13, Source Water Protection Areas</b>	For any surface-disturbing activities in State-designated source water protection areas, the BLM will complete a Source Water Protection Plan.
<b>DF-14, Riparian/Wetland, Streams, and Floodplains</b>	Surface-disturbing activities within riparian/wetland areas, ephemeral, intermittent, and perennial drainages, and floodplains may be prohibited. If no practical alternative exists for relocating the activity, an exception may be granted by the BLM Authorized Officer if a plan is approved demonstrating design features that maintain or improve the functionality of these areas and minimizes the potential for adverse effects. Where no alternative to road construction exists, keep roads to the minimum necessary for the approved activity. The plan will address: (1) potential effects on riparian and wetland resources, (b) mitigation to reduce effects to acceptable levels (including timing and restrictions), (c) post-project restoration, and (d) monitoring. Following established protocols, the operator must conduct monitoring capable of detecting early signs of changing riparian and wetland conditions.
<b>Wildlife</b>	
<b>DF-15, Pallid Sturgeon</b>	No instream work from April 1 to July 31 in pallid sturgeon habitat.
<b>DF-16, Migratory Birds</b>	Implement project design features to avoid or minimize impacts from ground disturbing activities to migratory bird nesting.
<b>DF-17, Bighorn Sheep Critical Habitat</b>	Prior to surface disturbance and disrupting activities, the proponent will prepare a plan as a component of the project application to be approved by the BLM Authorized Officer, with confirmation from the state wildlife management agency. The proponent should not initiate surface-disturbing activities unless the Authorized Officer has approved the plan. The plan must demonstrate to the Authorized Officer's satisfaction that the function and suitability of the habitat would not be impaired.
<b>DF-18, Big Game</b>	Surface disturbance and disrupting activities between April 1 and June 30 would be subject to a plan approved by the BLM Authorized Officer that provides adequate mitigations measures and conservation actions to protect mule deer, elk, and antelope birthing areas.

Resource	Design Feature
<b>DF-19, Sharp-tailed Grouse and Greater Prairie Chicken Leks</b>	Surface disturbance and disrupting activities within 2 miles of the perimeter of a lek will be subject to a plan approved by the BLM Authorized Officer that provides adequate mitigation measures and conservation actions to protect breeding, nesting, and brood-rearing habitats and limit disturbance in a manner that will support the long-term populations associated with the lek and surrounding habitat.
<b>DF-20, Special Status Species</b>	Prior to surface disturbance and disrupting activities, the proponent will prepare a plan as a component of the project application to be approved by the BLM Authorized Officer. The proponent should not initiate surface-disturbing activities unless the Authorized Officer has approved the plan. The plan must demonstrate to the Authorized Officer's satisfaction that the function and suitability of the habitat would not be impaired.
<b>DF-21, Greater Sage-grouse</b>	See <b>Section E.2</b> for Required Design Features to protect Greater Sage-Grouse.
<b>Vegetation</b>	
<b>DF-22, Tallgrass Prairie and Woody Draws</b>	Surface disturbance will be avoided within Tallgrass Prairie and Upland Deciduous Woodland habitat types as identified in coordination with the North Dakota Game and Fish and North Dakota Natural Resource Heritage Program. Where no practicable alternative exists the BLM Authorized Officer may approve development if shown to minimize the potential for adverse environmental impacts.
<b>Backcountry Conservation Areas (BCAs)</b>	
<b>DF-23, BCAs</b>	Surface disturbance and disturbing activities in backcountry conservation areas are subject to the following operating constraint: Prior to surface use, occupancy or disturbance in BCAs, a plan shall be prepared by the proponent and approved by the BLM Authorized Officer with notification to North Dakota Game and Fish. The plan must facilitate the long-term maintenance of big game wildlife populations and promote public access to support wildlife-dependent recreation and hunting opportunities. Proposed activities may not alter or depreciate important recreational values located within BCAs.
<b>Noise and Light in Sensitive Areas</b>	
<b>DF-24, Noise and Light</b>	Minimize noise and light pollution in the following sensitive areas: special status species habitat, within 2 miles surrounding National Park units, recreation areas, and river corridors. Use best available technology such as installation of multi-cylinder pumps, sound reducing mufflers, and placement of exhaust systems to direct noise away from the protection area/ resource. Control exhaust and noise compressors so that operational noise will not exceed 49dB measured at 30 feet from the source. Reduce light pollution by using methods such as limiting height of light poles, timing of lighting operations (meaning limiting lighting to times of darkness associated with operations), limiting wattage intensity, and constructing light shields. An exception may be granted if a determination is made that natural barriers or view sheds would meet these mitigation objectives or if human health and safety were adversely affected.
<b>DF-25, National Park System (NPS) Units</b>	Surface-disturbing activities within 3 miles of the boundary of Theodore Roosevelt National Park, Knife River Indian Villages National Historic Site, and Fort Union Trading Post National Historic Site, the management corridor for Lewis & Clark National Historic Trail, or the management corridor of the North Country National Scenic Trail will require consultation with the NPS and may require special design including location, painting, and camouflage to blend with the natural surroundings and meet the visual quality objectives for the NPS.

Resource	Design Feature
<b>Visual Resources</b>	
<b>DF-26, Split Estate Visual Resources Analysis</b>	<p>Visual design features will be based on the VRM class. The following features will be considered when designing visual mitigation for a project:</p> <p>VRM Class II – Constraints may include utilizing topographic/vegetative screening, matching color tones of facilities with surrounding topographic features, orienting facilities, redesigning facilities to such scale that they may not be evident, or placing facilities outside the VRM Class II area.</p> <p>VRM Class III – Constraints may include utilizing topographic/vegetative screening, matching color tones of facilities with surrounding topographic features, orienting facilities, redesigning facilities to such scale that they are visually subordinate to the landscape, or placing facilities outside the VRM Class III area.</p> <p>VRM Class IV – Constraints may include matching color tones of facilities with surrounding topographic features.</p> <p>*Split-estate lands where BLM has mineral decision area are recommended to incorporate the design features of the adjacent VRM category. If there are no nearby VRM categories, VRI classes would be used to determine recommended design features.</p>
<b>Roads</b>	
<b>DF-27, Roads</b>	<ol style="list-style-type: none"> <li>Existing roads and primitive trails would be considered first prior to the development of new roads.</li> <li>Construct and maintain roads to the standards established in the BLM Gold Book. Roads will follow the contour of the land where practical. Gravel will be proven to be free of the mineral erionite through testing procedures established by the North Dakota Department of Health. Provide timely year-round road maintenance.</li> <li>Shared-use roadways would be utilized to the greatest extent possible to reduce the number of new roads required.</li> <li>Roads will be posted with speed limits.</li> <li>ROW boundaries will be marked and posted to federal survey standards, including section line roads, where appropriate. For new road ROWs, boundary evidence risk assessment per 600 DM 5 and H-9600-1, Chapter 1 will be conducted.</li> </ol>
<b>Fluid Minerals</b>	
<b>DF-28, Fluid Mineral Development</b>	<p>Multiple wells will be drilled from a single well pad wherever feasible.</p> <p>Production facilities will be centralized to avoid tanks and associated facilities on each well pad where necessary to address resource issues.</p> <p>Avoid placement of production facilities on hilltops and ridgelines; screen facilities from view.</p> <p>Aboveground facilities, including power boxes, building doors, roofs, and any visible equipment, will be painted a color selected by the BLM from the latest national color charts within 6 months of completion that best allows the facility to blend into the background. The operator is responsible for maintaining paint color for the duration of the project.</p> <p>Lease and rights-of-way corridors boundaries will be evaluated for boundary evidence risk assessment per Onshore Order No. 1, Surface Operating Standards for Oil and Gas Exploration and Development (BLM Gold Book), 600 DM 5, and H-9600-1, Chapter 1. Facilities location and surface disturbance located within one-fourth mile of a lease or rights-of-way corridor boundary will be evaluated for boundary evidence risk assessment per 600 DM 5 and H-9600-1, Chapters 1 and 6.</p>

Resource	Design Feature
<b>Fluid Mineral Developments</b> <i>(continued)</i>	Construct and maintain roads to the standards established in the BLM Gold Book. Roads will follow the contour of the land where practical. Initial gravel application should be a minimum of 6 inches and proven to be free of the mineral erionite through testing procedures established by the North Dakota Department of Health. Provide timely year-round road maintenance and cleanup on the access road.
	Implement dust abatement measures as needed to prevent fugitive dust from vehicular traffic, equipment operations, and wind events.
	Locate and protect existing pipelines, power lines, and telephone lines.
	Use common utility or right-of-way corridors containing roads, power lines, and pipelines. All power lines to individual well locations (excluding major power source lines to the operating oil or gas field) and all flow lines will be buried in or immediately adjacent to the access roads, where feasible. Retrofit existing powerlines by burying them or installing perch guards to prevent their use as raptor perches.
	Raptor perch avoidance devices will be installed on all new power lines and existing lines that present a potential hazard to raptors.
	Use BMPs such as matting, tackifiers, straw mulch, and fiber rolls to aid in prevention of soil erosion.
	Implement preventative measures for the conservation of migratory birds. These measures will be implemented to reduce the potential for bird mortality, injury and/or harm from project activities such as pad construction, drilling, testing, completion, and production of a well. Operators can work with the BLM North Dakota Field Office during all stages of the project to determine and utilize the best preventative measures to implement. Such measures may include but are not limited to netting or covering all containers or pits, mowing vegetation, screening drip buckets or containers, and installing "exhaust cones" on top of exhaust stacks.
	No use of surface pits for water disposal.
	Utilize closed loop drilling system. Drill cuttings will be stored in three sided tanks on locations prior to be transported offsite to an approved disposal facility. Disposal of all solids and liquids (drilling fluids/cuttings, produced water, trash, sewage, and chemicals) would meet all state, federal, and county requirements.
	Locate invert, saltwater, or testing tanks in a contained area and/or diked so that any spilled fluids be contained. During drilling, ensure a berm no less than 2 feet in height surrounds the invert tanks in the event of a spill. Saltwater and diesel tanks should not be placed on topsoil stockpiles.
	Do not dispose of or burn waste, trash, or chemicals on location.
	Install plastic liner under drilling operations, storage tanks, and high-risk processing areas.
	Prepare and adhere to a Stormwater Management Plan (SWMP).
	Develop and implement a Spill Prevention, Control, and Countermeasure (SPCC) plan.

Resource	Design Feature
<b>Fluid Mineral Developments</b> <i>(continued)</i>	<p>Locate production facilities to maximize interim reclamation of the cut and fill slopes (3:1 slope is optimal) of the well pad and centralized tank battery (CTB) (if applicable). Place production tanks on the "cut" portion of the pad, except where interim reclamation re-contouring would preclude that placement. Ensure load lines terminate inside the dike and have adequate drip containment catch basins. Ensure facilities comply with American Petroleum Institute's Recommended Practice for Setting, Maintenance, Inspection, Operation, and Repair of Tanks in Production Service (API RP 12 R1).</p> <p>If a tank battery is constructed on location, surround tank setting, treater, and separator, with lined steel containment dike of sufficient capacity to adequately contain 110 percent of the contents of the largest vessel within it, plus one day of production.</p> <p>Construct an impermeable berm of sufficient dimensions around the perimeter of the well pad such that no fluid, including stormwater, is allowed to migrate off location. Any stormwater or other runoff from the pad will be tested and follow state regulations to dispose or disperse the water from the pad.</p> <p>Conduct interim reclamation within 6 months to minimize erosion and transport of soils from disturbed surfaces. Reclaim portions of the access road and well pad (including any CTB pads) not needed for production. Re-contour cut and fill slopes, rip compacted subsoil, spread topsoil and reseed during the next spring or fall seeding period.</p> <p>Seed mix and seeding method will be determined in conjunction with the landowner or land management agency and the local NRCS and/or county extension offices. See also <b>Appendix E</b>, Reclamation Standards.</p> <p>Regularly monitor and prompt control noxious weeds or other invasive non-native plant species.</p> <p>Take measures to prevent and suppress fires caused by their employees, contractors, or subcontractors, including removal of vegetation around ignition sources.</p> <p>When plugging the well, a steel plate dry marker welded to the surface casing at least 4-feet below recontoured ground is required, and must contain the same information as the well sign as directed by 43 CFR 3162.6 (30 CFR 221.22).</p> <p>Near Lake Sakakawea or other surface water features, pad floor and berms shall be compacted to a minimum density of 95 percent of the maximum dry density obtained by the American Association of State and Highway Transportation Officials (AASHTO) T 99 to help slow and/or prevent any spills from absorbing through the pad and migrating off-site towards Lake Sakakawea.</p> <p>To reduce potential impacts to critical Piping Plover habitat: a. Construction, drilling, and reclamation earthwork shall not be conducted from April 15 to August 31, within 0.50 mile of designated Piping Plover Critical Habitat. b. The final aggregate utilized on the pads will be coarse in nature to prevent the attraction of piping plovers to the newly constructed pad as a nesting site. The size of the aggregate will be no smaller than 1.5 inches in diameter.</p> <p>Near sensitive receptors such as occupied dwellings, install sound mitigation barriers on the pad perimeter to reduce noise levels associated with drilling, completions, and flaring.</p>



Resource	Design Feature
<b>Fluid Mineral Developments</b> <i>(continued)</i>	Near visually sensitive areas such as occupied dwellings, use natural features (such as topography and vegetation) or artificial features such as berms to help conceal facilities. Use low-profile pumping units and tanks to reduce visual impacts in these areas.
	Monitor wells and production facilities using remote monitoring techniques such as SCADA and develop a plan to reduce the frequency of vehicle traffic.
	Surface-disturbing activities may be prohibited during muddy and/or wet soil periods.
	When crossing streams during pipeline construction, pipelines must be bored a minimum of 8 feet below the stream bed.
	Construct and reclaim pipelines to the standards established in the BLM Gold Book. Pipeline routes and roads should be co-located as much as possible to reduce reclamation needs and impacts to other resources. Compact pipeline trenches during backfilling and maintain to correct backfill settling and prevent erosion.
	Pipelines to be abandoned must be flushed and/or purged of all products and capped 4 feet minimum below ground. Any lines buried close to the surface that may become exposed due to water or wind erosion, or soil movement must be removed.
	See also <b>Air Resources</b> Design Features, above.
	See also <b>Appendix E</b> , Reclamation Standards for reclamation measures of success criteria, standards, and practices.
	See also Surface Operating Standards for Oil and Gas Exploration and Development (BLM Gold Book).
<b>General</b>	
<b>DF-29, Erionite Mitigation</b>	Gravel will be proven to be free of the mineral erionite through testing procedures established by the North Dakota Department of Health.

## D.2 REQUIRED DESIGN FEATURES FOR GREATER SAGE-GROUSE

Required Design Features (RDFs) are required for certain activities in all greater sage-grouse (GRSG) habitat. RDFs establish the minimum specifications for certain activities to help mitigate adverse impacts. However, the applicability and overall effectiveness of each RDF cannot be fully assessed until the project level when the project location and design are known. Because of site-specific circumstances, some RDFs may not apply to some projects (e.g., a resource is not present on a given site) and/or may require slight variations (for example, a larger or smaller protective area). All variations in RDFs would require that at least one of the following be demonstrated in the NEPA analysis associated with the project/activity:

- A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (for example, due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable;
- An alternative RDF, a state-implemented conservation measure, or a plan-level protection is determined to provide equal or better protection for GRSG or its habitat; or
- A specific RDF will provide no additional protection to GRSG or its habitat.

***How to Make a Pond that Won't Produce Mosquitoes that Transmit West Nile Virus (from Doherty [2007])***

- Increase the size of ponds to accommodate a greater volume of water than is discharged. This will result in un-vegetated and muddy shorelines that breeding *Cx. tarsalis* avoid (De Szalay and Resh 2000). This modification may reduce *Cx. tarsalis* habitat but could create larval habitat for *Culicoides sonorensis*, a vector of blue tongue disease, and should be used sparingly (Schmidtman et al. 2000). Steep shorelines should be used in combination with this technique whenever possible (Knight et al. 2003).
- Build steep and stable shorelines to reduce shallow water (>60 centimeters [cm]) and aquatic vegetation around the perimeter of impoundments (Knight et al. 2003). Construction of steep shorelines also will create more permanent ponds that are a deterrent to colonizing mosquito species like *Cx. tarsalis* which prefer newly flooded sites with high primary productivity (Knight et al. 2003).
- Maintain the water level below that of rooted vegetation for a muddy shoreline that is unfavorable habitat for mosquito larvae. Rooted vegetation includes both aquatic and upland vegetative types. Avoid flooding terrestrial vegetation in flat terrain or low-lying areas. Aquatic habitats with a vegetated inflow and outflow separated by open water produce 5- to 10-fold fewer *Culex* mosquitoes than completely vegetated wetlands (Walton and Workman 1998). Wetlands with open water also had significantly fewer stage III and IV instars which may be attributed to increased predator abundances in open water habitats (Walton and Workman 1998).
- Construct dams or impoundments that restrict down slope seepage or overflow by digging ponds in flat areas rather than damming natural draws for effluent water storage, or lining constructed ponds in areas where seepage is anticipated (Knight et al. 2003).
- Line the channel where discharge water flows into the pond with crushed rock, or use a horizontal pipe to discharge inflow directly into existing open water, thus precluding shallow surface inflow and accumulation of sediment that promotes aquatic vegetation.
- Line the overflow spillway with 3-inch crushed rock, and construct the spillway with steep sides to preclude the accumulation of shallow water and vegetation.
- Fence pond site to restrict access by livestock and other wild ungulates that trample and disturb shorelines, enrich sediments with manure and create hoof print pockets of water that are attractive to breeding mosquitoes.

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### ***Fluid Mineral Development***

#### ***PHMA***

##### **Roads**

- Design roads to an appropriate standard no higher than necessary to accommodate their intended purpose.
- Locate roads to avoid important areas and habitats.
- Coordinate road construction and use among right-of-way holders.
- Construct road crossing at right angles to ephemeral drainages and stream crossings.
- Establish speed limits on BLM system roads to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.
- Establish trip restrictions or minimization through use of telemetry and remote well control (e.g., Supervisory Control and Data Acquisition).
- Do not issue rights-of-way to counties on newly constructed energy development roads, unless for a temporary use consistent with all other terms and conditions included in this document.
- Restrict vehicle traffic to only authorized users on newly constructed routes (use signing, gates, etc.)
- Use dust abatement practices on roads and pads.
- Close and rehabilitate duplicate roads.

##### **Operations**

- Cluster disturbances, operations (fracture stimulation, liquids gathering, etc.), and facilities.
- Use directional and horizontal drilling to reduce surface disturbance.
- Place infrastructure in already disturbed locations where the habitat has not been restored.
- Consider using oak (or other material) mats for drilling activities to reduce vegetation disturbance and for roads between closely spaced wells to reduce soil compaction and maintain soil structure to increase likelihood of vegetation reestablishment following drilling.
- Apply a phased development approach with concurrent reclamation.
- Place liquid gathering facilities outside of priority areas. Have no tanks at well locations within priority areas (minimizes perching and nesting opportunities for ravens and raptors and truck traffic). Pipelines must be under or immediately adjacent to the road (Bui et al. 2010).
- Restrict the construction of tall facilities and fences to the minimum number and amount needed.
- Site and/or minimize linear ROWs to reduce disturbance to sagebrush habitats.
- Place new utility developments (power lines, pipelines, etc.) and transportation routes in existing utility or transportation corridors.

- Bury distribution power lines.
- Corridor power, flow, and small pipelines under or immediately adjacent to roads.
- Design or site permanent structures which create movement (e.g., a pump jack) to minimize impacts to GRSG.
- Cover (e.g., fine mesh netting or use other effective techniques) all drilling and production pits and tanks regardless of size to reduce GRSG mortality.
- Equip tanks and other above ground facilities with structures or devices that discourage nesting of raptors and corvids.
- Control the spread and effects of non-native plant species (e.g., by washing vehicles and equipment).
- Use only closed-loop systems for drilling operations and no reserve pits.
- Restrict pit and impoundment construction to reduce or eliminate threats from West Nile virus (Doherty 2007).
- Remove or re-inject produced water to reduce habitat for mosquitoes that vector West Nile virus. If surface disposal of produced water continues, use the following steps for reservoir design to limit favorable mosquito habitat:
  - Overbuild size of ponds for muddy and non-vegetated shorelines.
  - Build steep shorelines to decrease vegetation and increase wave actions.
  - Avoid flooding terrestrial vegetation in flat terrain or low-lying areas.
  - Construct dams or impoundments that restrict down slope seepage or overflow.
  - Line the channel where discharge water flows into the pond with crushed rock.
  - Construct spillway with steep sides and line it with crushed rock.
  - Treat waters with larvicides to reduce mosquito production where water occurs on the surface.
- The BLM would work with proponents to limit project-related noise where it would be expected to reduce functionality of habitats that support GRSG populations. The BLM would evaluate the potential for limitation of new noise sources on a case-by-case basis as appropriate.

As additional research and information emerges, specific new limitations appropriate to the type of projects being considered would be evaluated, and appropriate limitations would be implemented where necessary to minimize potential for noise impacts on GRSG population behavioral cycles.

As new research is completed, new specific limitations would be coordinated with the North Dakota Game and Fish Department (NDGFD) and partners. Limit noise to less than 10 decibels above ambient (20-24 dBA) at sunrise at the perimeter of a lek during active lek season (Petricelli et al. In preparation).
- Require noise shields when drilling during the lek, nesting, broodrearing, or wintering season.
- Fit transmission towers with anti-perch devices (Lammers and Collopy 2007).
- Require GRSG-safe fences.
- Locate new compressor stations outside PHMA and design them to reduce noise that may be directed towards PHMA.
- Clean up refuse.
- Locate man camps outside of PHMA.

### Reclamation

- Include objectives for ensuring habitat restoration to meet GRSG habitat needs in reclamation practices/sites (Pyke 2011). Address post reclamation management in reclamation plan such that goals and objectives are to protect and improve GRSG habitat needs.
- Maximize the area of interim reclamation on long-term access roads and well pads including reshaping, topsoiling and revegetating cut and fill slopes.
- Restore disturbed areas at final reclamation to the pre-disturbance landforms and desired plant community.
- Irrigate interim reclamation if necessary for establishing seedlings more quickly.
- Utilize mulching techniques to expedite reclamation and to protect soils.

### GHMA

Make applicable BMPs mandatory as conditions of approval (COA) within GHMA. BMPs are continuously improving as new science and technology become available and therefore are subject to change. At a minimum include the following BMPs:

### Roads

- Design roads to an appropriate standard no higher than necessary to accommodate their intended purpose.
- Do not issue ROWs to counties on mining development roads, unless for a temporary use consistent with all other terms and conditions included in this document.
- Coordinate road construction and use among ROW holders.
- Construct road crossing at right angles to ephemeral drainages and stream crossings.
- Establish speed limits on BLM system roads to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.
- Use dust abatement practices on roads and pads.
- Close and reclaim duplicate roads, by restoring original landform and establishing desired vegetation.

### Operations

- Cluster disturbances associated with operations and facilities as close as possible.
- Use directional and horizontal drilling to reduce surface disturbance.
- Clean up refuse.
- Restrict the construction of tall facilities and fences to the minimum number and amount needed.
- Use remote monitoring techniques for production facilities and develop a plan to reduce the frequency of vehicle use.
- Cover (e.g., fine mesh netting or use other effective techniques) all pits and tanks regardless of size to reduce GRSG mortality.
- Equip tanks and other above ground facilities with structures or devices that discourage nesting of raptors and corvids.

- Control the spread and effects of non-native plant species (Gelbard and Belnap 2003, Bergquist et al. 2007).
- Restrict pit and impoundment construction to reduce or eliminate augmenting threats from West Nile virus (Doherty 2007).

### Reclamation

- Include restoration objectives to meet GRSB habitat needs in reclamation practices/sites. Address post reclamation management in reclamation plan such that goals and objectives are to protect and improve GRSB habitat needs.

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### **Fire and Fuels**

#### **Fuels Management**

- Where applicable, design fuels treatment objective to protect existing sagebrush ecosystems, modify fire behavior, restore native plants, and create landscape patterns which most benefit GRSB habitat.
- Provide training to fuels treatment personnel on GRSB biology, habitat requirements, and identification of areas utilized locally.

- Use fire prescriptions that minimize undesirable effects on vegetation or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of hydrophobicity).
- Ensure proposed sagebrush treatments are planned with interdisciplinary input from BLM and /or state wildlife agency biologist and that treatment acreage is conservative in the context of surrounding GRSG seasonal habitats and landscape.
- Where appropriate, ensure that treatments are configured in a manner (e.g., strips) that promotes use by GRSG (See Connelly et al. 2000)
- Where applicable, incorporate roads and natural fuel breaks into fuel break design.
- Power-wash all vehicles and equipment involved in fuels management activities prior to entering the area to minimize the introduction of undesirable and/or invasive plant species.
- Design vegetation treatment in areas of high frequency to facilitate firefighting safety, reduce the risk of extreme fire behavior; and to reduce the risk and rate of fire spread to key and restoration habitats.
- Give priority for implementing specific GRSG habitat restoration projects in annual grasslands first to sites which are adjacent to or surrounded by GRSG key habitats. Annual grasslands are second priority for restoration when the sites not adjacent to key habitat, but within two miles of key habitat. The third priority for annual grasslands habitat restoration projects are sites beyond two miles of key habitat. The intent is to focus restoration outward from existing, intact habitat.
- As funding and logistics permit, restore annual grasslands to a species composition characterized by perennial grasses, forbs, and shrubs.
- Emphasize the use of native plant species, recognizing that non-native species may be necessary depending on the availability of native seed and prevailing site conditions.
- Remove standing and encroaching trees within at least 100 meters of occupied GRSG leks and other habitats (e.g., nesting, wintering, and brood rearing) to reduce the availability of perch sites for avian predators, as appropriate, and resources permit.
- Protect wildland areas from wildfire originating on private lands, infrastructure corridors, and recreational areas.
- Reduce the risk of vehicle or human-caused wildfires and the spread of invasive species by planting perennial vegetation (e.g., green-strips) paralleling road rights-of-way.
- Strategically place and maintain pre-treated strips/areas (e.g., mowing, herbicide application, and strictly managed grazed strips) to aid in controlling wildfire should wildfire occur near key habitats or important restoration areas (such as where investments in restoration have already been made).

### *Fire Management*

- Develop state-specific GRSG toolboxes containing maps, a list of resource advisors, contact information, local guidance, and other relevant information.
- Provide localized maps to dispatch offices and extended attack incident commanders for use in prioritizing wildfire suppression resources and designing suppression tactics.
- Assign a GRSG resource advisor to all extended attack fires in or near key GRSG habitat areas. Prior to the fire season, provide training to GRSG resource advisors on wildfire suppression organization, objectives, tactics, and procedures to develop a cadre of qualified individuals.
- On critical fire weather days, pre-position additional fire suppression resources to optimize a quick and efficient response in GRSG habitat areas.

- During periods of multiple fires, ensure line officers are involved in setting priorities.
- To the extent possible, locate wildfire suppression facilities (i.e., base camps, spike camps, drop points, staging areas, heli-bases) in areas where physical disturbance to GRSG habitat can be minimized. These include disturbed areas, grasslands, near roads/trails or in other areas where there is existing disturbance or minimal sagebrush cover.
- Power-wash all firefighting vehicles, to the extent possible, including engines, water tenders, personnel vehicles, and all-terrain vehicles prior to deploying in or near GRSG habitat areas to minimize noxious weed spread.
- Minimize unnecessary cross-country vehicle travel during fire operations in GRSG habitat.
- Minimize burnout operations in key GRSG habitat areas by constructing direct fire line whenever safe and practical to do so.
- Utilize retardant and mechanized equipment to minimize burned acreage during initial attack.
- As safety allows, conduct mop-up where the black adjoins unburned islands, dog legs, or other habitat features to minimize sagebrush loss.

#### *Literature Cited*

Connelly, J. W., M. A. Schroeder, A. R. Sands, and C. E. Braun. 2000. Guidelines to Manage Sage-grouse Populations and Their Habitats. *Wildlife Society Bulletin* 28:967-985.

#### **Solid Minerals Development**

The following measures outlined would be applied as RDFs for solid minerals. For locatable minerals, the RDFs would be applied to the extent consistent with applicable laws.

#### *Roads*

- Design roads to an appropriate standard no higher than necessary to accommodate their intended purpose.
- Locate roads to avoid important areas and habitats.
- Coordinate road construction and use among ROW holders.
- Construct road crossing at right angles to ephemeral drainages and stream crossings.
- Establish speed limits on BLM system roads to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.
- Do not issue ROWs to counties on mining development roads, unless for a temporary use consistent with all other terms and conditions included in this document.
- Restrict vehicle traffic to only authorized users on newly constructed routes (e.g., use signing, and gates)
- Use dust abatement practices on roads and pads.
- Close and reclaim duplicate roads, by restoring original landform and establishing desired vegetation.

#### *Operations*

- Cluster disturbances associated with operations and facilities as close as possible.
- Place infrastructure in already disturbed locations where the habitat has not been restored.



- Restrict the construction of tall facilities and fences to the minimum number and amount needed.
- Site and/or minimize linear ROWs to reduce disturbance to sagebrush habitats.
- Place new utility developments (power lines, pipelines, etc.) and transportation routes in existing utility or transportation corridors.
- Bury power lines.
- Cover (e.g., fine mesh netting or use other effective techniques) all pits and tanks regardless of size to reduce GRSG mortality.
- Equip tanks and other above ground facilities with structures or devices that discourage nesting of raptors and corvids.
- Control the spread and effects of non-native plant species (Gelbard and Belnap 2003, Bergquist et al. 2007).
- Restrict pit and impoundment construction to reduce or eliminate threats from West Nile virus (Doherty 2007).
- Remove or re-inject produced water to reduce habitat for mosquitoes that vector West Nile virus. If surface disposal of produced water continues, use the following steps for reservoir design to limit favorable mosquito habitat:
  - Overbuild size of ponds for muddy and non-vegetated shorelines.
  - Build steep shorelines to decrease vegetation and increase wave actions.
  - Avoid flooding terrestrial vegetation in flat terrain or low-lying areas.
  - Construct dams or impoundments that restrict down slope seepage or overflow.
  - Line the channel where discharge water flows into the pond with 3 inch crushed rock.
  - Construct spillway with steep sides and line it with crushed rock
  - Treat waters with larvicides to reduce mosquito production where water occurs on the surface.
- Require GRSG-safe fences.
- Clean up refuse (Bui et al. 2010).
- Locate man camps outside of PHMA.

### *Reclamation*

- Include restoration objectives to meet GRSG habitat needs in reclamation practices/sites.
- Address post reclamation management in reclamation plan such that goals and objectives are to protect and improve GRSG habitat needs.
- Maximize the area of interim reclamation on long-term access roads and well pads including reshaping, topsoiling and revegetating cut and fill slopes.
- Restore disturbed areas at final reclamation to pre-disturbance landform and desired plant community.
- Irrigate interim reclamation as necessary during dry periods.
- Utilize mulching techniques to expedite reclamation.

*Literature Cited*

- Bergquist, E., P. Evangelista, T. J. Stohlgren, and N. Alley. 2007. Invasive species and coal bed methane development in the Powder River Basin, Wyoming. *Environmental Monitoring and Assessment* 128:381-394.
- Bui, T. D., J. M. Marzluff, and B. Bedrosian. 2010. Common raven activity in relation to land use in western Wyoming: implications for greater sage-grouse reproductive success. *Condor* 112:6578.
- Doherty, M. K. 2007. Mosquito populations in the Powder River Basin, Wyoming: a comparison of natural, agricultural and effluent coal bed natural gas aquatic habitats. Thesis. Montana State University, Bozeman
- Gelbard, J. L., and J. Belnap. 2003. Roads as conduits for exotic plant invasions in a semiarid landscape. *Conservation Biology* 17:420-432.

## **D.3 BEST MANAGEMENT PRACTICES**

### **D.3.1 Air Resources**

*Publication ref:* Comprehensive Air Resource Protection Protocol (CARPP) 2015

*Source:* Bureau of Land Management

*Available at:*

[https://www.blm.gov/sites/blm.gov/files/uploads/program\\_natural%20resources\\_soil%20air%20water\\_air\\_co\\_quick%20link\\_CARPP.pdf](https://www.blm.gov/sites/blm.gov/files/uploads/program_natural%20resources_soil%20air%20water_air_co_quick%20link_CARPP.pdf)

*Description:* Identifies (in Table VI-I) a range of typical BMPs for protecting air resources during oil and gas development and production.

### **D.3.2 Climate Change**

*Publication ref:* **Fourth National Climate Assessment**

*Source:* US Global Change Research Program

*Available at:* <https://nca2018.globalchange.gov/> (Chapter 29 Reducing Risks through Emissions Mitigation)

*Description:* This chapter assesses recent advances in climate science and impacts, adaptation, and vulnerability research that have improved understanding of how potential mitigation pathways can avoid or reduce the long-term risks of climate change within the United States. This chapter does not evaluate technology options, costs, or the adequacy of existing or planned mitigation efforts relative to meeting specific policy targets, as those topics have been the subject of domestic and international analyses.

*Publication ref:* **Northwest Climate Hub**

*Source:* United States Department of Agriculture

*Available at:* <https://www.climatehubs.usda.gov/hubs/northwest/climate-risk-management-practices-introduction>

*Description:* Report that synthesizes key climate change sensitivities and risk management practices for forest vegetation, non-forest vegetation, water and infrastructure, fisheries and fish habitat, wetlands and riparian areas, wildlife, and recreation.

*Publication ref:* **North Central Climate Adaptation Science Center Projects**

*Source:* United States Geological Survey

*Available at:* [https://www.usgs.gov/ecosystems/climate-adaptation-science-centers/north-central-casc?qt-science\\_support\\_page\\_related\\_con=3#qt-science\\_support\\_page\\_related\\_con](https://www.usgs.gov/ecosystems/climate-adaptation-science-centers/north-central-casc?qt-science_support_page_related_con=3#qt-science_support_page_related_con)

*Description:* Provides reports and publications related to understanding how sagebrush and invasive grasses will respond to changes in climate, how future lake temperatures will impact fish populations, how shifts in prairie pothole wetlands will impact critical waterfowl habitats, and much more.

*Publication ref:* **US Climate Resilience Toolkit**

*Source:* United States Global Change Research Program (managed by NOAA)

*Available at:* <https://toolkit.climate.gov/>

*Description:* The toolkit is a website designed to help people find and use tools, information, and subject matter expertise to build climate resilience. The toolkit offers information from all across the US federal government.

### **D.3.3 Fluid Minerals**

*Publication ref:* **Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, The Gold Book (Fourth Edition, Revised 2007)**

*Source:* Bureau of Land Management and Forest Service

*Available at:* <https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/operations-and-production/thegold-book>

*Description:* The BMPs for oil and gas demonstrate practical ideas that may eliminate or minimize adverse effects from oil and gas development on public health and the environment, landowners, and natural resources.

### **D.3.4 Healthy Watersheds**

*Source:* Environmental Protection Agency

*Available at:* <https://www.epa.gov/hwp/tools-and-resources-protect-watersheds>

*Available at:* <https://www.epa.gov/healthywatersheds>

*Last accessed:* 08/26/2021

*Description:* Provides conservation approaches and tools designed to ensure healthy watersheds remain intact. It also provides scenarios watershed index and much more.

### **D.3.5 Storm Water**

*Source:* Environmental Protection Agency

*Available at:* <https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater>

*Last accessed:* 08/26/2021

*Description:* Provides BMPs designed to meet the minimum requirements for six control measures specified by the United States Environmental Protection Agency's (EPA) Phase II Stormwater Program.

### **D.3.6 Riparian Area Management**

*Publication ref:* **Grazing Management Processes and Strategies for Riparian-Wetland Areas (TR 1737-20, 2006)**

*Source:* Bureau of Land Management

*Available at:* <https://efotg.sc.egov.usda.gov/references/public/NM/range98-Publication.pdf>

*Description:* This technical reference provides the most current information to further assist livestock operators and land managers in developing successful riparian-wetland grazing management strategies across a wide array of land types. It is also the core document for the Grazing Management for Riparian-Wetlands training course. This technical reference does not set forth a specific formula for identifying the type of grazing strategy best suited for an area. Rather, it provides information to help design appropriate grazing strategies so that soil and vegetation aspects, water issues, and wildlife and livestock needs are addressed in a collaborative manner.

*Publication ref:* **Living with a River (Special Publication 2012-2013)**

*Source:* North Dakota Department of Health (Now North Dakota Department of Environmental Quality) and United States Environmental Protection Agency

*Available at:*

[https://deq.nd.gov/publications/WQ/3\\_WM/NPS/SWCBinder/Riparian/Living%20With%20A%20River%20Handbook%20\(FINAL\).pdf](https://deq.nd.gov/publications/WQ/3_WM/NPS/SWCBinder/Riparian/Living%20With%20A%20River%20Handbook%20(FINAL).pdf)

*Description:* Publication was produced to give people and government agencies a better understanding of rivers and how they function so that wise management decisions will be used. The document gives BMP recommendations for riparian and river protection and stabilization.

*Publication ref:* **North Dakota Forestry Best Management Practices (2010)**

*Source:* North Dakota Forestry

*Available at:* <https://www.ag.ndsu.edu/ndfs/documents/bmp-2010-final-doc-11-12-10.pdf>

*Description:* North Dakota Forestry Best Management Practices are described under the following categories: Resource Planning; Windbreaks; Native Woodland Management; Forest Protection; Timber Harvesting and Site Preparation; Streamside Management; Stream Crossings; and Roads. All of the listed categories have impacts on riparian as well as Nonpoint Source Management, Healthy Watersheds, Storm Water and other ramifications to the watershed.

### **D.3.7 Nonpoint Source Management**

*Publication ref:* **North Dakota Nonpoint Source Pollution Management Program Plan (2015-2020)**

*Source:* North Dakota Department of Health (now North Dakota Department of Environmental Quality), Division of Water Quality, Surface Water Quality Management Program

*Available at:*

[https://deq.nd.gov/publications/WQ/3\\_WM/NPS/Program/Final\\_NPSProgramMgmtPlan\\_2015-2020.pdf](https://deq.nd.gov/publications/WQ/3_WM/NPS/Program/Final_NPSProgramMgmtPlan_2015-2020.pdf)

*Description:* Provides information on North Dakota requirements and direction for implementing nonpoint source issues, while following the current NPS Program under 319 Clean Water Act (CWA). This plan identifies and provides details for BMPs to improve and maintain water quality.

*Publication ref:* **National Management Measures to Control Nonpoint Source Pollution from Agriculture (EPA 841-B-03-004, July 2003)**

*Source:* Environmental Protection Agency

*Available at:* <https://www.epa.gov/nps/national-management-measures-control-nonpoint-source-pollution-agriculture>

*Description:* A technical guidance and reference document for use by State, local, and tribal managers in the implementation of nonpoint source pollution management programs. It contains information on the best available, economically achievable means of reducing pollution of surface and ground water from agriculture.

### **D.3.8 Erosion and Sediment Control Practices**

*Publication ref:* **Burned Area Emergency Stabilization and Rehabilitation (H1742-1, 2007)**

*Source:* Bureau of Land Management

*Available at:*

[https://www.blm.gov/sites/blm.gov/files/uploads/Media\\_Library\\_BLM\\_Policy\\_Handbook\\_h1742-1.pdf](https://www.blm.gov/sites/blm.gov/files/uploads/Media_Library_BLM_Policy_Handbook_h1742-1.pdf)

*Description:* The practices and standards developed by NRCS address water quality, sediment, erosion control, streambank and shoreline protection, weed control, livestock grazing, habitat restoration and other

aspects of natural resource management. With the exception of the farming practices, many of the standards and practices have applicability to BLM management and may be applied as needed to protect resources, reduce conflicts, and limit impacts associated with resource use.

The BLM Gold Book (see Fluid Minerals above) also provides guidance on the placement of culverts and water bars, as well as proper construction of roads and ditches.

### **D.3.9 Placer Mining**

*Publication ref:* **Montana placer mining BMPs (Best Management Practices): Guidelines for planning, erosion control, and reclamation**

*Source:* Montana Bureau of Mines and Geology SP 106

*Available at:* [http://www.mbmng.mtech.edu/mbmgcat/public/ListCitation.asp?pub\\_id=11696&](http://www.mbmng.mtech.edu/mbmgcat/public/ListCitation.asp?pub_id=11696&)

*Description:* Best management practices for placer mining in Montana, including guidelines for planning, erosion control, and reclamation.

### **D.3.10 Wind Energy Development**

*Publication ref:* **Final Programmatic Environmental Impact Statement for Wind Energy Development (Chapter 2, Section 2.2.3.2)**

*Source:* Bureau of Land Management

*Available at:* <http://windeis.anl.gov/documents/fpeis/index.cfm>

*Description:* BLM developed BMPs for each major step of the wind energy development process, including site monitoring and testing, plan of development preparation, construction, operation, and decommissioning. General BMPs are available for each step, and certain steps also include specific BMPs to address the following resource issues: wildlife and other ecological resources, visual resources, roads, transportation, noise, noxious weeds and pesticides, cultural and historical resources, paleontological resources, hazardous materials and waste management, stormwater, human health and safety, monitoring program, air emissions, and excavation and blasting activities.

*Publication ref:* **BLM Instruction Memorandum 2009-043, Rights-of-Way for Wind Energy**

*Source:* Bureau of Land Management

*Available at:* <https://www.blm.gov/policy/im-2009-043>

*Description:* This Instruction Memorandum provides updated guidance on processing right-of-way applications for wind energy projects on public lands administered by BLM.

*Publication ref:* **Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM Administered Lands, First Edition 2013**

*Source:* Bureau of Land Management

*Available at:* [https://blmwyomingvisual.anl.gov/docs/BLM\\_RenewableEnergyVisualBMPs\\_LowRes.pdf](https://blmwyomingvisual.anl.gov/docs/BLM_RenewableEnergyVisualBMPs_LowRes.pdf)

*Description:* This publication presents 122 BMPs to avoid or reduce potential visual effects associated with siting, designing, constructing, operating, and decommissioning utility-scale renewable energy generation facilities, including wind, solar, and geothermal facilities. The publication includes BMPs for avoiding and reducing visual effects associated with the energy generation components of a facility, such as wind turbines or solar energy collectors, and includes BMPs for reducing visual effects associated with ancillary components, such as electric transmission, roads, and structures.

*Publication ref:* **US Fish and Wildlife Service Land-Based Wind Energy Guidelines**

*Source:* US Fish and Wildlife Service

*Available at:* [https://www.fws.gov/ecological-services/es-library/pdfs/WEG\\_final.pdf](https://www.fws.gov/ecological-services/es-library/pdfs/WEG_final.pdf)

*Description:* These Guidelines were developed by the USFWS working with the Wind Turbine Guidelines Advisory Committee. The Guidelines discuss various risks to “species of concern” from wind energy projects, including collisions with wind turbines and associated infrastructure; loss and degradation of habitat from turbines and infrastructure; fragmentation of large habitat blocks into smaller segments that may not support sensitive species; displacement and behavioral changes; and indirect effects such as increased predator populations or introduction of invasive plants. The Guidelines assist developers in identifying species of concern that may potentially be affected by their proposed project. The Guidelines use a tiered approach for assessing potential adverse effects to species of concern and their habitats. The Guidelines also provide BMPs for site development, construction, retrofitting, repowering, and decommissioning.

### **D.3.11 Solar Energy Development**

*Publication ref:* **Programmatic Environmental Impact Statement for Solar Energy Development (2024)**

*Source:* Bureau of Land Management

*Available at:* <https://eplanning.blm.gov/eplanning-ui/project/2022371/570>

*Description:* Provides a set of programmatic design features that would be required for all utility-scale solar energy projects on BLM-administered lands. Addresses the broad possible range of direct and indirect impacts from solar facilities as well as associated transmission facilities, roads, and other infrastructure.

*Publication ref:* **Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM Administered Lands (First Edition 2013)**

*Source:* Bureau of Land Management

*Available at:* [https://blmwyomingvisual.anl.gov/docs/BLM\\_RenewableEnergyVisualBMPs\\_LowRes.pdf](https://blmwyomingvisual.anl.gov/docs/BLM_RenewableEnergyVisualBMPs_LowRes.pdf)

*Description:* This publication presents 122 BMPs to avoid or reduce potential visual effects associated with siting, designing, constructing, operating, and decommissioning utility-scale renewable energy generation facilities, including wind, solar, and geothermal facilities. The publication includes BMPs for avoiding and reducing visual effects associated with the energy generation components of a facility, such as wind turbines or solar energy collectors, and includes BMPs for reducing visual effects associated with ancillary components, such as electric transmission, roads, and structures.

### **D.3.12 Communications Towers**

*Publication ref:* **Service Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers**

*Source:* United States Fish and Wildlife Service

*Available at:* [http://www.fws.gov/habitatconservation/com\\_tow\\_guidelines.pdf](http://www.fws.gov/habitatconservation/com_tow_guidelines.pdf)

*Description:* These guidelines were developed by USFWS personnel from research conducted in several eastern, mid-western, and southern states and have been refined through regional review. They are based on the best information available at this time and are the most prudent and effective measures for avoiding bird strikes at towers.

### D.3.13 Avian Protection on Power Lines

*Source:* Avian Power Line Interaction Committee

*Available at:* <http://www.aplic.org>

*Last accessed:* 08/27/2021

*Description:* Provides practices and guidelines to limit power line hazards to birds. Provides engineers, biologists, utility planners and the public with a comprehensive resource for eliminating or reducing avian electrocutions and collisions, and highlights management options and cooperative partnerships.

### D.3.14 Visual Resources

*Publication ref:* **BLM Visual Resource Management Webpage**

*Source:* Bureau of Land Management

*Available at:* <https://www.blm.gov/programs/recreation/recreation-programs/visual-resource-management>

*Description:* Provides numerous design techniques that can be used to reduce the visual effects from surface-disturbing projects. The techniques described should be used in conjunction with BLM's visual resource contrast rating process, wherein both the existing landscape and the proposed development or activity are analyzed for their basic element of form, line, color, and texture.

*Publication ref:* **Visual Resource Management for Fluid Minerals Best Management Practices: Better Methods for Achieving Better Results**

*Source:* Bureau of Land Management

*Available at:* <https://blmwyomingvisual.anl.gov/docs/Visual%20Resource%20Management%20for%20Fluid%20Minerals%20-%20Field%20Refer.pdf>

*Description:* This participant notebook was originally created for a BLM training course. It discusses BMPs to reduce the visual and related resource impacts on public lands during the exploration, development and production of fluid minerals resources. Topics include proper site selection, reducing unnecessary disturbance, good color selection, and effective final reclamation.

### D.3.15 Pasture, Rangelands, and Grazing Operations

*Publication ref:* **Field Office Technical Guides, USDA Natural Resources Conservation Service**

*Source:* Natural Resources Conservation Service

*Available at:* <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/fotg/>

*Description:* The practices and standards developed by NRCS address water quality, sediment, erosion control, streambank and shoreline protection, weed control, livestock grazing, habitat restoration and other aspects of natural resource management. With the exception of the farming practices, many of the standards and practices have applicability to BLM management and may be applied as needed to protect resources, reduce conflicts, and limit impacts associated with resource use.

*Publication ref:* **Rangeland Health Standards and Guidelines for Livestock Grazing Management, Montana/Dakotas (Dakotas Portion)**

*Source:* Bureau of Land Management

*Available at:* <https://www.blm.gov/sites/blm.gov/files/Dakotas%20standards%20for%20rangeland%20health%20and%20guidelines%20for%20grazing.pdf>

*Description:* Provides standards for rangeland health for uplands, riparian areas, water quality, air quality, and habitat. Includes guidelines for proper management of livestock on public lands. Guidelines for grazing management are preferred or advisable approaches to grazing management practices determined to be appropriate to ensure that standards can be met or that significant progress can be made toward meeting the



standard(s). Guidelines are provided to maintain or improve resource conditions in upland and riparian habitats available for livestock grazing. In both riparian and upland habitats, these guidelines focus on establishment and maintenance of proper functioning condition and healthy rangelands. The application of these guidelines is dependent on individual management objectives.

*Publication ref:* **National Management Measures to Control Nonpoint Source Pollution from Agriculture**

*Source:* Environmental Protection Agency

*Available at:* <https://www.epa.gov/nps/national-management-measures-control-nonpoint-source-pollution-agriculture>

*Description:* A technical guidance and reference document for use by State, local, and tribal managers in the implementation of nonpoint source pollution management programs. It contains information on the best available, economically achievable means of reducing pollution of surface and ground water from agriculture. Note that Chapter 4e specifically relates to grazing management.

*Publication ref:* **Riparian Area Management: Grazing Management Processes and Strategies for Riparian-Wetland Areas, Technical Reference 1737-20**

*Source:* Bureau of Land Management

*Available at:* <https://efotg.sc.egov.usda.gov/references/public/NM/range98-Publication.pdf>

*Description:* This technical reference provides the most current information to further assist livestock operators and land managers in developing successful riparian-wetland grazing management strategies across a wide array of land types. It is also the core document for the Grazing Management for Riparian-Wetlands training course. This technical reference does not set forth a specific formula for identifying the type of grazing strategy best suited for an area. Rather, it provides information to help design appropriate grazing strategies so that soil and vegetation aspects, water issues, and wildlife and livestock needs are addressed in a collaborative manner.

*Publication ref:* **National Range and Pasture Handbook**

*Source:* Natural Resources Conservation Service

*Available at:*

<https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/landuse/rangepasture/?cid=stelprdb1043084>

*Description:* The National Range and Pasture Handbook provide procedures in support of NRCS policy for the inventory, analysis, treatment, and management of grazing land resources. Revision 1 of the handbook contains revisions to incorporate current concepts and format for developing rangeland ecological site descriptions and forage suitability group descriptions. Information was added regarding the effects of vegetation, grazing, and management on rangeland and pastureland hydrology and erosion.

*Source:* Environmental Protection Agency

*Available at:* <http://www.epa.gov/oecaagct/anprgbmp.html>

*Last accessed:* 08/27/2021

*Description:* provides BMPs compiled by the EPA to prevent or reduce effects from livestock grazing.

### **D.3.16 Invasive Species and Noxious Weeds**

*Publication ref:* **Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States**

*Source:* Bureau of Land Management

*Available at:* <https://www.worldcat.org/title/final-programmatic-environmental-impact-statement-vegetation-treatments-using-herbicides-on-bureau-of-land-management-lands-in-17-western-states/oclc/145747864>

*2016 Update online at:* <https://www.blm.gov/programs/natural-resources/weeds-and-invasives/vegetative-peis>

*Description:* This document outlines the specific decisions, standard operating procedures, and mitigation measures based on the Final Programmatic EIS concerning the use of herbicides in the Bureau of Land Management integrated pest management program.

*Publication ref:* **National Invasive Species Management Council Management Plan (2016-2018)**

*Source:* National Invasive Species Council (NISC)

*Available at:* <https://www.doi.gov/invasivespecies/management-plan>

*Description:* Directs federal efforts (including overall strategy and objectives) to prevent, control and minimize invasive species and their impacts.

### **D.3.17 Vegetation**

*Publication ref:* **Core Terrestrial Indicators and Methods (2017)**

*Source:* Bureau of Land Management

*Available at:* <https://www.blm.gov/documents/national-office/blm-library/technical-note/blm-core-terrestrial-indicators-and-methods>

*Description:* The BLM Assessment, Inventory, and Monitoring (AIM) Strategy was initiated, in part, to evaluate current monitoring activities and recommend procedures to improve the efficiency and effectiveness of these activities. To this end, the AIM Strategy supports an integrated approach to: (1) document the location and abundance of natural resources on public lands; (2) facilitate the description of resource conditions; and (3) identify natural resource trends or changes. This recommendation will be accomplished through the integration of fundamental processes including: (a) development and application of a consistent set of ecosystem indicators (i.e., quantitative core indicators) and consistent measurement methods; (b) development and implementation of a statistically valid sampling framework; (c) application and integration of remote sensing technologies; and (d) implementation of related data acquisition and management plans. The purpose/intent of this report is to provide an introduction to, and describe, the Core Indicators and Methods component of the AIM Strategy. Further, this report provides guidance on how to maintain consistency of effort and resources (i.e., cited materials) for further details on established protocols. This Core Indicators and Methods component identifies a small set of core indicators (i.e., measurements) that, when collected, can be used for many purposes across ecosystem types including rangeland, forest, and riparian areas. This set of core indicators, based on quantitative land cover and vegetation data using standardized measurements, will allow data to be integrated across field, district, and state office boundaries.

*Publication ref:* **Integrated Vegetation Management Handbook, H-1740-2 (2008)**

*Source:* Bureau of Land Management

*Available at:*

[https://www.blm.gov/sites/blm.gov/files/uploads/Media\\_Library\\_BLM\\_Policy\\_Handbook\\_H-1740-2.pdf](https://www.blm.gov/sites/blm.gov/files/uploads/Media_Library_BLM_Policy_Handbook_H-1740-2.pdf)

*Description:* The BMPs describe practices to limit impacts of vegetation treatment to:

- Invasive plant species
- Soil resources
- Native plant conservation and revegetation
- Using pesticide and biological controls
- Air quality
- Wildlife habitat
- Cultural and historic resources
- Water quality and wetlands
- Recreation, visual, and wilderness resources

*Publication ref:* **Burned Area Emergency Stabilization and Rehabilitation Handbook (BLM Handbook H-1472-1)**

*Source:* Bureau of Land Management

*Available at:* [https://www.blm.gov/sites/blm.gov/files/uploads/Media\\_Library\\_BLM\\_Policy\\_Handbook\\_h1472-1.pdf](https://www.blm.gov/sites/blm.gov/files/uploads/Media_Library_BLM_Policy_Handbook_h1472-1.pdf)

*Description:* This handbook provides detailed information specific to BLM policies, standards, and procedures used in the Burned Area Emergency Stabilization and Rehabilitation (ES&R) programs. This Handbook is intended to be the primary guidance to BLM ES&R activities. It is tiered to the Department of the Interior (DOI) Departmental Manual 620 DM 3 Wildland Fire Management Burned Area Emergency Stabilization and Rehabilitation relative to planning and implementing ES&R projects on public lands administered by the BLM. This guidance incorporates all pertinent information from the Interagency Burned Area Emergency Response and Interagency Burned Area Rehabilitation Guidebooks.

*Publication ref:* **Interpreting Indicators of Rangeland Health, Technical Reference 1734-6 (Version 5, 2020)**

*Source:* Bureau of Land Management

*Available at:* <https://www.blm.gov/documents/national-office/blm-library/technical-reference/interpreting-indicators-rangeland-health-0>

*Description:* This book describes a protocol for using 17 qualitative soil and vegetation indicators to evaluate the status of three ecosystem attributes: soil and site stability, hydrologic function, and biotic integrity. Qualitative assessments of rangeland health provide land managers and technical assistance specialists with a good communication tool for use with the public. Many of these tools have been used successfully for this purpose over the past 100 years. The technique described in this book can be used to provide early warnings of resource problems on upland rangelands. It can also be used to help identify specific resource issues (e.g., erosion or invasive species) that must be addressed and to prioritize land for management resources.

### **D.3.18 Management of Land Boundaries**

*Publication ref:* **Standards for Federal Lands Boundary Evidence Source: Department of the Interior Departmental Manual, Part 600 Public Land Policy, Chapter 5 (600 DM 5).**

*Source:* Bureau of Land Management

*Available at:* <https://www.doi.gov/elips/browse>

*Description:* This manual provides Department of the Interior managers with discretionary guidance to prepare timely, efficient, and economical standards for Boundary Evidence Certificates for federal interest lands and resources. This manual provides managers of federal interest assets with the means to effectively apply boundary evidence to protect assets and provides Department-wide guidance and instruction to reduce conflicts over Federal interest assets and minimize unnecessary land surveys.

### **D.3.19 Pollinators**

*Publication ref:* **Pollinator Friendly Best Management Practices for Federal Lands. Attachment 1 to IM WO-2016-013 “Managing for Pollinators on Public Lands”.**

*Source:* Bureau of Land Management

*Available at:* <https://www.blm.gov/policy/im-2016-013>

*Description:* This attachment summarizes BLM commitments in the US Department of the Interior Pollinator Protection Plan to enhance pollinator habitat on BLM-administered lands and protect pollinators and their habitat during BLM-authorized activities.

### **D.3.20 Hazardous Materials and Waste**

*Publication ref:* **2023 Draft Solar Leasing PEIS, Appendix B7 (2023).**

*Source:* Bureau of Land Management

*Available at:*

[https://eplanning.blm.gov/public\\_projects/2022371/200538533/20102761/251002761/2023%20Draft%20Solar%20PEIS%20Volume%202%201-10-2024\\_508compliant.pdf](https://eplanning.blm.gov/public_projects/2022371/200538533/20102761/251002761/2023%20Draft%20Solar%20PEIS%20Volume%202%201-10-2024_508compliant.pdf)

*Description:* This document identifies (in Appendix B7) BMPs and design features to avoid, minimize, and/or mitigate impacts from hazardous materials and waste.

## **D.4 CONSERVATION MEASURES FOR LISTED AND CANDIDATE SPECIES**

To minimize impacts on listed species and critical habitat, the BLM would implement the conservation measures described below:

CM-Northern long-eared bat-1: Survey for roosting bats prior to tree removal within the northern long-eared bat’s range.

CM-Northern long-eared bat-2: If wind energy development occurs on BLM-administered lands, the BLM would employ operational strategies (such as feathering turbine blades when bats are most likely to be active) to reduce the severity of impacts described in USFWS 2022c.

CM-Piping plover-1: Motorized, wheeled, cross-country travel would be prohibited in designated critical habitat for piping plovers.

CM-Piping plover-2: Livestock grazing would be prohibited in designated critical habitat for piping plovers.

CM-Piping plover-3: If conducting vegetation treatments within piping plover range or critical habitat, include treatments that reduce encroachment of woody vegetation onto sandbars.

CM-Migratory birds-1: Survey for migratory birds, including rufa red knot and whooping crane, prior to permitting any surface or noise disturbance activities within the migration corridor.

CM-Dakota skipper-1: The BLM would follow all applicable recommended conservation measures outlined by the USFWS, including when planning prescribed fire, haying, livestock grazing, and invasive plant management on BLM-administered lands in Dakota skipper habitat and critical habitat. The BLM would also stipulate compliance with any applicable conservation measures when authorizing ROWs within 0.62 miles of occupied Dakota skipper habitat and critical habitat to minimize the potential for detrimental effects on dispersing adults during the flight season. These may include adherence with conservation recommendations for mowing (hay) and invasive plant management that may be carried out in ROWs.

CM-Dakota skipper-2: Where otherwise allowed under Coal Screen 2 with stipulation for Criterion 15 (**Appendix F**, Table F-1), the BLM would not approve proposals for coal development in suitable habitat for Dakota skipper, including, but not limited to, tallgrass prairie, including within 0.62 miles of these areas. This is because Criterion 15 stipulates that disturbed habitats are reclaimed to equal or better conditions than at the time of disturbance. In practice, however, successful restoration of Dakota skipper habitat has not been demonstrated to date, and there is no evidence to support a presumption that destroyed Dakota skipper habitat could be restored through planting or other means (USFWS 2016c). Therefore, conformance with the stipulation for Criterion 15 is likely impossible.

CM-Dakota skipper-3: Motorized, wheeled, cross-country travel would be prohibited in designated critical habitat for Dakota skippers, as well as known occupied native prairie habitat areas. Known habitat would be determined through consultation with the USFWS.

CM-Dakota skipper-4: Within designated critical habitat for Dakota skippers, as well as known occupied native prairie habitat areas, livestock grazing regimes would be developed using the combined skills and knowledge of persons with Dakota skipper expertise, persons with grazing expertise, and land manager input (or other party familiar with the site's grazing history and characteristics). This would be done to:

- Avoid or minimize the extent of grazing regimes that reduce the density or diversity of floral nectar resources during the flight period.
- Include at least one period of rest during the growing season and to not graze a site during the same time each year.
- Avoid adverse effects from livestock grazing in the wet-mesic prairies that Dakota skippers inhabit in parts of North Dakota, which are more sensitive to disturbance from grazing than in the dry-mesic habitat type.

CM-Monarch butterfly-1: The BLM would incorporate the applicable recommended conservation measures in the Nationwide Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands (Cardno 2020). Applicable BLM-authorized activities may include, but not be limited to, the following:

- Vegetation management on BLM-administered lands for resource conservation and enhancement
- ROW authorization and ongoing, periodic vegetation management in ROWs on BLM-administered lands
- Minerals leasing, development, and periodic vegetation management in lease areas on BLM-administered surface and subsurface decision areas
- Authorized livestock grazing management

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# Appendix E

## Reclamation Standards



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# Appendix E. Reclamation Standards

## E.1 INTRODUCTION AND SUCCESS CRITERIA

The goal for the following reclamation standards and success criteria is to mitigate anticipated impacts to vegetation, soil, and water resources from ground-disturbing activities by re-establishing a self-sustaining, diverse vegetation community composed of species native to their region in sufficient species density and diversity to closely resemble natural, undisturbed vegetation potential.

This appendix supplements the information found in the Bureau of Land Management's (BLM's) *Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development*, commonly referred to as the "The BLM Gold Book."<sup>1</sup> All ground-disturbing activities will be subject to these reclamation standards and monitoring requirements. These include resource improvements initiated by BLM, as well as permitted activities such as right-of-way, fluid, and solid mineral development activities. The level of detail and complexity required for reclamation planning will be dependent on the nature of the resource(s) being impacted and the extent and complexity of the surface-disturbing activity. Some activities may require a highly detailed reclamation plan to ensure that reclamation goals and objectives are achieved, while others may have reclamation measures integrated into the engineering design, permit application, or other comparable documentation. Program-specific guidance in the form of manuals, handbooks, and regulations are to be used when developing mitigation measures and reclamation plans at the project level.

BLM is responsible for implementing these standards and compliance with monitoring requirements. Project proponents for all permitted activities will perform the reclamation work, and effect on-the-ground implementation. Projects must meet reclamation objectives in order to retrieve any associated bonds, or for reclamation to be considered successful.

### ***Short-Term (Two-Year) Interim Reclamation Objectives and Success Criteria***

Interim reclamation refers to those actions taken immediately after cessation of ground-disturbing activities. Interim actions are typically taken to stabilize a portion of a site that is no longer undergoing disturbance while activities simultaneously continue to disturb other portions of the same area. For example, interim reclamation may be conducted in perimeter areas of an oil and gas well site when the larger footprint required for the development is reduced in area to that necessary for production. The following interim reclamation success requirements will be used to determine success after 2 years (two complete growing seasons):

- a. The site has been regraded to approximate pre-disturbance topography to the extent practicable, in order to minimize disturbance and lessen erosion potential.
- b. Disturbed soil surface areas have been stabilized to reduce erosion and runoff to or below naturally occurring levels.

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<sup>1</sup> BLM (US Department of the Interior, Bureau of Land Management). 2007. The Gold Book (Surface Operating Standards and Guidelines for Oil and Gas Development), Fourth Edition. Bureau of Land Management National Science and Technology Center, Denver, Colorado.

- c. Establishment of a healthy and diverse composition of native species that are or should naturally grow on the site, according to the Ecological Site Description or reference site plant community, which will provide for natural plant and community succession.
- d. Active prevention of noxious weeds and undesirable plants on the disturbed areas and expansion onto adjacent uninfested areas.
- e. Visual contrast has been reduced to meet established visual resource management objectives in all reclaimed areas

***Long-Term (Five-Year) Interim and Final Reclamation Objectives and Success Criteria***

Final reclamation will occur when no more ground-disturbing activities are expected to occur. The following reclamation success requirements will be used to determine success after 5 years (five complete growing seasons):

- a. The site is clean of all equipment, structures, material, and debris not necessary for the intended use of the site.
- b. Disturbed soil surfaces have been stabilized to reduce erosion and runoff to or below natural background levels. Flow pattern development does not result in rills greater than described in the appropriate Ecological Site Description. Activities do not contribute to pre-existing gullies actively down cutting or head cutting. No slumping or subsidence occurs as a result of surface-disturbing activities.
- c. With the exception of active work areas, all disturbed soils that remain exposed, unprotected, or unreclaimed for longer than one month have been stabilized.
- d. The site has been regraded to approximate pre-disturbance topography to the extent practicable, in order to minimize disturbance, and lessen erosion potential.
- e. Pre-disturbance cover and diversity of native species on site is achieved. Total herbaceous cover is at least 80 percent of the reference site. Trees and shrubs are present and thriving in a manner sufficient to establish these species to pre-disturbance levels over time; 90 percent of the vegetative cover will consist of desirable species identified in the appropriate Ecological Site Description.
- f. The site would not have state- or county-listed noxious weeds within 5 years of reclamation.
- g. Visual quality has been restored, aesthetic values have been enhanced, and visual contrast has been reduced to meet visual resource management objectives on all areas of surface disturbance.

**E.1.1 Reclamation Plans**

A reclamation plan will be submitted for BLM review and approval prior to surface-disturbing activities. A reclamation plan serves as a binding agreement between the BLM and project proponent(s) and will be included as part of the proposed action in the application. Reclamation plans will provide sufficient detail to demonstrate an understanding of the potential reclamation site and activities required to achieve the stated success criteria for interim and final reclamation. Reclamation plans will include:

***Site-specific Baseline Information:***

- a. Pre-disturbance terrain and contour
- b. Pre-disturbance land use

- c. Seasonal weather patterns
- d. Topsoil depth and other limitations to plant growth
- e. Vegetation type, dominant species cover, density, and productivity by strata

***Reference Site Selection and Documentation:***

- a. Appropriate reference sites will be assessed, selected, and characterized following Ecological Site Inventory methods and standards, or an equivalent system as approved by the BLM.
- b. Reference sites will be approved by BLM prior to a permitted disturbance.

***Site-specific Revegetation Plan:***

- a. Size of disturbed versus reclaimed area
- b. Proposed surface finish and grades
- c. Proposed topsoil handling and treatment
- d. Proposed seed mix (seeding rate, species, and variety)/container stock planting (container size and off-center spacing)
- e. Treatment of noxious and undesirable species
- f. Proposed seeding/mulching techniques
- g. Ongoing maintenance activities expected
- h. Monitoring plan

***Bond Agreement Information (if applicable), or Conditions for Future Activity***

Bonds to be held against achievement of reclamation success criteria for activities will be determined by program-specific requirements. In general, the amount of a bond will be considered a percentage of the total reclamation costs for a project sufficient to ensure reclamation success. These costs will be demonstrated in the reclamation plan. Documentation of compliance with bonding requirements sufficient to assure reclamation may also be included as part of the approved reclamation plan. Future associated development activities may be precluded until successful reclamation is achieved for a given area or project. Bonds related to drilling operations on a federal oil and gas lease are subject to federal regulations including 43 Code of Federal Regulations 3104, 43 Code of Federal Regulations 2805.20, and 43 Code of Federal Regulations.

**E.1.2 Reclamation Practices and Standards**

The following practices and standards are intended to provide direction. Some standards are only appropriate for interim or final reclamation, while others will be used in either situation. The intent of BLM's land use planning process is to identify standards and objectives to be met on public lands. Specific methodologies are considered to be activity- or implementation-level planning decisions and not resource management plan decisions. As such, practices are provided to clarify BLM's intent for reclamation activities. The following list is not considered to be all inclusive, but rather is presented to provide a sense of the types of tools that may be necessary to produce acceptable reclamation outcomes. Additional practices may be required, practices may be withdrawn, or practices may be modified during activity-, implementation-, or project level-planning; this may be done without future land use plan decisions or

amendments. Monitoring and adaptive management practices will be used to refine and clarify needed actions consistent with the goals and objectives of this plan. Reclamation practices and standards are listed below. Program-specific guidance in the form of manuals, handbooks, and regulations are to be used when developing mitigating measures and reclamation plans at the project level.

### ***Interim Reclamation Practices and Standards***

- a. Limit surface disturbance to the minimum area necessary by avoiding development of roads, pipelines, and well pads on steep slopes; minimize the potential for surface disturbance through careful planning; grouping facilities to the extent possible; and sharing rights-of-way such as burying pipelines along roadways.
- b. Identify, delineate, and salvage topsoil and subsoil based on a site-specific and project-specific soil evaluation. Store topsoil separately from subsoil and identify topsoil stockpiles appropriately to ensure topsoil remains undisturbed until reclamation. Protect stored topsoil from erosion, degradation, noxious weed and invasive plant infestations, and contamination. Stockpiles should be located above the high-water mark and away from riparian areas, floodplains, wetlands, and other sensitive areas.
- c. Topsoil that is not re-spread within 30 days should be stabilized with a tackifier, mulch, or other approved stabilizer. If topsoil is stored for longer than 30 days during the growing season but less than two growing seasons, it would be spread to a maximum depth of 18 inches and planted with an approved native or sterile cover crop. If the topsoil will be stored for longer than two growing seasons it would be stabilized and planted with an approved native seed mixture to maintain biological function.
- d. Minimize the area necessary for construction activities; determine the minimal area needed to facilitate necessary activities and initiate interim reclamation as quickly as practical after construction.
- e. Erosion control and sediment containment structures, such as silt fencing, will be necessary in areas in proximity to water features such as streams, ponds, and wetlands or in other situations where wind or water erosion may otherwise move sediments into sensitive or valuable surrounding habitat. See also *Erosion Control Practices and Standards*.
- f. Control and eradicate all State of North Dakota listed noxious weeds and undesirable species within reclaimed areas.
- g. See also *Seeding Practices and Standards*, and *Invasive Species and Noxious Weeds Practices and Standards*.

### ***Erosion Control Practices and Standards***

- a. Minimize accelerated erosion and sedimentation on or adjacent to the reclaimed area with appropriate erosion and sedimentation control measures immediately following disturbance.
- b. Erosion control structures, such as water bars, may be necessary on steep slopes and should be used as necessary on gentler slopes. Vary water bar spacing to fit site conditions, to promptly intercept surface water before the volume of water and velocity increase enough to generate erosion, and to

facilitate drainage toward natural dips, rocky ground, or vegetation to intercept sediment. Water bar spacing guidelines:

- for slopes less than 10 percent, every 100 to 400 feet
  - for slopes 10 to 19 percent, every 75 to 200 feet
  - for slopes 20 to 39 percent, every 50 feet
  - for slopes greater than 39 percent, every 25 feet
- c. Erosion control matting will be unrolled from the bottom toward the top of the slope, placed along the direction of water-flow and loosely over soils with extreme surface roughness, and in compliance with the manufacturer's instructions.
- d. Inspect and maintain all erosion and sediment control structures after major runoff events, 0.5 inch in 24 hours, and until vegetation is reestablished, site is stabilized, or the structures are no longer needed.
- e. The Burned Area Emergency Stabilization and Rehabilitation BLM Handbook H-1742-1 contains further guidance on erosion and sedimentation control best management practices.

### ***Final Reclamation Practices and Standards***

- a. Reconstruct the landscape to blend with adjacent contours and to maintain the approximate original contour. However, if the site has stabilized and recontouring would cause additional disturbance, this step may be waived by the Authorized Officer.
- b. Redistribute topsoil and subsoil along contours in a manner similar to the original vertical profile. Incorporate soil material so that it blends in with the adjacent landscape, corresponding to adjacent surface roughness.
- c. Reconstruct drainage basins and reclaim impoundments to maintain the drainage pattern, profile, and dimension to resemble the natural features found in nearby naturally functioning basins.
- d. Reconstruct and stabilize stream channels, drainages, and impoundments to exhibit similar hydrologic characteristics found in stable, naturally functioning systems.
- e. Control and eradicate all State of North Dakota listed noxious weeds and undesirable species within reclaimed areas. See *Invasive Species and Noxious Weeds Practices and Standards*.
- f. Reclaim all roads and trails unless they meet a public demand as determined by the Authorized Officer.
- g. Displaced farmland, whether in production or not, would be reclaimed to original productivity.
- h. See *Seeding Practices and Standards*.



**Seeding Practices and Standards**

- a. Seed sites when environmental conditions are appropriate and as soon as possible following re-contouring and seedbed preparation.
  1. Seedbed preparation includes:
    - i. Reduce subsoil compaction to an appropriate depth (generally below the root zone or 20 inches, whichever is greater) prior to redistribution of topsoil. Cross-rip along contours perpendicular to each other.
    - ii. Replace topsoil unevenly back over subsoil in order to create microsites.
    - iii. Seed when a weak ball can be formed from soil 2 to 3 inches below the surface.
    - iv. Clods would be less than 2 inches in diameter.
    - v. A 170-pound person would leave footprints no deeper than 0.5 inch.

Spring or fall seeding is recommended. Dormant fall seeding is recommended, typically after October 1st, when soil temperatures are less than 40 degrees Fahrenheit (F) at a 2-inch depth (for 10 days or more) and before the ground freezes. Warm season species are more successful when seeded in the spring, on thawed, friable surface soil when soil temperatures are a minimum of 55 degrees F.

- b. Establish species composition, richness, structure, and total ground cover appropriate for the desired plant community. The site will be compared to an appropriate adjacent reference site or a Natural Resources Conservation Services Ecological Site Description.
- c. Drill seed the disturbed area with a native seed mix at a rate sufficient to achieve site stabilization and desired cover based on reference sites. The recommended drill seeding rate for large-seeded species is 20 pure live seed per square foot (PLS/ft<sup>2</sup>), and the recommended drill seeding rate for small-seeded species (most seed mixes) is 30 to 40 PLS/ft<sup>2</sup>. Drill seeding is the preferred method of seeding; however, on locations where it is impractical double the drill-seeding rate for broadcast, hydro, or aerial seeding methods to a maximum of 80 PLS/ft<sup>2</sup>.
- d. Drill or broadcast seed parallel to slope contours. If broadcast seeding, follow by packing with a roller or drag (e.g., chain, harrow) with two passes perpendicular to each other. Drill seed with a 6-inch row spacing, or as directed by Authorized Officer. Bury seed at depths 0.25 to 0.75 inches deep. Hydroseeding is not recommended, but if approved, the seed should be spread in an initial pass and then covered by a mulch mixture (if needed) in a second pass; the mulch and seed should never be combined in a single pass.
- e. Seed will be certified and shall not contain federally listed or North Dakota state-listed noxious, prohibited, or restricted weed seed (BLM Manual H-1740-2).
- f. Protect seed and seedling establishment with appropriate measures. Erosion-control matting and mulch will be biodegradable and certified weed and insect free. Matting will contain holes greater than 2 inches in diameter and a 2-year photodegradation life. Tackifier will be biodegradable. Straw or native hay mulch will be mold- and fungi-free and will be crimped in vertically at a rate of 1 to 2 tons per acre, so that 80 to 90 percent of the ground is covered. Wood mulch is not recommended. All twine associated with straw or hay mulch will be biodegradable, but if it is not, then it will be collected and properly disposed.

- g. Fencing may be required to limit wildlife and livestock grazing for a minimum of two growing seasons or until plants are sufficiently established to persist under some physical disturbance. Seeded species will be considered established when at least 80 percent of the plant cover for the reference ecological site is present. Fencing would be installed after dirt work, grading, and seeding are completed and prior to livestock turnout. Wildlife-friendly fence would be used if the objective is to exclude livestock only.

### ***Invasive Species and Noxious Weeds Practices and Standards***

- a. The project area will be inventoried for invasive species on and adjacent to the site before initial activities.
- b. Do not allow invasive species to be transported offsite without appropriate disposal measures.
- c. An invasive species management plan will be developed, if appropriate.
- d. Invasive species will be controlled using an integrated pest management approach for the life of the project.

### ***Oil and Gas Reclamation Practices and Standards***

- a. If the location and road are built but no well is drilled, disturbed areas will be reclaimed or BLM- and landowner-approved erosion controls built within 90 days after site construction.
- b. Reclaim portions of the access road and well pad not needed for production within 6 months of well completion.
- c. Clean site of all equipment, structures, material, and debris not necessary for the intended use of the site. Surface pipelines and utility lines are removed. Ensure buried lines are purged and capped.
- d. Segregate, treat, remove, and bio-remediate contaminated soil material. Free fluids must be removed. Waste material must be disposed of in accordance with applicable laws, regulations, and policy. Ensure all waste materials moved off-site are transported to an authorized disposal facility.
- e. Bury only authorized (by BLM or state) waste materials on site. Buried material will be covered with a minimum of 5 feet of suitable material or meet other program standards.
- f. Properly plug all drill holes and other subsurface openings and seal from the bottom to the top of water-bearing formations.
- g. Stabilize, properly backfill, cap, and restrict from entry all open shafts, underground workings, pits, and other openings.
- h. When plugging the well, a steel plate dry hole marker welded to the surface casing at least 4 feet below recontoured ground is required and must contain the same information as the well sign.

## **E.2 MONITORING**

Annual monitoring and reporting of results will be required for reclaimed areas. Monitoring will occur annually for either a minimum of 5 years or until performance standards are achieved, whichever is longer. Monitoring methods and reporting standards will be included in reclamation plans and approved by BLM prior to disturbance. Current monitoring methods are outlined below. Required monitoring methodology may change over time.

### **Methods**

Monitoring methods will be approved as part of the site reclamation plan. In general, methods must be used that will yield appropriate quantitative measures by which to address success criteria parameters against a reference site.

- a. Plant species composition and cover will be sampled using either point intercept transect or plot sampling at a sufficiency to demonstrate statistical adequacy at the 85 percent level.
- b. Woody species (tree and shrub) density and survivorship will be assessed using plot or belt transect sampling.
- c. Fixed photo points (location to be determined and used during baseline conditions sampling). Photo points should be placed both in the disturbed areas and on the edges of disturbed areas in order to show a comparison of disturbed and undisturbed areas, (i.e., on both edges and in the middle of the disturbed area).

### **Monitoring Reports**

Reports of annual monitoring efforts will be submitted annually to BLM for approval. The BLM will evaluate the report and reply back within 2 months of receiving the report. Site-specific evaluations may be recommended following BLM evaluation of data. The BLM may suggest remedial measures, alter proposed remedial measures, or alter the method or interval for monitoring and reporting. Each report will address the results of the monitoring in terms of each success criterion and compared to the same parameters for the reference site. Additionally, each report will address the following items:

- a. Text and data to illustrate trends in terms of site conditions against each of the agreed-upon success criteria
- b. Quantitative percent cover data by species for all plant species present on the site, including planted and seeded species, native volunteer species, nonnative species, and noxious weeds
- c. Annotated photographs from fixed photo points illustrating conditions before and after mitigation activities are completed
- d. A figure or shapefile showing locations of fixed photo points and data sampling locations
- e. A brief discussion of the overall mitigation success, incorporating monitoring data. Problem areas identified during the monitoring session will be discussed and adaptive management remediation activities will be recommended, as necessary.
- f. A description of any adaptive management activities performed since the previous annual report for the site as well as planned actions to be taken if plant establishment efforts are sub-standard or completely fail. For these circumstances, the cause of failure must be stated and how corrective actions will mitigate these causes.

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# Appendix F

## Coal Screening Process

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- F-7 Screen 2 Unsuitability—Criterion 3 Buffer Zones along Public Roads, Public Buildings, and State Parks Results (With Exception)
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- F-13 Screen 2 Unsuitability—Criterion 11 Bald and Golden Eagle Nests Data
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- F-15 Screen 2 Unsuitability—Criterion 13 Falcon Nesting Sites Data
- F-16 Screen 2 Unsuitability—Criterion 13 Falcon Nesting Sites Results (With Exception)
- F-17 Screen 2 Unsuitability—Criterion 14 Migratory Birds of High Federal Interest Data

- F-18 Screen 2 Unsuitability—Criterion 14 Migratory Birds of High Federal Interest Results (With Exception)
- F-19 Screen 2 Unsuitability—Criterion 15 Habitat for Species of High Interest to the State Data
- F-20 Screen 2 Unsuitability—Criterion 15 Habitat for Species of High Interest to the State Results (With Exception)
- F-21 Screen 2 Unsuitability—Criterion 16 Floodplains Data
- F-22 Screen 2 Unsuitability—Criterion 16 Floodplains Results (Without Exception)
- F-23 Screen 2 Unsuitability—Criterion 17 Municipal Watersheds Data
- F-24 Screen 2 Unsuitability—Criterion 19 Alluvial Valley Floors Data
- F-25 Screen 2 Unsuitability—Criterion 19 Alluvial Valley Floors Results (Without Exception)
- F-26 Screen 2 Unsuitability—Summary Results

### **Screen 3**

- F-27 Screen 3 Multiple Use—Air and Climate: Existing Infrastructure (The Approved RMP)
- F-28 Screen 3 Multiple Use—Soils Resources (The Approved RMP)
- F-29 Screen 3 Multiple Use—Fluid Minerals (The Approved RMP)
- F-30 Screen 3 Multiple Use—Recreation and Special Designations (The Approved RMP)
- F-31 Screen 3 Multiple Use—National Park Service Viewshed (The Approved RMP)
- F-32 Screen 3 Multiple Use—Summary Unacceptable for Leasing (The Approved RMP)

### **Areas Acceptable for Further Consideration for Leasing**

- F-33 Areas Acceptable for Further Consideration for Leasing (The Approved RMP)

### **Coal Producing Counties**

- F-34 Screen 1 Coal Development Potential—Coal-Producing Counties
- F-35 Screen 2 Unsuitability—Summary Results - Coal-Producing Counties
- F-36 Screen 3 Multiple Use—Summary Unacceptable for Further Consideration for Leasing (The Approved RMP) - Coal-Producing Counties
- F-37 Areas Acceptable for Further Consideration for Leasing (The Approved RMP)—Coal Producing Counties

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## **ATTACHMENTS**

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- 1 Maps

# Appendix F. Coal Screening Process

## F.1 INTRODUCTION

As part of the land use planning process (regulated under 43 Code of Federal Regulations [CFR] 1600), surface management agencies are charged with filtering lands overlaying federally administered coal through four screens. These screens ultimately result in the allocation of lands as acceptable for further consideration for leasing and development, taking into account resource conflicts with coal development (43 CFR 3420.1-4(d)).

This appendix describes the coal screening process undertaken by the US Department of the Interior, Bureau of Land Management (BLM) for the North Dakota Field Office (NDFO), complying with 43 CFR 3420.1-4(e). The screening process informs potential land use decisions regarding coal leasing availability under the alternatives analyzed in the NDFO Resource Management Plan (RMP) and Environmental Impact Statement (EIS) revision.

The BLM prepared a RMP and supporting coal screens for the 1988 North Dakota RMP, which allocates federal coal in the planning area. To date, 10,695 acres of federal coal have been leased under the 1988 RMP in North Dakota. In the current RMP revision, Alternative A represented the coal screen results from the 1988 North Dakota RMP (see Chapter 2 in the Proposed RMP and Final EIS).

The total acres acceptable for further consideration for leasing and development based on this coal screening process are in Chapter 2, Table 2-1 in the Proposed RMP and Final EIS. Note that coal screen findings that an area is unsuitable for leasing do not permanently withdraw the area; these findings could be revisited and reassessed during a future land use planning effort.

## F.2 REGULATORY OVERVIEW

Federal coal is governed by Section 522(b) of the Surface Mining Control and Reclamation Act and by the Federal Land Management Policy Act and its implementing regulations at 43 CFR 3400 and 43 CFR 1600. The BLM has the authority to lease coal under the Surface Mining Control and Reclamation Act. The State, through primacy, then has the authority to regulate development of the lease. Any restrictions that the BLM puts on a coal lease do not preclude the state from implementing Surface Mining Control and Reclamation Act or state regulations.

One aspect of coal leasing governed under these regulations is land use planning (43 CFR 3420.1-4(d); 43 CFR 1610.7-1) and the review of federal lands for suitability for coal leasing (43 CFR 3461). These regulations identify certain lands as unsuitable for surface mining or surface mining operations because they contain significant values that conflict with coal development. These include components of the federal land system; public roadways; floodplains; cultural resources listed on the National Register of Historic Places; critical habitat for threatened and endangered species; incorporated cities, towns, and villages; and other criteria.

The regulations at 43 CFR 3420 govern the land use planning process as it pertains to coal, including the four coal screens for identifying areas acceptable for further consideration for leasing and unsuitable for



surface mining or surface mining operations (43 CFR 3420.1-4). Under this process, the BLM must complete the following:

1. Identification of coal with development potential—Lands determined to have development potential are considered acceptable for further consideration for leasing and are applied to the remaining coal screens. Lands determined to not have development potential are eliminated from further consideration for leasing.
2. Application of unsuitability criteria—Lands with coal potential are assessed with procedures outlined in 43 CFR 3461. Lands with coal potential may be eliminated from further consideration for leasing if determined unsuitable without exception pursuant to Section 522(b) of the Surface Mining Control and Reclamation Act. In accordance with 43 CFR 3461.2-1, the BLM could, based on additional site-specific surveys or changes in resource conditions, change the unsuitability determination of a given tract at the leasing stage.
3. Multiple-use conflict analysis—43 CFR 3420.1-4e(3) states that “multiple land use decisions shall be made which may eliminate additional coal deposits from further consideration for leasing, to protect resource values of a locally important or unique nature not included in the unsuitability criteria.” Multiple-use values may include possible oil and gas development, soil, wildlife, recreation, and air resources. Lands with coal potential may be eliminated from further consideration for leasing where multiple uses conflict.
4. Surface owner consultation—This screen requires the BLM to consult with qualified surface owners whose land overlies federal coal with development potential. The BLM asks the qualified surface owners for their preference for or against offering the coal deposits under their land for lease. Lands with coal potential may be eliminated from further consideration for leasing based on qualified surface owner preference.

### **F.3 COAL SCREENING RESULTS**

#### **F.3.1 Screen 1—Coal Development Potential**

To evaluate coal potential in the coal decision area, the BLM consulted with the United States Geological Survey (USGS) and the North Dakota Public Service Commission (ND PSC). The BLM and USGS reviewed available data from the ND PSC, USGS, and data submissions from North Dakota coal companies with existing federal coal leases and developed criteria for evaluating coal potential. Drill hole locations from the USGS were reviewed initially for completeness and representativeness to determine if data gaps existed. The USGS dataset was sparse in the active coal fields. The companies were invited to submit any proprietary data they had to help fill out the drill hole dataset. The combined dataset provided good coverage of the existing mines, but little data exist beyond the mine boundaries. The combined drill hole data were correlated with coal beds, and a predictive model for coal potential was created. The model may not accurately represent coal potential in areas of future expansion of the mines or undeveloped coal fields due to the lack of drill hole data in those regions.

There are approximately 4 million acres of BLM-administered federal coal minerals in the North Dakota RMP/EIS planning area with 1,096,400 acres identified as having coal development potential. **Map F-1** displays the results of Screen 1.

### F.3.2 Screen 2—Unsuitability

To assess the applicability of each of the 20 unsuitability criteria to the decision area, the BLM interdisciplinary team of resource specialists reviewed available data and solicited expertise and data from the state (North Dakota's Department of Environmental Quality, Department of Emergency Services, Department of Transportation, Game and Fish, Geological Survey, Industrial Commission, Natural Heritage Program, Parks and Recreation, Public Service Commission, and State Historic Preservation Office) and federal agencies (the US Army Corps of Engineers, US Fish and Wildlife Service, Forest Service, USGS, National Park Service, and Office of Surface Mining and Reclamation).

The acres designated unsuitable under each unsuitability criterion are tabulated under **Table F-1**. Areas identified as unsuitable under each unsuitability criterion are mapped in **Maps F-2 through F-26** in **Attachment 1**. For each criterion, resources that trigger unsuitability are identified. Please note that the acres identified as unsuitable in **Table F-1** are not exhaustive of the resource in the decision area; rather, unsuitable acres are only those that overlies both the coal decision area and coal potential as identified under Screen 1 (**Map F-1**). Acreages are not additive across the table because of overlapping resources (for example, areas containing habitats for species of high interest to the state may also include federal rights-of ways; therefore, they may be subject to overlapping criteria). **Map F-26** shows the aggregate result of Screen 2.

**Table F-1. Screen 2 Results (Maps F-2 through F-26)**

<b>Criterion Number</b>	<b>Criterion Name/Applicable Resources<sup>1</sup></b>	<b>Acres<sup>2</sup> Unsuitable</b>
<i>Criterion 1 Map F-3</i>	<i>Federal Land System</i> <ul style="list-style-type: none"> <li>• National Wildlife Refuge System</li> <li>• Lewis and Clark National Historic Trail</li> <li>• Incorporated cities, towns, and villages</li> </ul>	21,467
<i>Criterion 2 Map F-5</i>	<i>Federal Lands within Rights-of-Ways</i> <ul style="list-style-type: none"> <li>• Rights-of-way</li> </ul>	24
<i>Criterion 3 Map F-7</i>	<i>Buffer Zones along Public Roads, Public Buildings, and State Parks</i> <ul style="list-style-type: none"> <li>• Public roadways</li> <li>• Public buildings (school, church, or institutional buildings)</li> <li>• Cemeteries</li> <li>• State parks</li> </ul>	74,832
<i>Criterion 4</i>	<i>Wilderness Study Areas</i>	0
<i>Criterion 5</i>	<i>Federal Designated Class I Scenic Areas</i>	0
<i>Criterion 6</i>	<i>Scientific Study</i>	0
<i>Criterion 7 Map F-9</i>	<i>National Register of Historic Places</i> <ul style="list-style-type: none"> <li>• Listed sites and districts</li> </ul>	2,687
<i>Criterion 8</i>	<i>Natural Areas and National Natural Landmarks</i>	0
<i>Criterion 9 Map F-12</i>	<i>Federally Designated, Proposed, or Essential Critical Habitat for Threatened and Endangered Species</i> <ul style="list-style-type: none"> <li>• Dakota skipper critical habitat and buffered occupancy locations</li> <li>• Pallid sturgeon</li> <li>• Piping plover critical habitat</li> <li>• Whooping crane high quality habitat</li> </ul>	200,142
<i>Criterion 10</i>	<i>State-listed Threatened and Endangered Species</i>	0
<i>Criterion 11 Map F-14</i>	<i>Bald and Golden Eagle Nest Sites</i>	4,585

<b>Criterion Number</b>	<b>Criterion Name/Applicable Resources<sup>1</sup></b>	<b>Acres<sup>2</sup> Unsuitable</b>
<i>Criterion 12</i>	<i>Bald and Golden Eagle Roost and Concentration Areas</i>	0
<i>Criterion 13</i> <i>Map F-16</i>	<i>Falcon Cliff Nesting Sites</i> • Prairie falcon	500
<i>Criterion 14</i> <i>Map F-18</i>	<i>Migratory Birds of High Federal Interest</i> • Ferruginous hawk nests • Sprague's pipit habitat • Lark bunting habitat • Grasshopper sparrow habitat • Chestnut-collared longspur habitat • Baird's sparrow habitat	154,849
<i>Criterion 15</i> <i>Map F-20</i>	<i>Habitat for Species of High Interest to the State</i> • Pronghorn • Mule deer • Big horn sheep • Greater sage-grouse priority habitat management areas • Sharp-tailed grouse leks and buffer zones • Tallgrass prairie • Woody draws • Riparian areas and wetlands	1,377,733
<i>Criterion 16</i> <i>Map F-22</i>	<i>100-Year Floodplain</i>	5,185
<i>Criterion 17</i>	<i>Municipal Watersheds</i>	1,155
<i>Criterion 18</i>	<i>National Resource Waters</i>	0
<i>Criterion 19</i> <i>Map F-25</i>	<i>Alluvial Valley Floors</i>	29,488
<i>Criterion 20</i>	<i>Tribal and State Proposed Criteria</i>	0

Source: BLM GIS 2021

<sup>1</sup> Screen 2 was only applied to lands within the coal development potential area and the BLM coal decision area.

<sup>2</sup> Unsuitability criteria "without exception" are highlighted in gray (i.e., acres that will not be made available under any circumstance). The regulations provide an exception for Criterion 1, but the lands in the BLM coal decision area do not meet the criteria for that exception; therefore, they are treated as without exception.

Screen 2 unsuitability without exception criteria are calculated as unavailable acres (see **Map F-2** through **Map F-26**). Screen 2 removed approximately 53,000 acres of federal coal minerals from the coal development potential area. Unsuitability with exception or stipulation criteria are calculated as available acres. All unsuitability criteria will be reviewed at the time of application and acreages may be made available without requiring a land use plan amendment if resource data change.

### **Stipulation for Criterion 15**

All habitat for species of high interest to the state, listed under criterion 15, have reclamation as a stipulated method of coal mining. This stipulation requires reclamation using an approved seed mix that is appropriate to the soil type(s) and resident species of fish, wildlife, or plant species found within the disturbance area.

#### **Stipulation**

Stipulated methods of mining include reclamation of the disturbed essential habitat to a value that is equal to or greater than the time of disturbance. The reclamation will include a native seed mix and methods to be approved by the BLM at the time of the lease. Seed mixes will be specific to both ecological site descriptions and the resident species of fish, wildlife, or plant species being addressed. If conflicting habitat types are determined, the

leasing National Environmental Policy Act document will address prioritization or other solutions for maintaining habitat in the site-specific area. There shall be no primary or secondary noxious weed seed in the seed mixture. Seed shall be tested, and the viability testing of seed shall be done in accordance with state law(s) and within 6 months prior to purchase. Commercial seed shall be either certified or registered seed. The seed mixture container shall be tagged in accordance with state law(s) and available for inspection by the BLM Authorized Officer. See **Appendix E** for reclamation standards.

### **F.3.3 Screen 3—Multiple Use**

In addition to the areas unsuitable under Screen 2, land use decisions to protect resources of high value to the public may eliminate additional coal deposits from further consideration. The BLM reviewed other resource values and land uses not addressed under the 20 unsuitability criteria; additional lands were determined unacceptable for further consideration for leasing.

After close review of resources in the coal decision area, and in consultation with state and federal agencies, the BLM identified several resources that are eliminated from further consideration for coal leasing under Screen 3.

#### ***Air and Climate -NAAQS***

The Approved RMP considered a criterion for maintaining air quality standards as part of the multiple-use screen; however, existing data showed no air quality standards were exceeded based on the national ambient air quality standards under the Clean Air Act (see Ramboll 2022). Therefore, no resulting geographic area of land was designated unacceptable for further leasing of coal.

#### ***Air and Climate -Leonardite***

The Approved RMP applied a air resources criterion that excluded areas with only leonardite potential (no mapped lignite potential) as part of the multiple-use screen. Leonardite is a low-quality coal with higher emission rates (**Map F-27**).

#### ***Air and Climate -Existing Infrastructure***

The Approved RMP also applied an air resources criterion that limits future federal coal leasing to lands near existing mines and infrastructure. Under The Approved RMP, a 4-mile-coal leasing development area was added to extend the coal development (leasing) area beyond the approved federal mine permit boundaries as of September 9, 2022, for each mine. The 4-mile development area around the approved federal mine plans is based on proximity to existing infrastructure, long range mine plans as provided by Lease-by-Application (LBA) documents, future areas of interest provided by the mines, and through consideration of a reasonably foreseeable development (RFD) scenario (**Map F -27**).

#### ***Soil Resources***

Potential conflicts between development of coal mineral resources and soil resources may warrant the designation of steep slopes as unacceptable. These slopes are easily eroded and may be difficult to recontour without additional effort from the coal companies. When disturbed, erosion from these slopes can lead to an increase in sedimentation, a loss of soil nutrients, and decreasing productivity. In The Approved RMP, slopes greater than or equal to 30 percent and covering continuous areas larger than 10 acres were removed from consideration for leasing (**Map F-28**).

### ***Fluid Minerals***

Coal development activities can compromise oil and gas well integrity and oil and gas infrastructure around active oil and gas development, where the two overlap. Active oil and gas development areas merit buffers on coal leasing availability to prevent such conflicts. In The Approved RMP active oil and gas fields and active oil and gas wells (buffered 0.50 miles) were screened as unacceptable (**Map F-29**). These include:

- Oil and gas fields with new wells drilled since January 1, 2010
- A 0.50-mile buffer around oil and gas wells that have not been plugged

### ***Recreation and Special Designations***

Potential conflicts between development of coal mineral resources and recreation and special designation areas warrant their designation as unacceptable.

Areas of critical environmental concern (ACECs) are unique to the BLM and can only be designated on BLM-administered surfaces. These areas require special management to protect and prevent irreparable damage to important historic, cultural, or scenic values; fish and wildlife resources; or other natural systems or processes, or to protect life and safety from natural hazards (43 CFR 1610). An ACEC may emphasize one or more unique resources. Potential conflicts between development of coal mineral resources and the Mud Buttes ACEC warrant its designation as unacceptable in The Approved RMP (**Map F-30**).

The Approved RMP also proposed two backcountry conservation areas (BCAs; Lost Bridge and Figure 4 BCAs) and one special recreation management area (SRMA; Schnell Ranch SRMA). The proposed BCAs and SRMA are outside of coal potential and therefore do not result in the designation of additional acres as unacceptable.

### ***National Park Service Viewshed***

The National Park Service provided a viewshed analysis for the area east of the Knife River Indian Villages Historic Site and east of the Missouri River where coal extraction is currently underway. In The Approved RMP, two parcels were removed from further consideration from leasing due to their proximity to the historic site and the potential to impact the viewshed (**Map F-31**).

Similar to Screen 2, Screen 3 acreages are not additive because of overlapping resources (for example, areas containing steep slopes may also contain active oil and gas wells). In The Approved RMP, Screen 3 removed approximately 1,037,800 acres of federal coal minerals from the coal development potential area (**Map F-32**).

**Table F-2. The Approved RMP, Screen 3 Results (Map F-32)**

<b>Map</b>	<b>Multiple-Use Screen</b>	<b>Acres Unacceptable for Further Consideration for Leasing</b>
<i>Map F-27</i>	<i>Air and Climate</i> <ul style="list-style-type: none"> <li>• Lands outside existing infrastructure</li> <li>• Leonardite potential</li> </ul>	1,034,732
<i>Map F-28</i>	<i>Soil Resources</i> <ul style="list-style-type: none"> <li>• Slopes <math>\geq 30</math> percent and <math>&gt;10</math> acres</li> </ul>	27,731
<i>Map F-29</i>	<i>Fluid Minerals</i> <ul style="list-style-type: none"> <li>• Active oil and gas fields</li> <li>• Active oil and gas wells</li> </ul>	403,446

Map	Multiple-Use Screen	Acres Unacceptable for Further Consideration for Leasing
Map F-30	<i>Recreation and Special Designations</i> <ul style="list-style-type: none"> <li>• Mud Buttes, nominated ACEC</li> </ul>	640
Map F-31	<i>National Park Service Viewshed</i> <ul style="list-style-type: none"> <li>• Knife River Indian Villages Historic Site</li> </ul>	799

### F.3.4 Screen 4—Consultation with Qualified Surface Owners

The BLM sent letters to all identifiable surface owners with lands overlying BLM-administered federal coal in areas determined to have coal development potential under Screen 1 and occurring outside of active oil and gas areas that were included in Screen 3. The BLM asked that the surface owners respond with their preference for, against, or undecided to mining by other than underground methods (i.e., surface mining) on the BLM-administered federal coal beneath their land. A sample of the letters sent to private surface owners can be found in **Attachment 2**.

In order to be a qualified surface owner in accordance with the regulations at 43 CFR 3400.0-5, the individual(s) must:

1. Hold legal or equitable title to the surface of split-estate lands;
2. Have their principal place of residence on the land; personally conduct farming or ranching operations upon a farm or ranch unit to be affected by surface mining operations; or receive directly a significant portion of their income, if any, from such farming and ranching operations; and
3. Have met the first two conditions for a period of at least 3 years, except for persons who gave written consent less than 3 years after they met the requirements. In computing the 3-year period, the BLM Authorized Officer shall include periods during which title was owned by a relative of such person by blood or marriage if, during such periods, the relative would have met the requirements of this section.

Between April and November 2020, the BLM contacted 4,029 landowners outside of active oil and gas areas, with land overlying federal coal minerals within coal potential. Responses received by February 1, 2021, were included in Screen 4 of the Draft RMP/EIS. In the letter, the BLM requested verification of landowner qualifications and an opinion on leasing federal coal beneath their surface (in favor, against, and undecided). The BLM included an addressed, postage-paid envelope to encourage response. The BLM also considered whether landowners had previously provided consent for surface mining. The BLM contacted mining companies and obtained information about private lands that were already leased with the mines. The BLM cross-referenced these with the responses and adjusted accordingly. Of the 4,029 landowners contacted, the BLM received 1,801 responses. Of those responses, there were 1,632 qualified landowners within the coal development potential area (Screen 1).

In response to cooperating agency and public comments on the Draft RMP/EIS, The Approved RMP looked for trends or clusters of opposition to mining, rather than individual responses. The Approved RMP did not find significant opposition to mining and did not identify any lands as unavailable for further consideration for coal leasing under this screen. The owners objecting to mining are scattered and mostly separated from active mines. Before potential leases are delineated, BLM will survey surface owners again for surface

owner qualification and agreement, in accordance with 30 CFR 1304(c) and the BLM Coal Leasing Handbook.

### **F.3.5 Screens 1–4: Areas Acceptable for Further Consideration for Leasing**

**Map F-33** shows the geospatial results of the four coal screens for The Approved RMP. After the four coal screens are applied in The Approved RMP, 58,588 acres are available for further consideration for leasing.

**Table F-3** summarizes the coal screening acres.

### **F.3.6 Coal-Producing Counties**

Currently, federal coal production in the planning area comes from four mines located in three counties, McLean, Mercer, and Oliver, in the central portion of the state. Coal screening results for this area are detailed in **Maps F-34** through **F-37**.

Table F-3. Coal Screening Summary for the Decision Area and the Coal-Producing Counties

-	Coal Screen	Approved RMP/ROD	Approved RMP/ROD
-	-	BLM-administered Subsurface (acres)	BLM-administered Surface (acres)
North Dakota	Screen 1—Coal decision area: BLM-administered federal coal minerals in coal development potential	1,096,400	1,400
	Screen 2—Unsuitable with and without exception		
	Screen 2—Unsuitable without exception, criteria 1 certain federal lands, 16 100-year floodplains, and 19 alluvial valley floors	53,000	200
	Screen 2—Unsuitable with exception, criteria 2, 3, 7, 9, 11, 13, 14, 15, 17	294,400	1,000
	Screen 3—Multiple use	1,037,800	1,400
	Screen 4—Qualified surface owners	663,400	—
	Screen 4—Unqualified surface owners	12,700	—
	Screen 4—Qualified surface owners, not in favor of leasing	0†	—
	Unacceptable to coal leasing	1,037,800	1,400
	Acceptable to coal leasing	58,600	—
Coal-producing counties*	County with existing or pending coal lease* (three counties, McLean, Mercer, and Oliver)	125,900	600
	Screen 2—Unsuitable with and without exception	—	—
	Screen 2—Unsuitable without exception, criteria 1 certain federal lands, 16 100-year floodplains, and 19 alluvial valley floors, county with existing or pending coal lease	3,000	0
	Screen 3—Multiple-use unacceptable for further consideration for coal leasing, county with existing or pending coal lease	68,000	0
	Screen 4—Qualified surface owners	118,700†	—
	Unacceptable to coal leasing	67,800	0
	Acceptable to coal leasing	58,200	40

\* Coal-producing counties in this table are those with existing or pending coal leases (McLean, Mercer, and Oliver). Morton County has an existing mine, but the mine is unlikely to expand and is therefore not part of detailed environmental consequences (no future disturbance is anticipated).

† Under the Approved RMP/ROD, BLM re-evaluated the results of coal screen 4 to only consider areas as "no" for surface owner consent if a cluster of surface owners in an area created a large tract of not in favor responses. Because no significant clusters of surface owners responded not in favor the application of this screen has been updated so that no areas are found unsuitable due to surface owners not in favor. Because qualified surface owner agreement is required prior to leasing per 30 CFR 1304(c), upon receiving a lease application BLM will survey qualified surface owners again prior to issuing any lease.



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#### **F.4 REFERENCE**

BLM GIS. 2021. GIS data on file with the BLM's eGIS server, used for calculations or figures related to the coal development strategy. BLM, North Dakota Field Office, Dickinson, North Dakota.

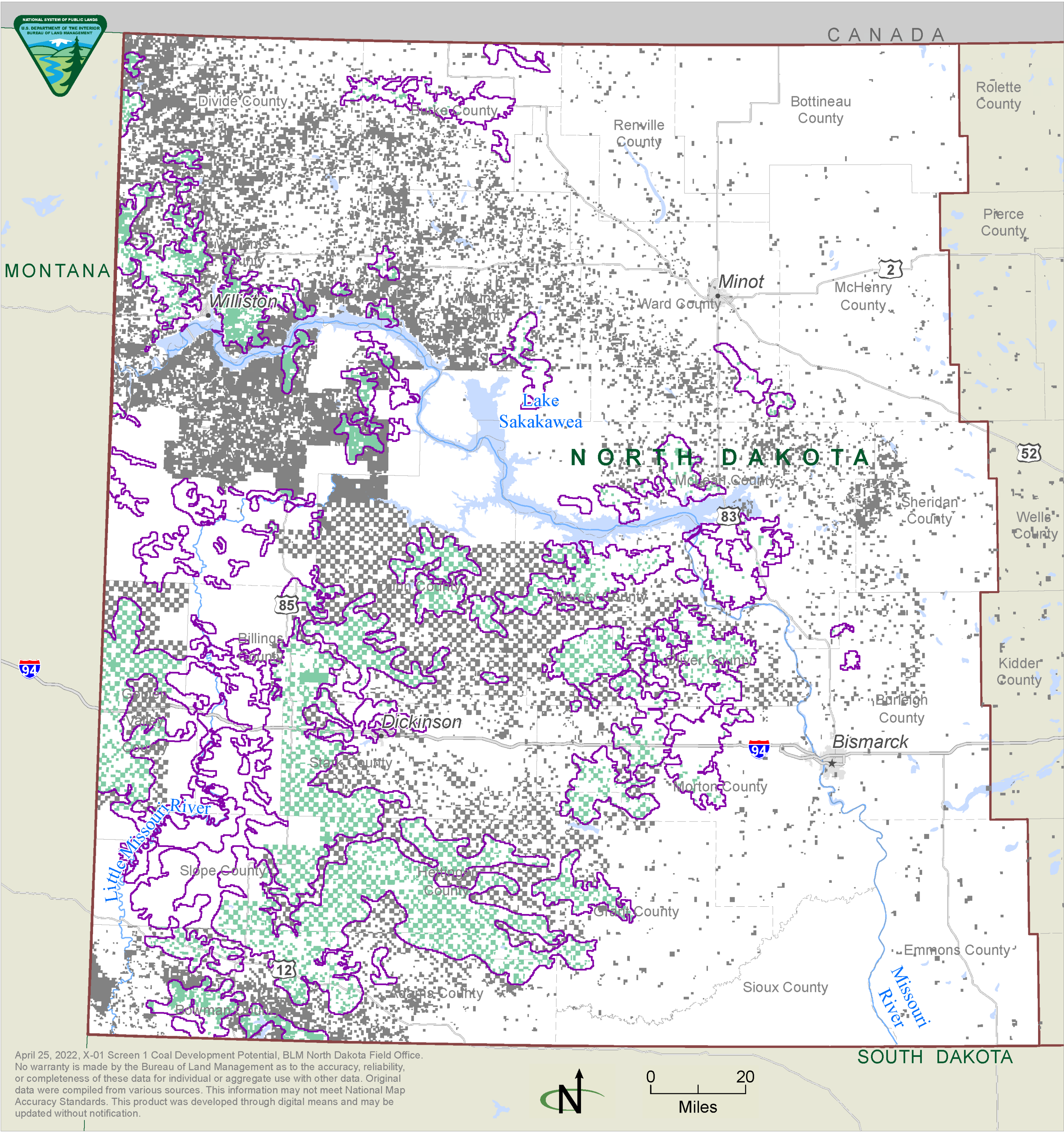
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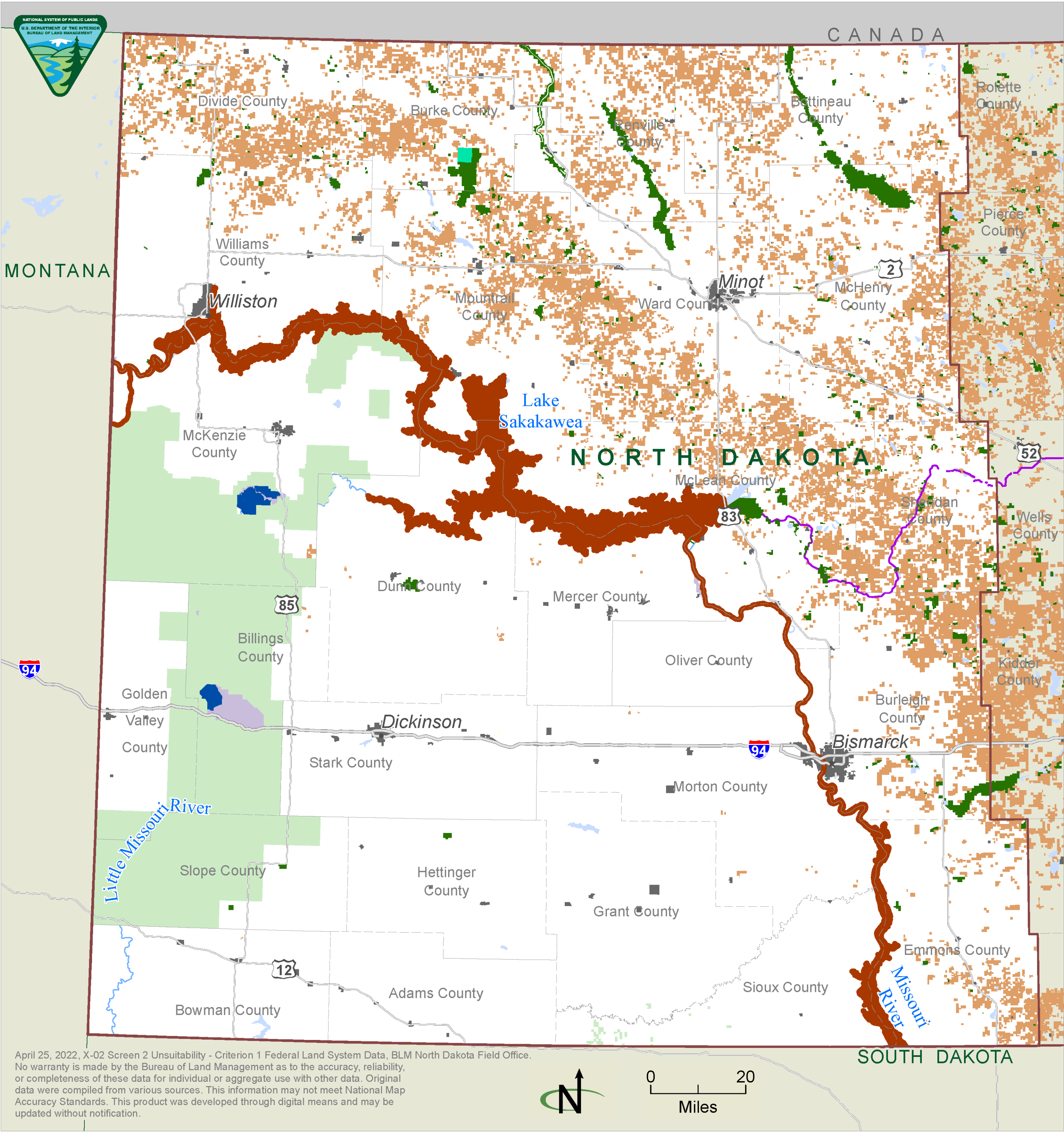
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# Attachment 1

Maps




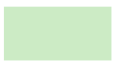







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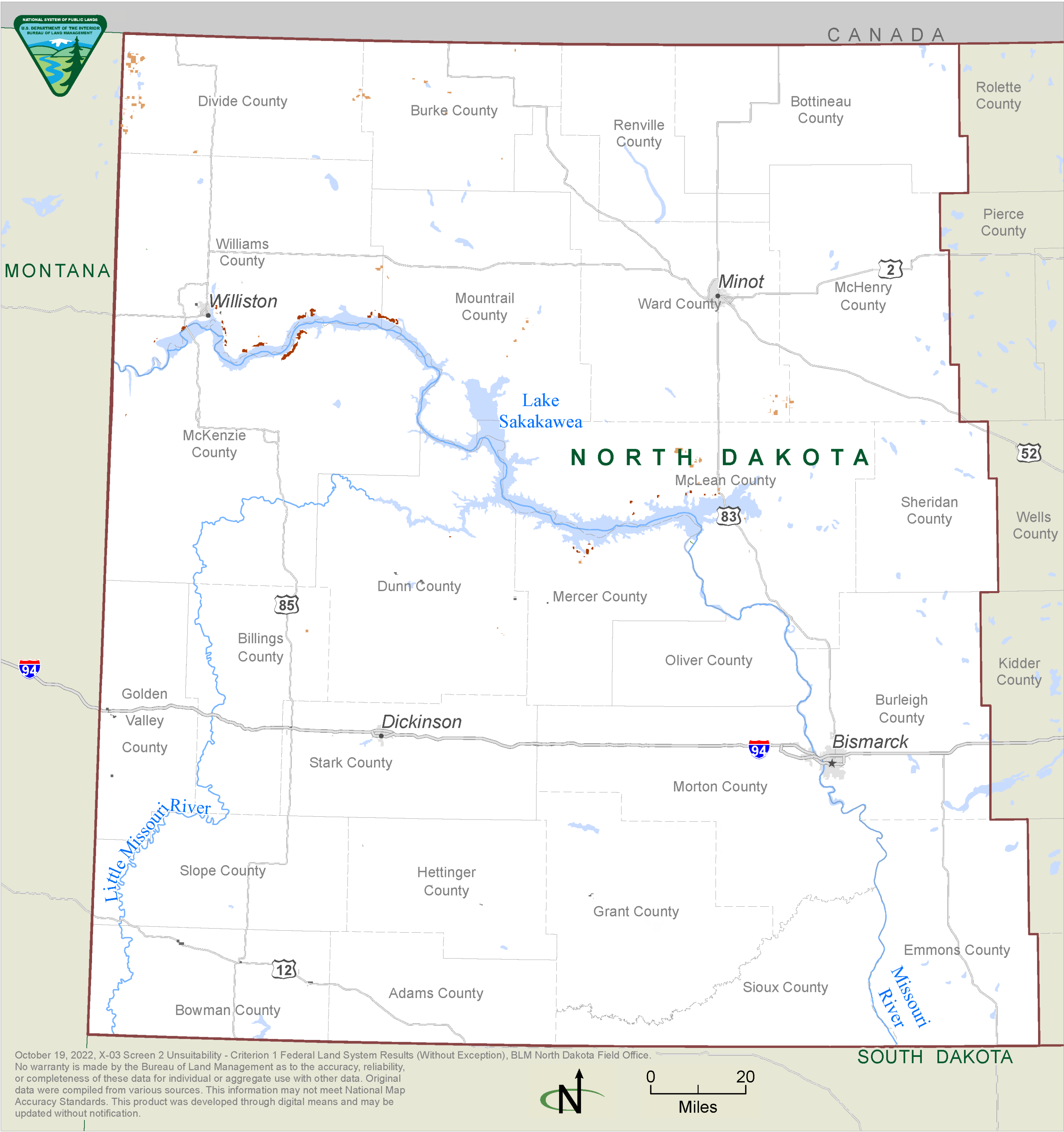


**Map F-02**

**Screen 2 Unsuitability - Criterion 1 Federal Land System Data**

- |  |   |
|--|---|
|  North Dakota RMP planning area, western half  |  Lands Acquired with LWCF (4.1 acres at Schnell) |
|  National Park Service                         |  National Forests (Administrative Boundaries)    |
|  National System of Trails (L&CNHT)            |  National Wilderness Preservation System (FWS)   |
|  National System of Trails (NCNST)             |  National Wildlife Refuge System                 |
|  National Wilderness Preservation System (NPS) |  USFWS Conservation Easements                    |
|  |  Incorporated Areas                              |

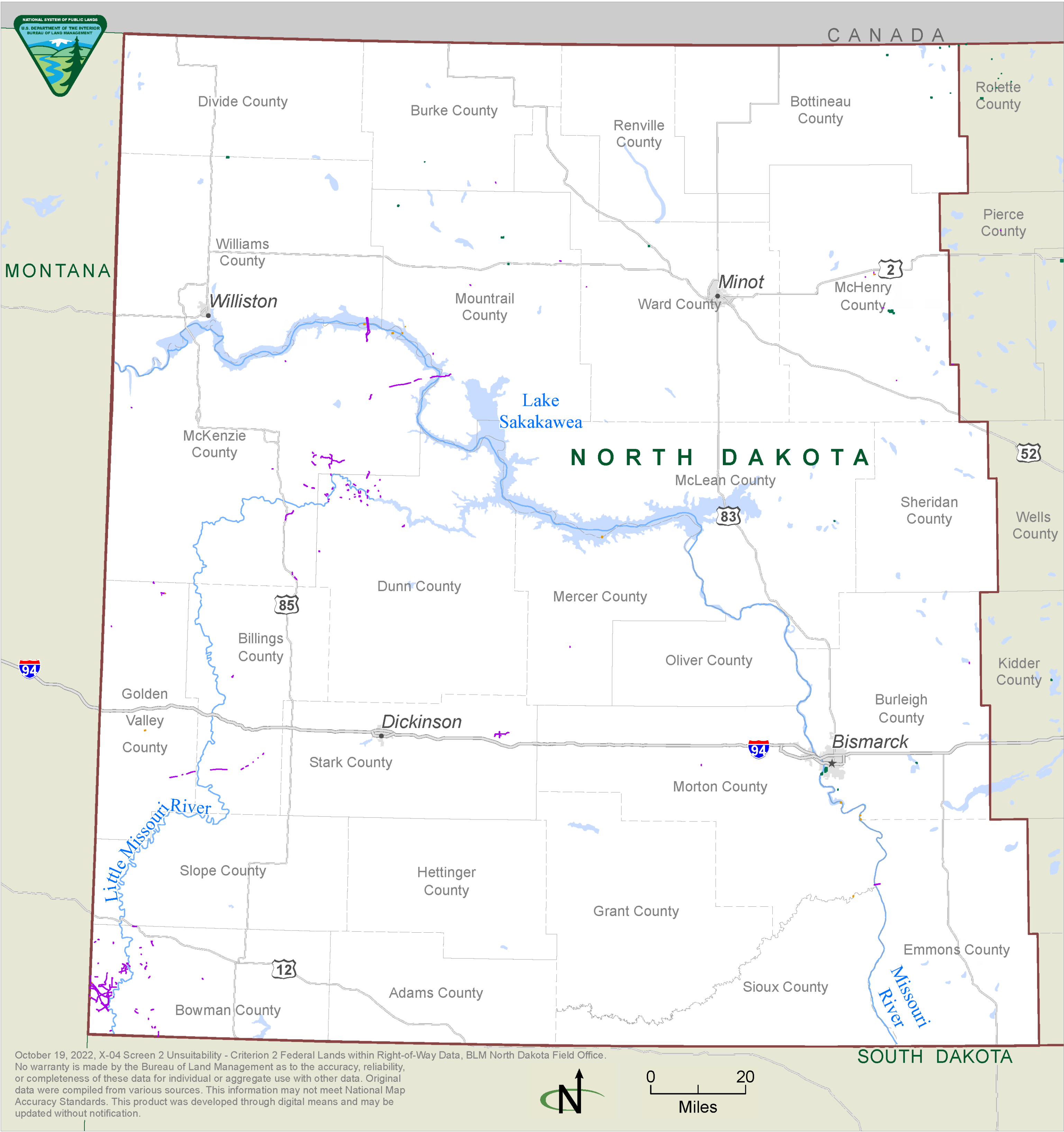








**Map F-03**  
**Screen 2 Unsuitability - Criterion 1 Federal Land System Results (Without Exception)**

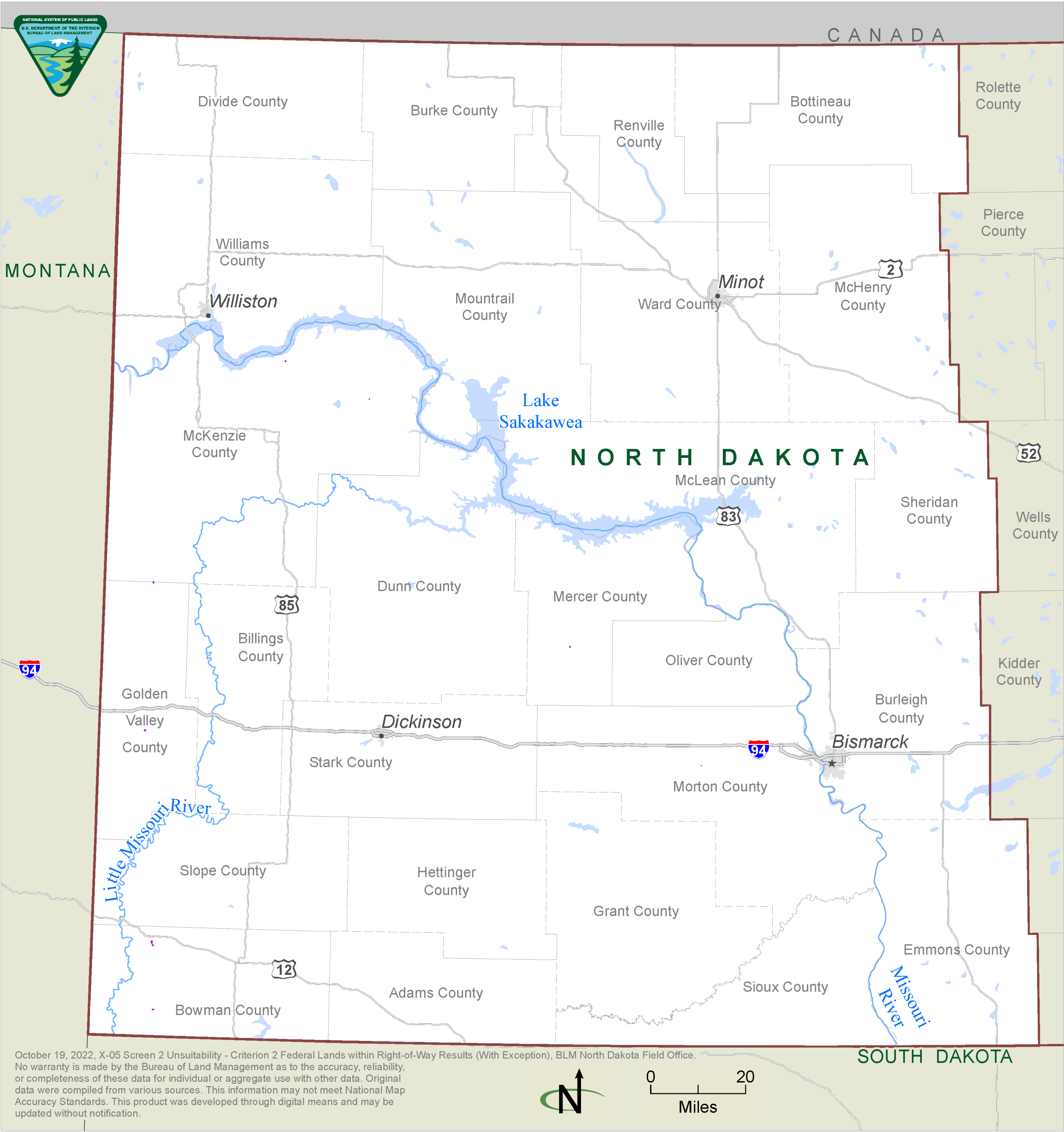
-  North Dakota RMP planning area, western half
-  US Fish and Wildlife
-  National System of Trails (L&CNHT)
-  USFWS Conservation Easements
-  Incorporated Areas





**Map F-04**  
**Screen 2 Unsuitability - Criterion 2 Federal Lands within Right-of-Way Data**

-  North Dakota RMP planning area, western half
-  R&PP Permits
-  Right-of-way polygons
-  Right-of-way lines (buffered)



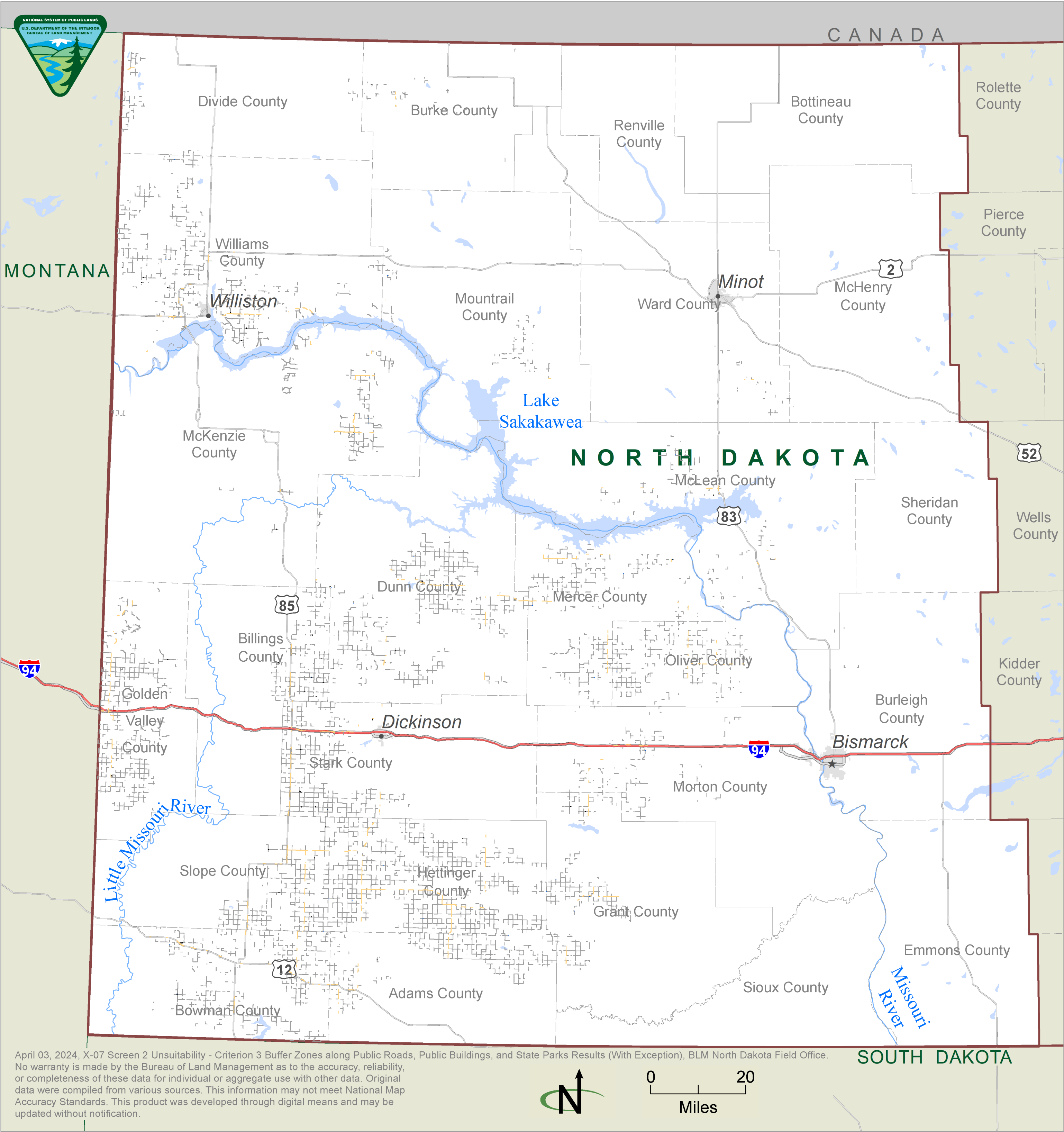
**Map F-05**  
**Screen 2 Unsuitability - Criterion 2 Federal Lands within Right-of-Way Results (With Exception)**





**Map F-06**

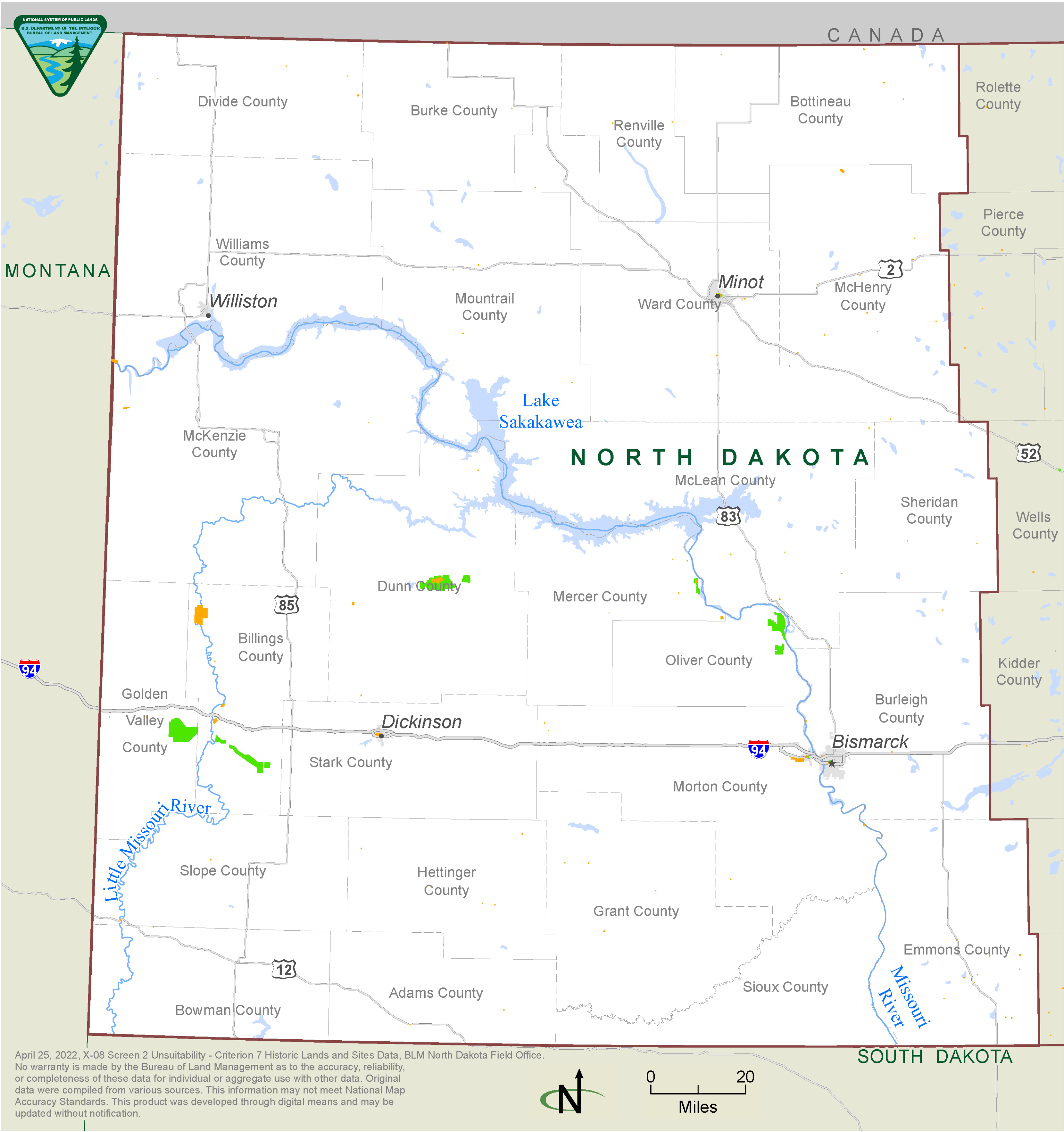
**Screen 2 Unsuitability - Criterion 3 Buffer Zones along Public Roads, Public Buildings, and State Parks Data**






Map F-07

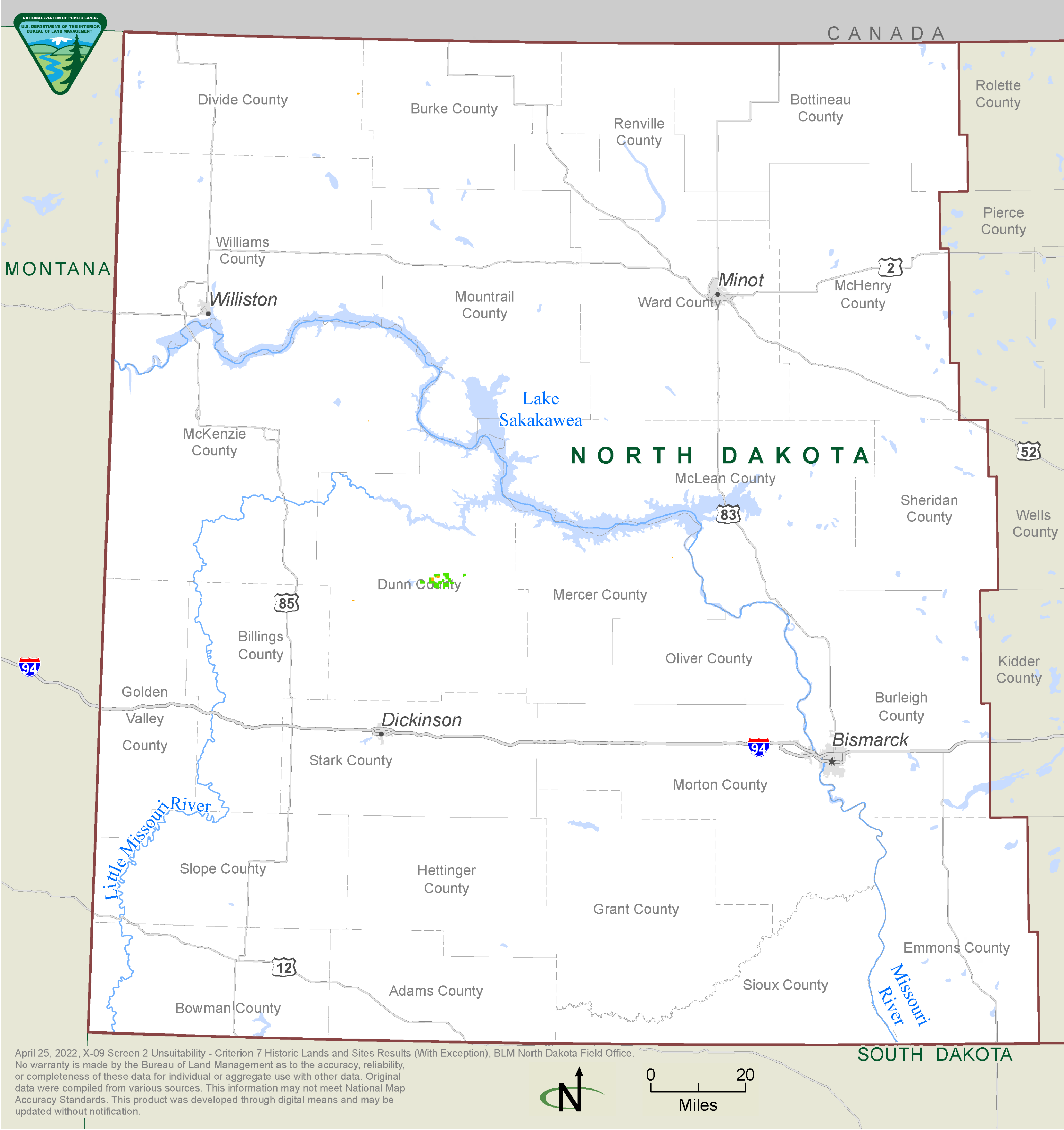
Screen 2 Unsuitability - Criterion 3 Buffer Zones along Public Roads, Public Buildings, and State Parks Results (With Exception)








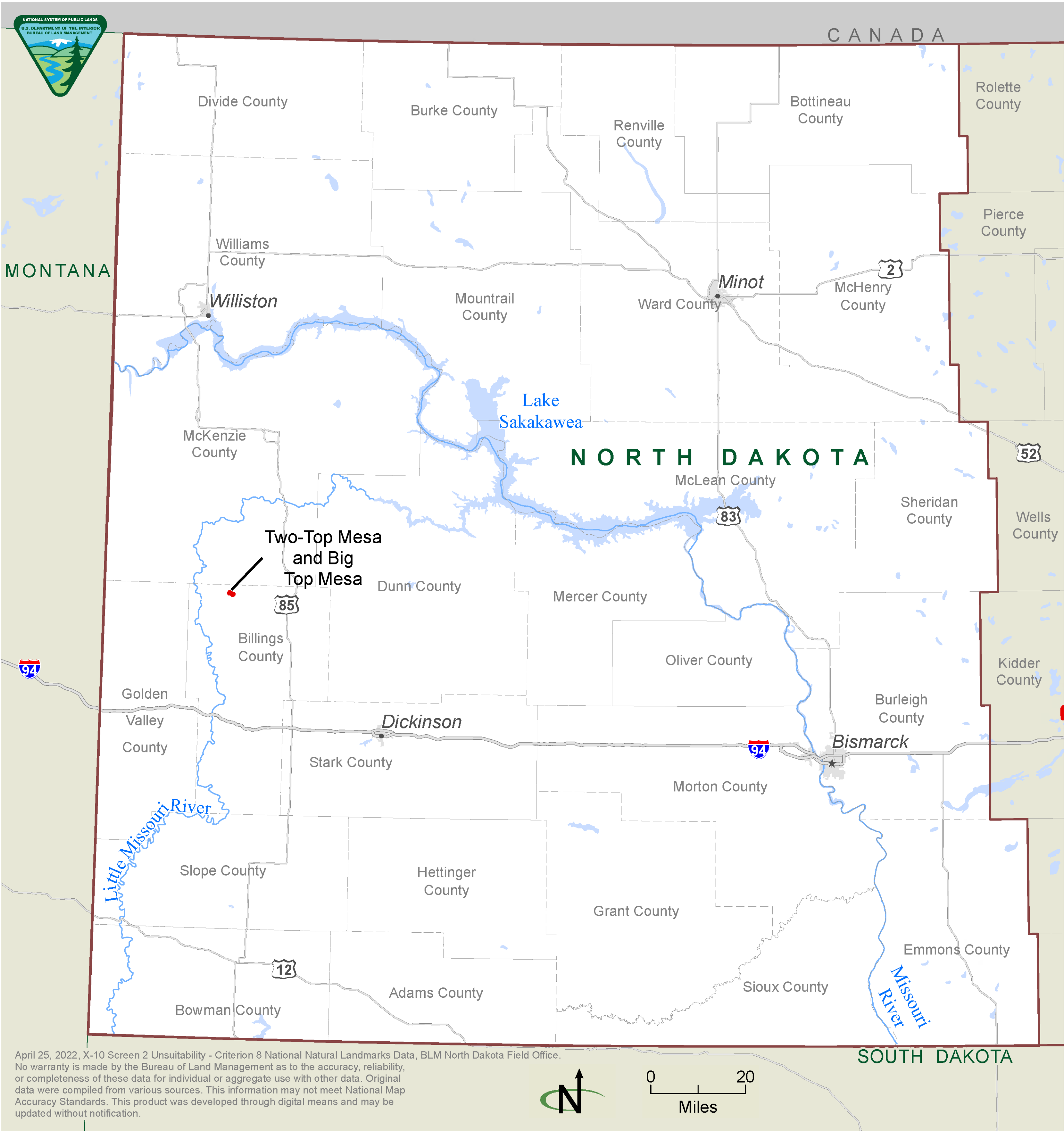
**Map F-08**  
**Screen 2 Unsuitability - Criterion 7 Historic Lands and Sites Data**

-  North Dakota RMP planning area, western half
-  National Register of Historic Places (Districts)
-  National Register of Historic Places (Sites)



**Map F-09**  
**Screen 2 Unsuitability - Criterion 7 Historic Lands and Sites Results (With Exception)**

-  North Dakota RMP planning area, western half
-  National Register of Historic Places (Districts)
-  National Register of Historic Places (Sites)

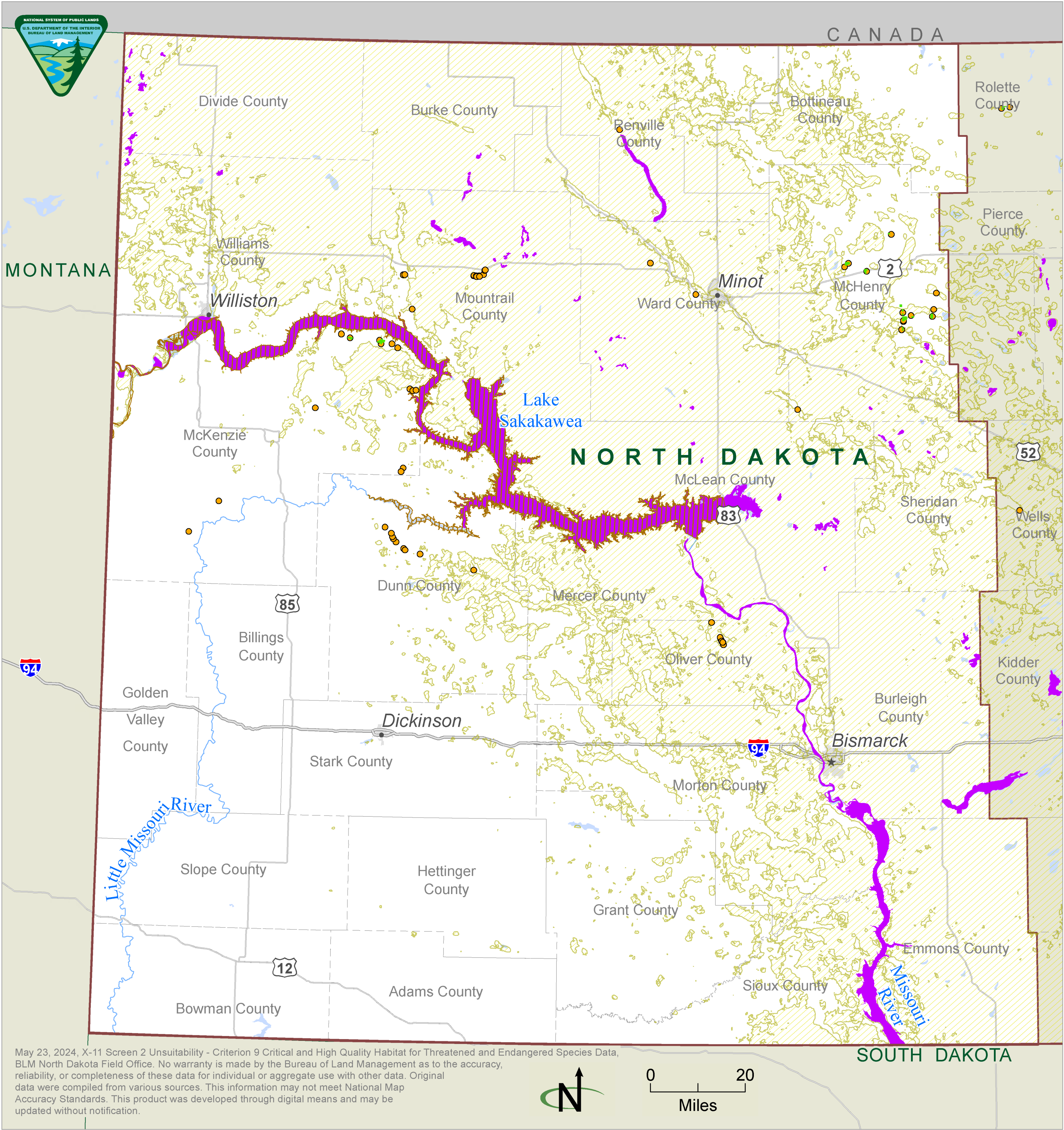


Map F-10

Screen 2 Unsuitability - Criterion 8 National Natural Landmarks Data

- North Dakota RMP planning area, western half
- National Natural Landmarks

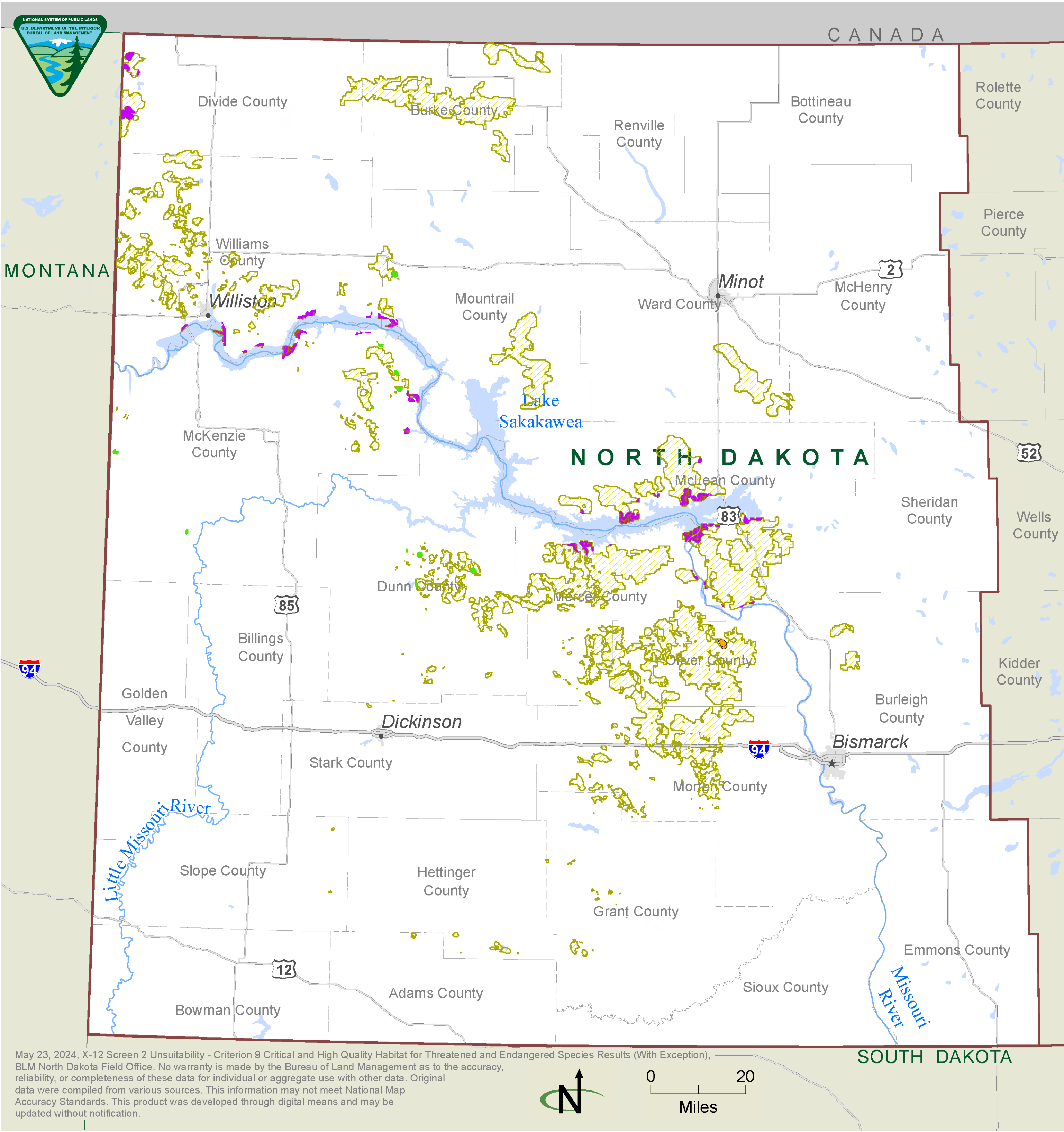




**Map F-11**  
**Screen 2 Unsuitability - Criterion 9**  
**Critical and High Quality Habitat for Threatened and Endangered Species Data**

- North Dakota RMP planning area, western half
- Dakota Skipper Critical Habitat
- Dakota Skipper Occupied Habitat (Buffered)
- Pallid Sturgeon Habitat
- Piping Plover Critical Habitat
- Whooping Crane Habitat (High Quality)

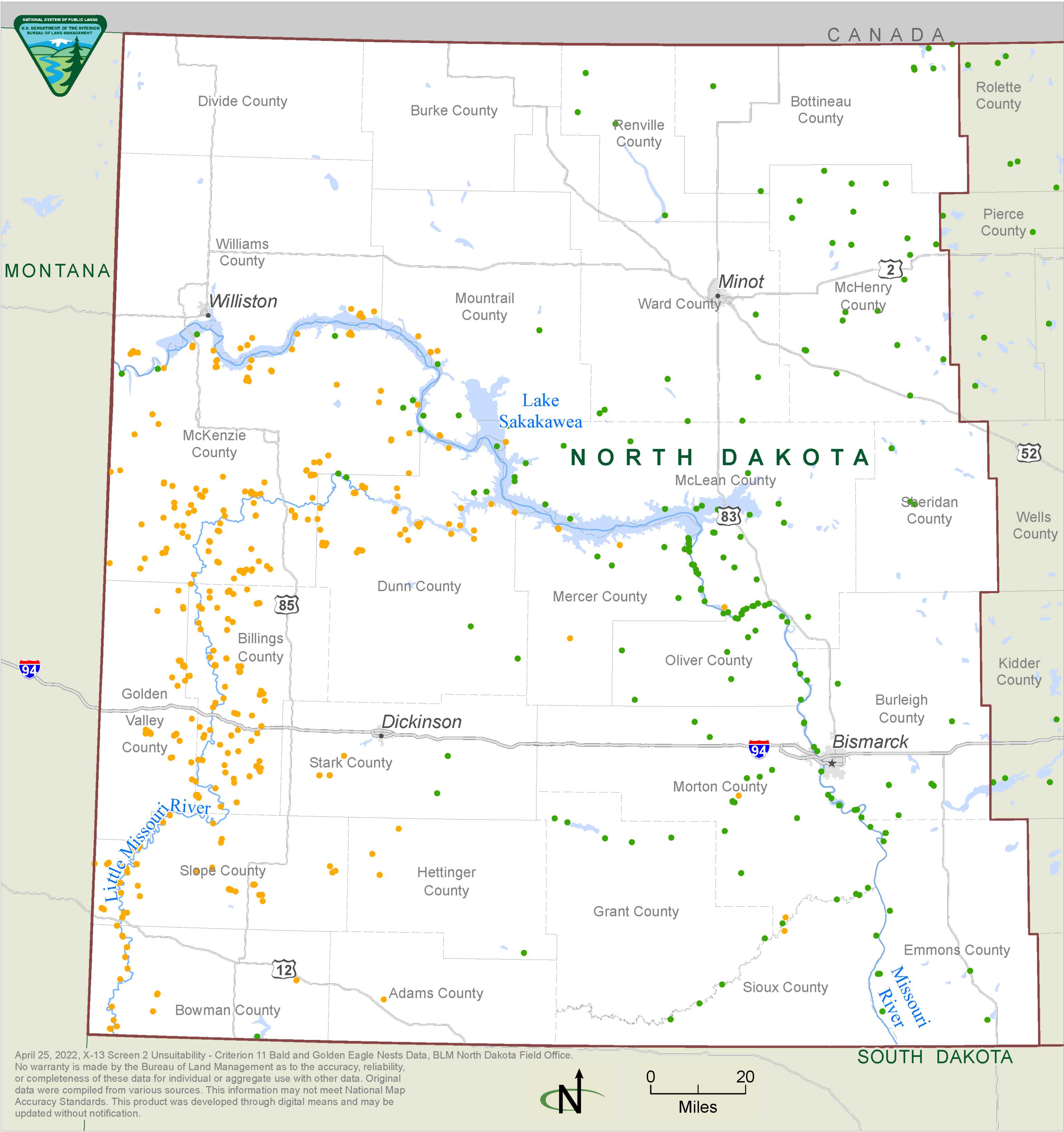







Map F-12

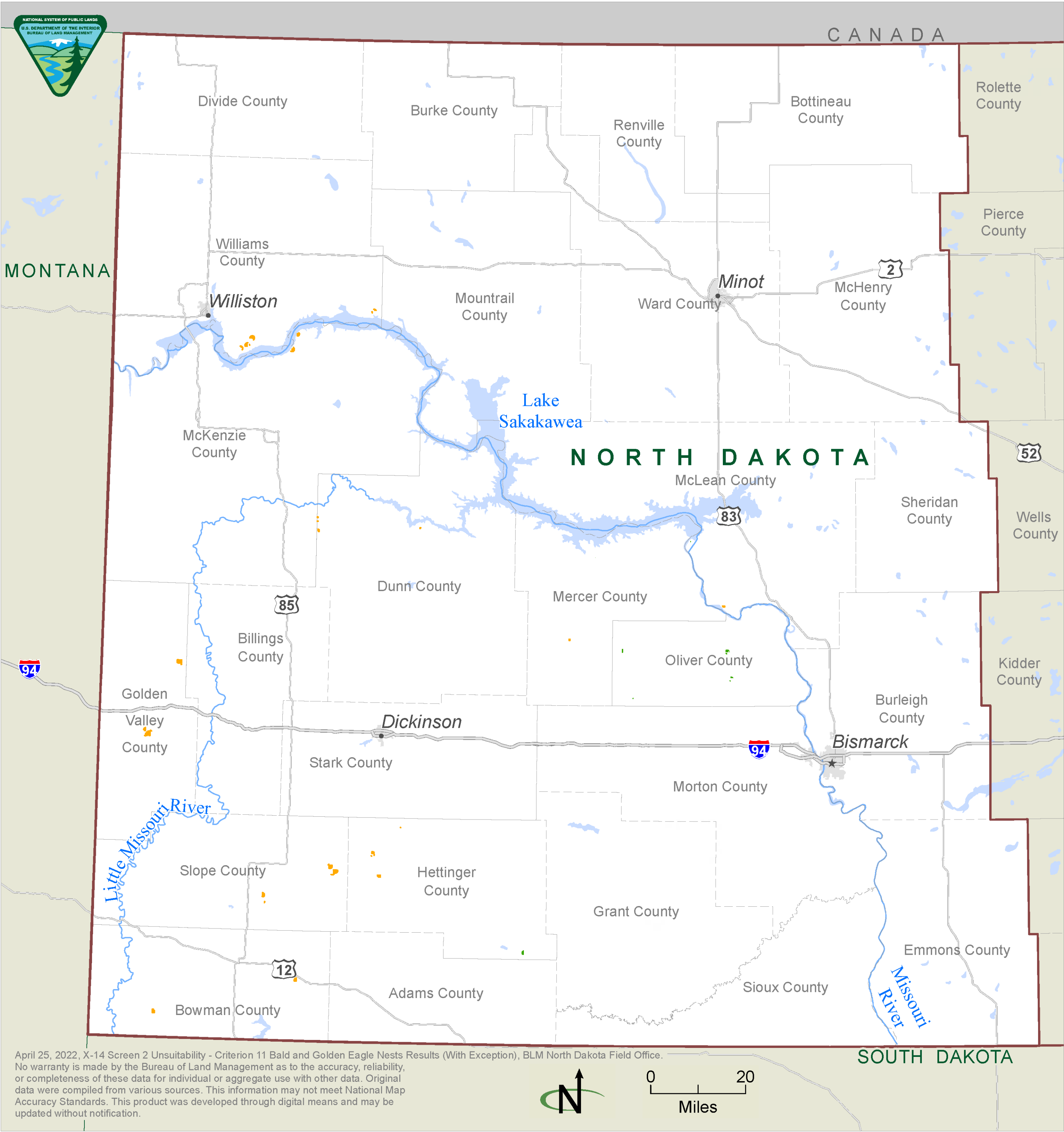
**Screen 2 Unsuitability - Criterion 9**  
**Critical and High Quality Habitat for Threatened and Endangered Species Results (With Exception)**

- North Dakota RMP planning area, western half
- Dakota Skipper Critical Habitat
- Dakota Skipper Occupied Habitat (Buffered)
- Pallid Sturgeon Habitat
- Piping Plover Critical Habitat
- Whooping Crane Habitat (High Quality)






**Map F-13**  
**Screen 2 Unsuitability - Criterion 11 Bald and Golden Eagle Nests Data**

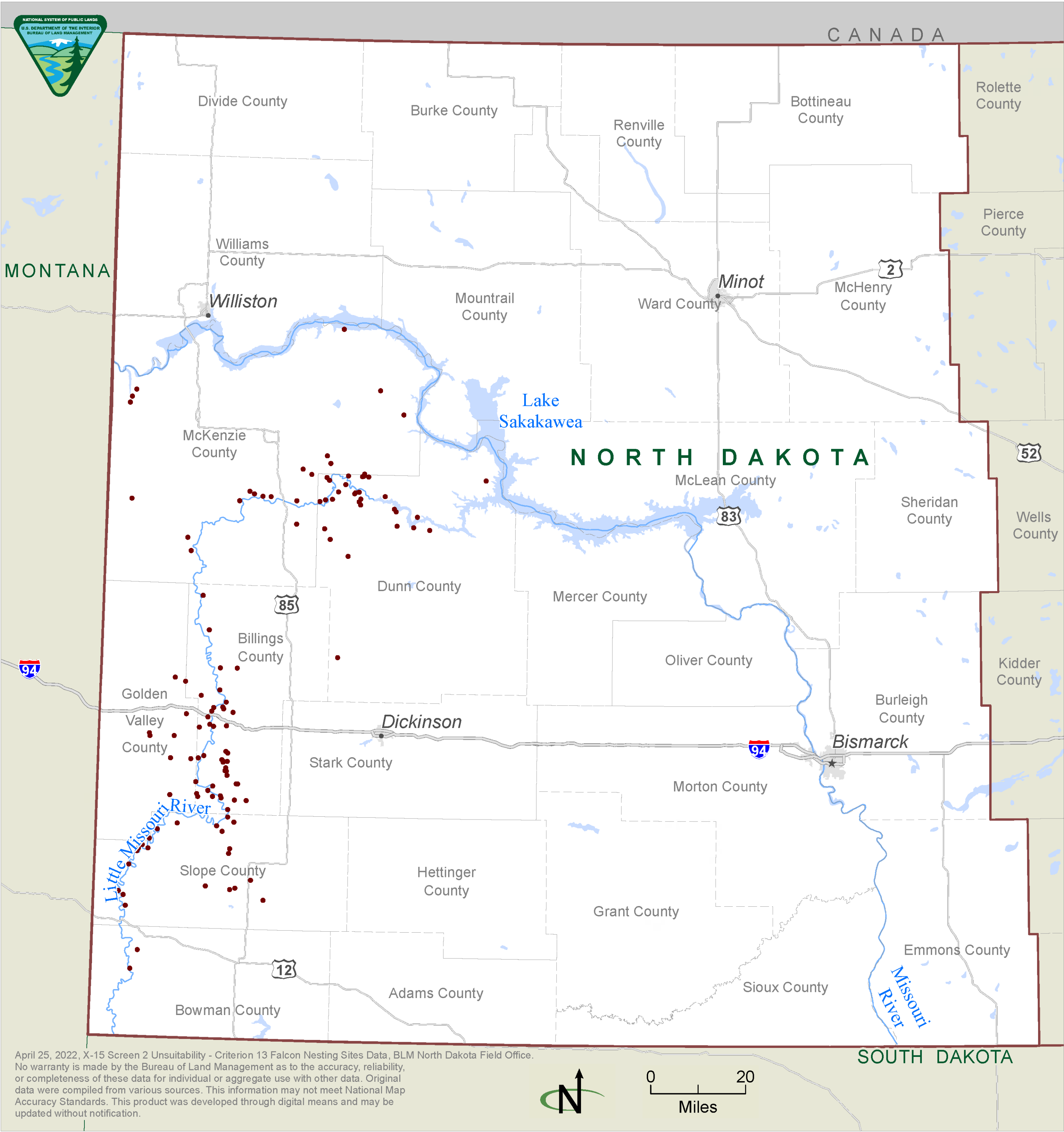
-  North Dakota RMP planning area, western half
-  Golden Eagle Nests
-  Bald Eagle Nests



**Map F-14**  
**Screen 2 Unsuitability - Criterion 11 Bald and Golden Eagle Nests Results (With Exception)**

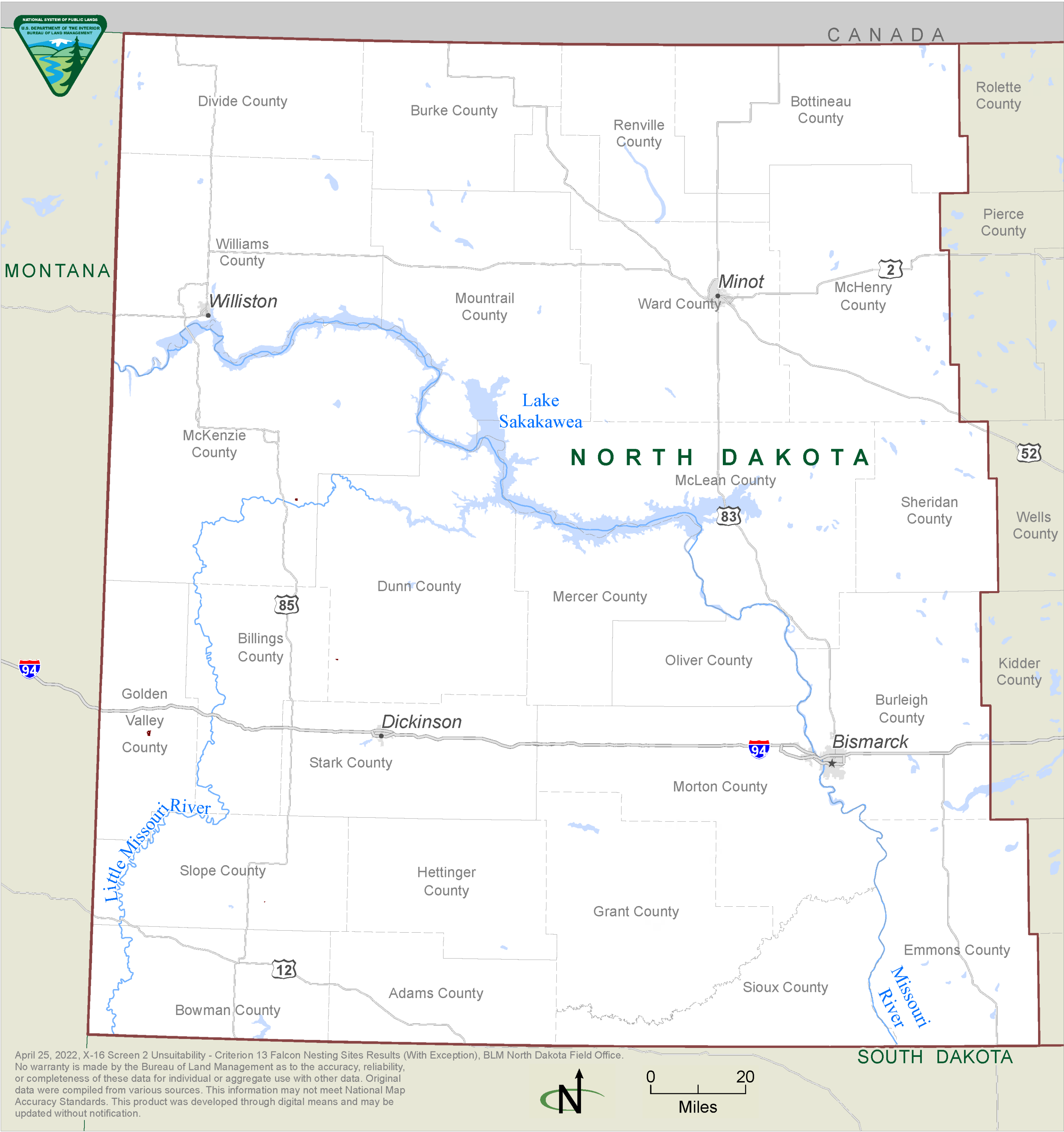
-  North Dakota RMP planning area, western half
-  Golden Eagle Nests
-  Bald Eagle Nests





**Map F-15**  
**Screen 2 Unsuitability - Criterion 13 Falcon Nesting Sites Data**

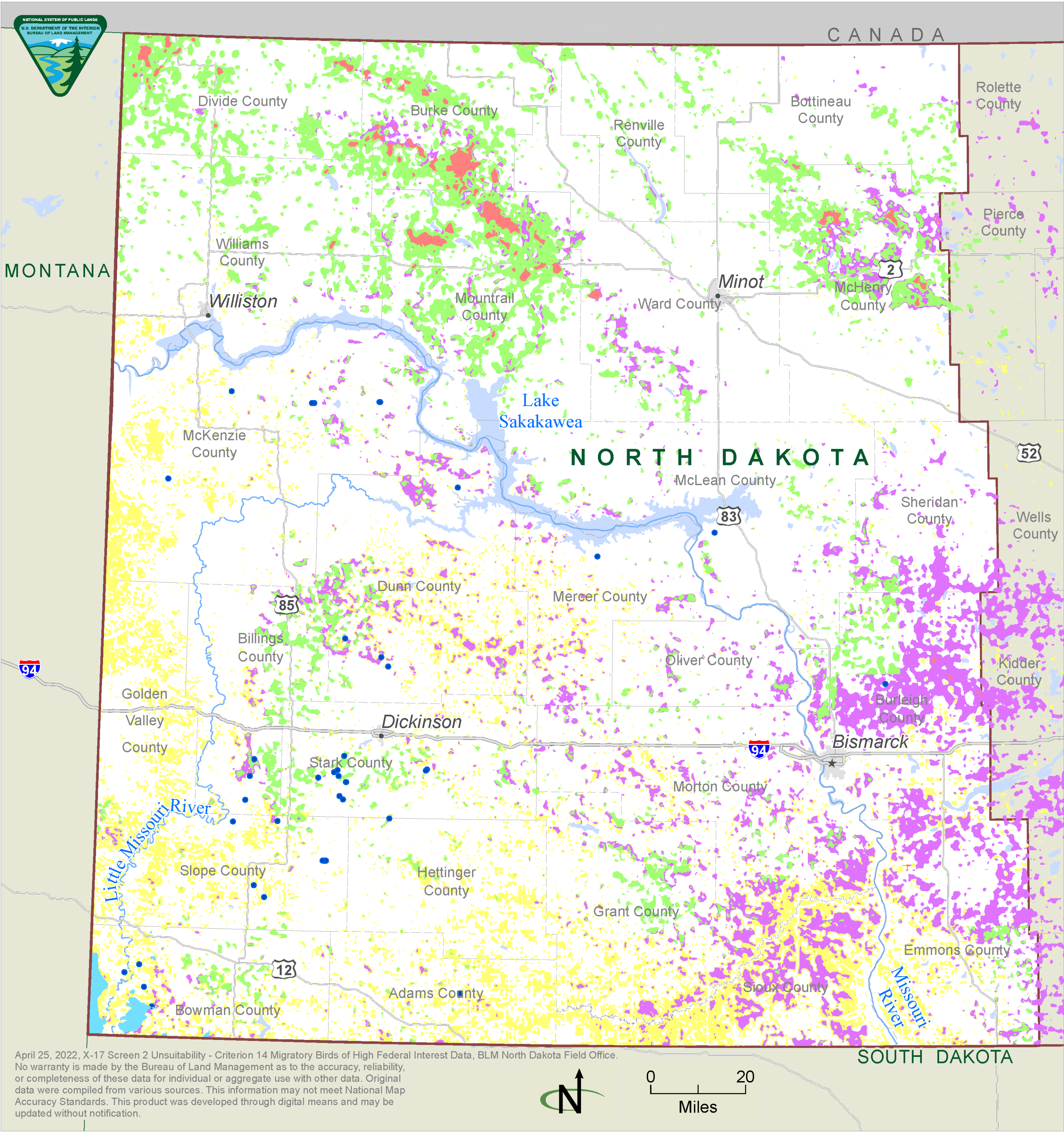
-  North Dakota RMP planning area, western half
-  Falcon Nests (Buffered)










**Map F-16**  
**Screen 2 Unsuitability - Criterion 13 Falcon Nesting Sites Results (With Exception)**

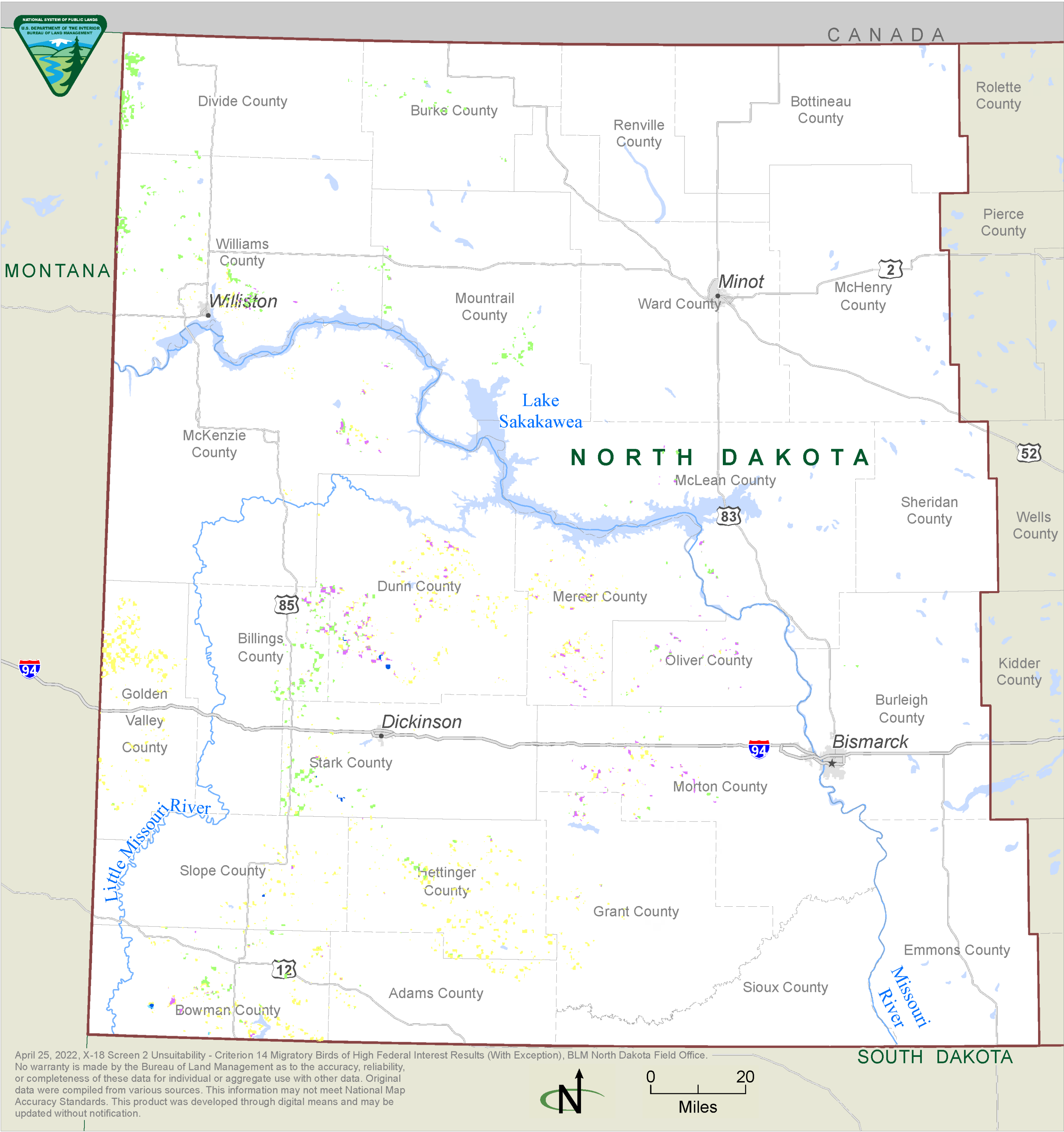
-  North Dakota RMP planning area, western half
-  Falcon Nests (Buffered)












**Map F-17**  
**Screen 2 Unsuitability - Criterion 14 Migratory Birds of High Federal Interest Data**

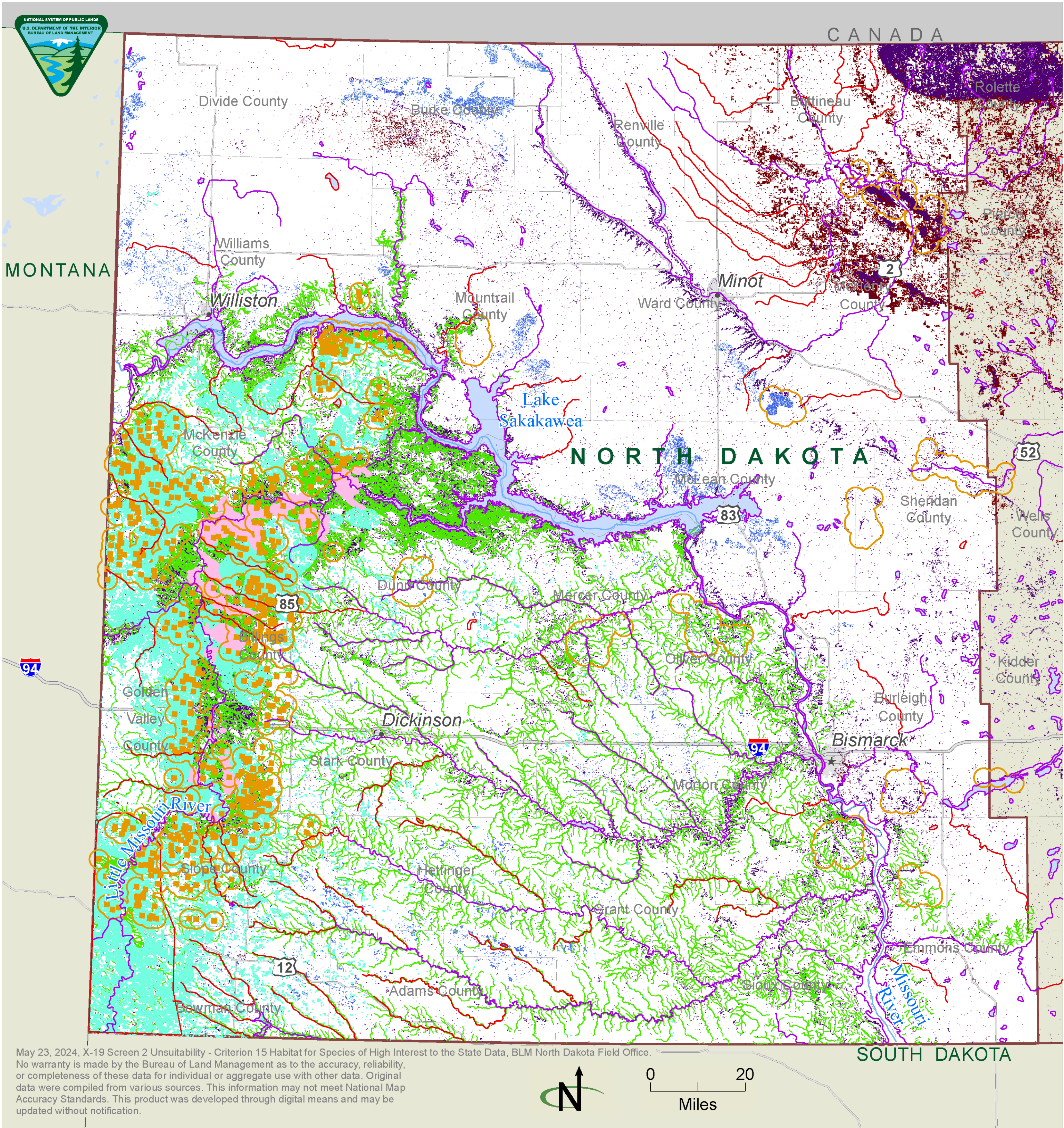
- |   |  |
|---|--|
|  North Dakota RMP planning area, western half |  Chestnut-collared Longspur Habitat |
|  Ferruginous Hawk Nests                       |  Sprague's Pipit Habitat            |
|  Lark Bunting Habitat                         |  Grasshopper Sparrow Habitat        |
|  Bairds Sparrow Habitat                       |  |



**Map F-18**  
**Screen 2 Unsuitability - Criterion 14 Migratory Birds of High Federal Interest Results (With Exception)**

- |   |  |
|---|--|
|  North Dakota RMP planning area, western half |  Chestnut-collared Longspur Habitat |
|  Ferruginous Hawk Nests                       |  Sprague's Pipit Habitat            |
|  Lark Bunting Habitat                         |  Grasshopper Sparrow Habitat        |
|  Bairds Sparrow Habitat                       |  |



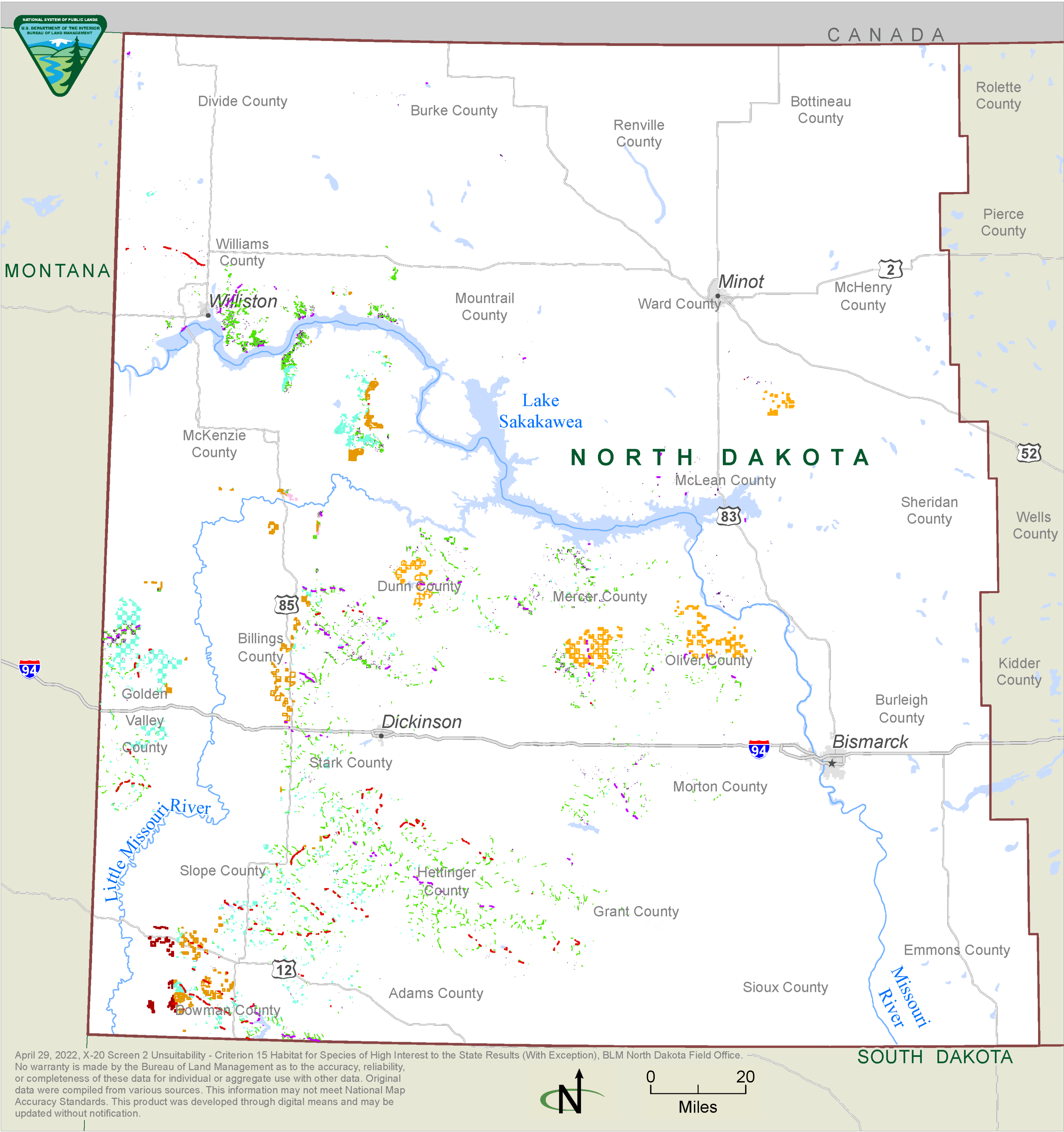


## Map F-19

### Screen 2 Unsuitability - Criterion 15 Habitat for Species of High Interest to the State Data

- |  |                                      |
|--|--------------------------------------|
| North Dakota RMP planning area, western half     | Big Horn Sheep Critical Habitat      |
| Intermittent Streams                             | Pronghorn Fawning and Foraging Range |
| Perennial Streams                                | Mule Deer Fawning and Foraging Range |
| Greater Sage-grouse Priority Habitat Mgmt. Areas | Woody Draws                          |
| Sharp-tailed Grouse Leks (Buffered)              | Tall Grass Prairie                   |
|  | Wetlands                             |





**Map F-20**  
**Screen 2 Unsuitability - Criterion 15 Habitat for Species of High Interest to the State Results (With Exception)**

- |  |                                      |
|--|--------------------------------------|
| North Dakota RMP planning area, western half     | Big Horn Sheep Critical Habitat      |
| Perennial Streams (Buffered)                     | Pronghorn Fawning and Foraging Range |
| Intermittent Streams (Buffered)                  | Mule Deer Fawning and Foraging Range |
| Greater Sage-grouse Priority Habitat Mgmt. Areas | Tallgrass Prairie                    |
| Sharp-tailed Grouse Leks                         | Woody Draws                          |
|  | Wetlands                             |

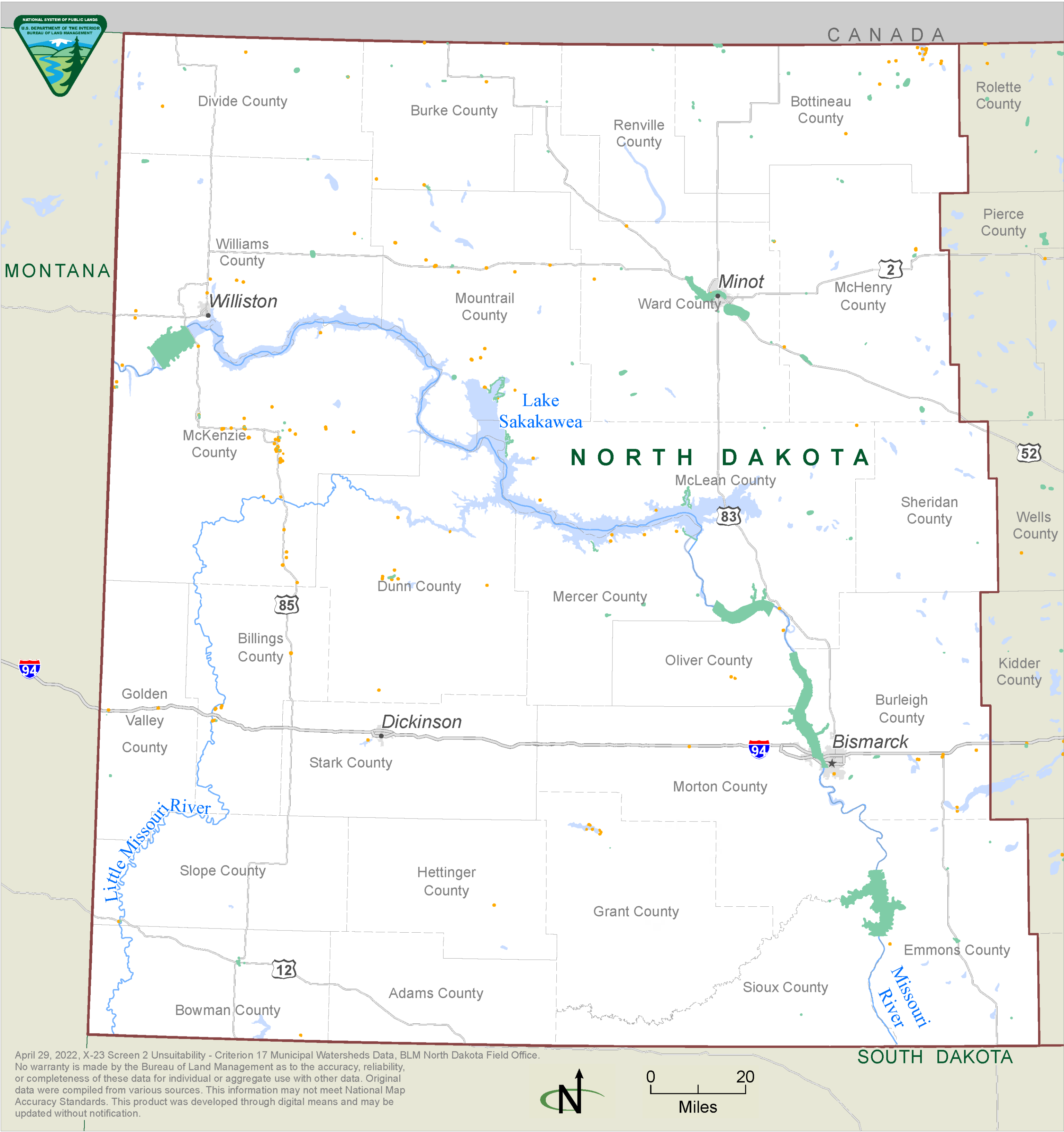


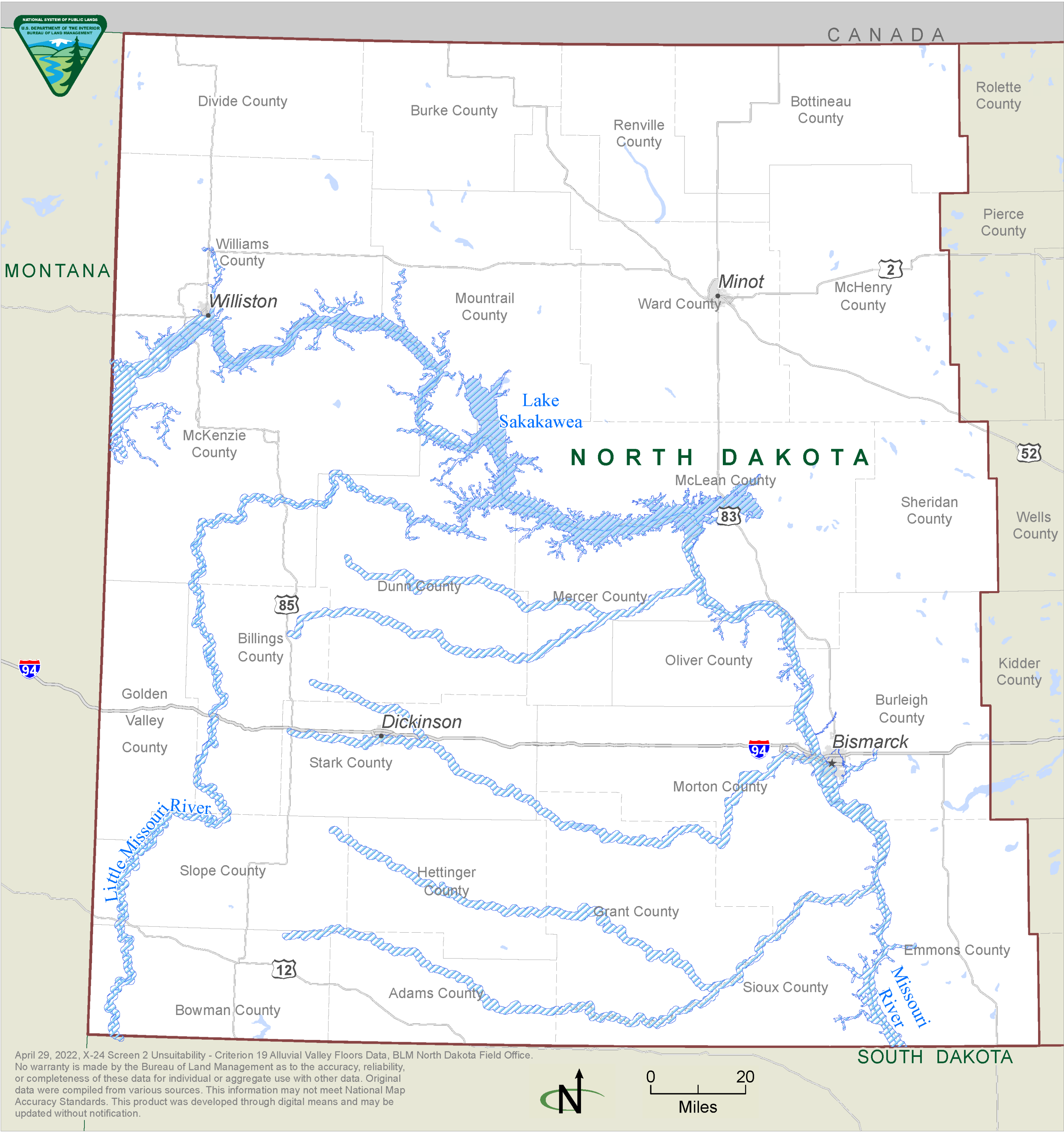


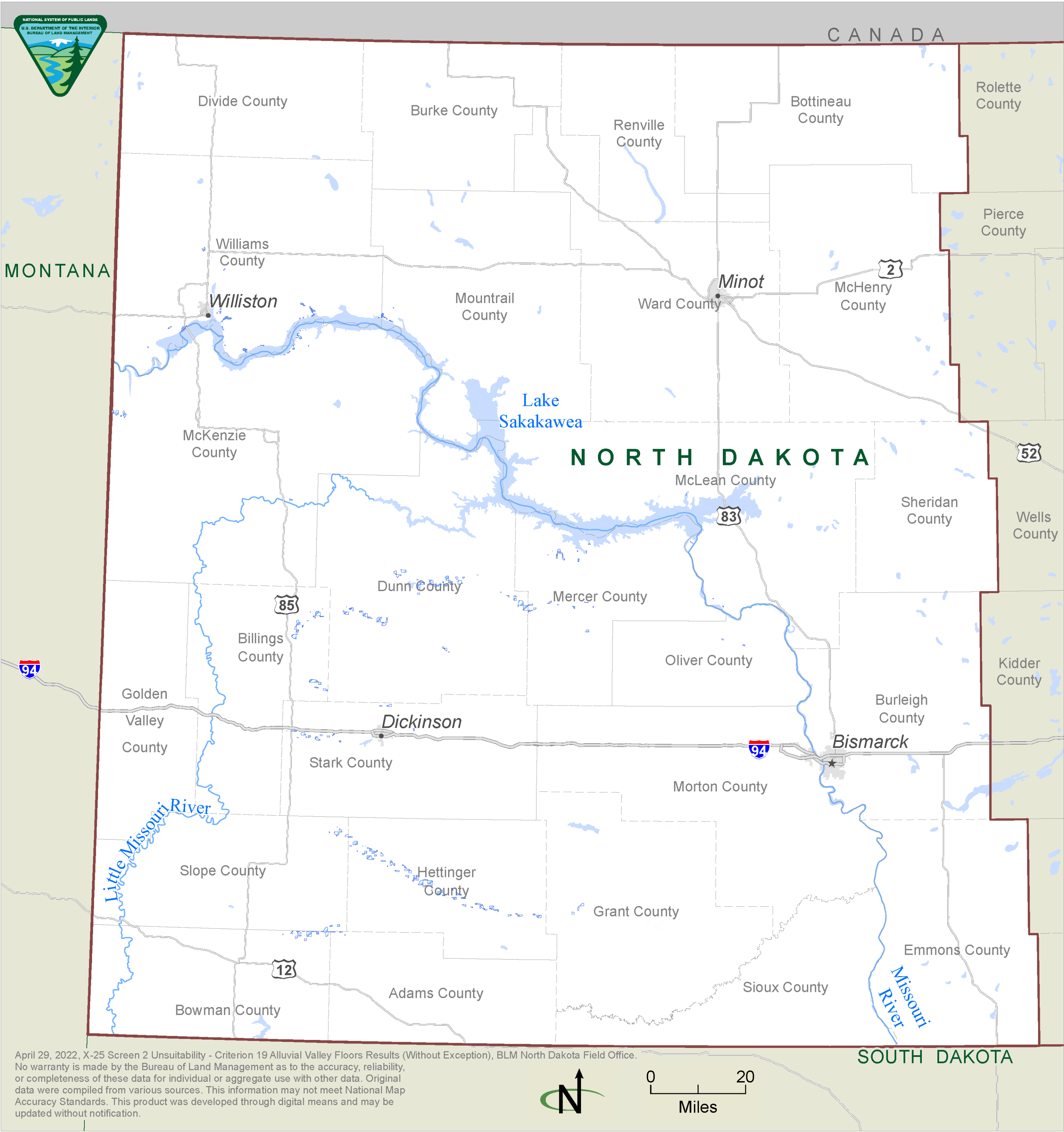
**Map F-22**  
**Screen 2 Unsuitability - Criterion 16 Floodplains Results (Without Exception)**

- North Dakota RMP planning area, western half
- Floodplains





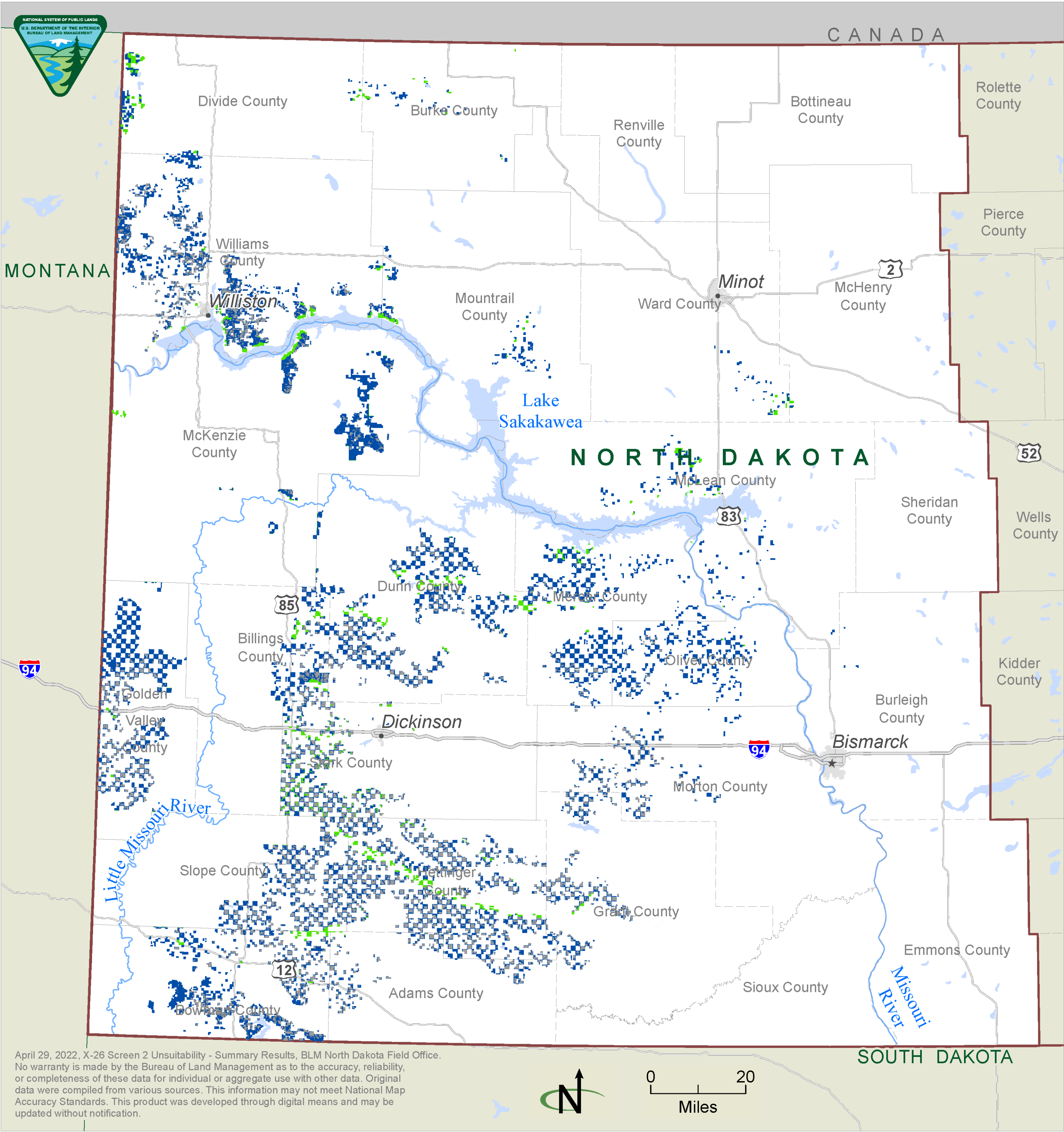








**Map F-25**  
**Screen 2 Unsuitability - Criterion 19 Alluvial Valley Floors Results (Without Exception)**

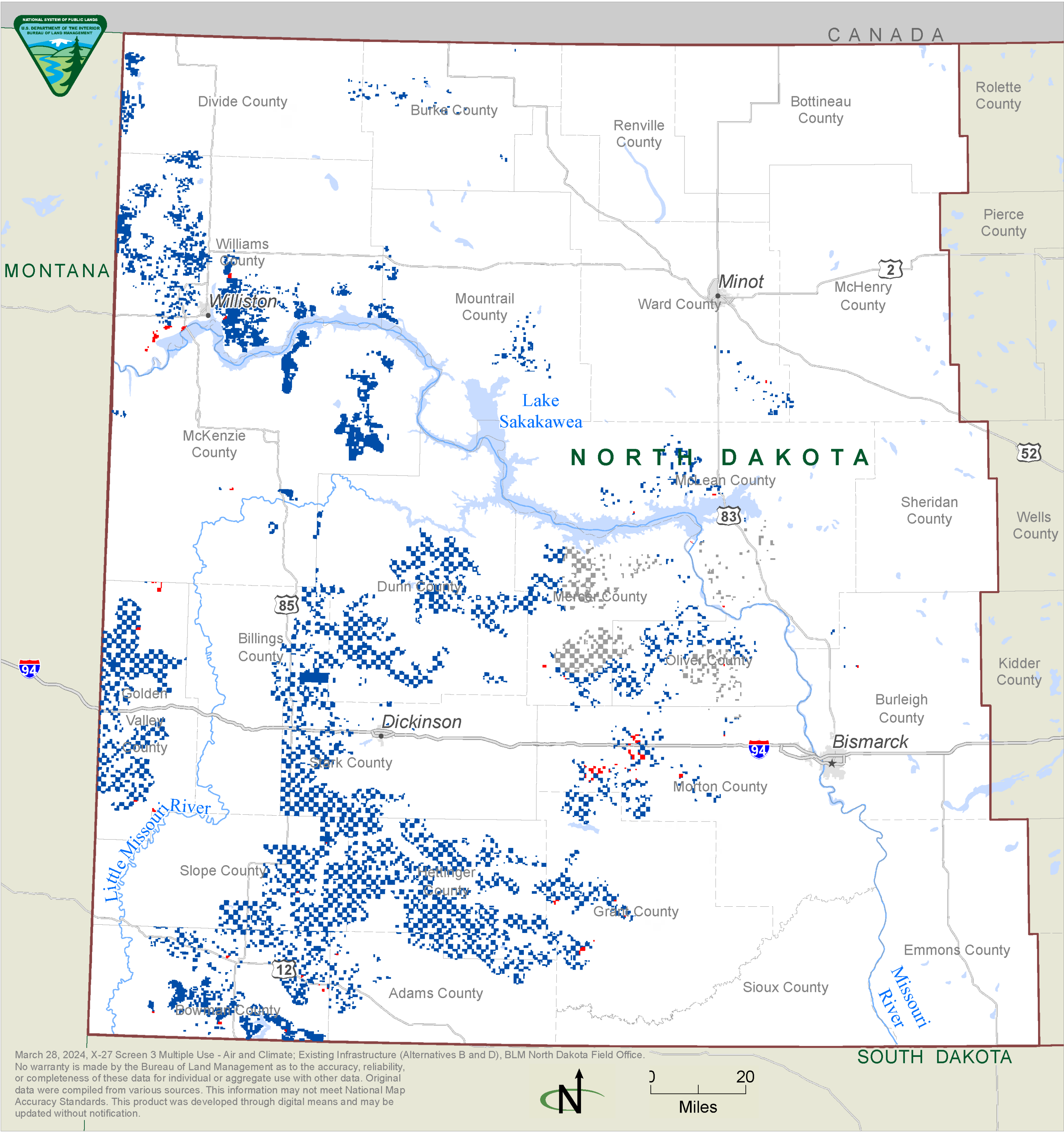
-  North Dakota RMP planning area, western half
-  Alluvial Valley Floors









**Map F-26**  
**Screen 2 Unsuitability - Summary Results**

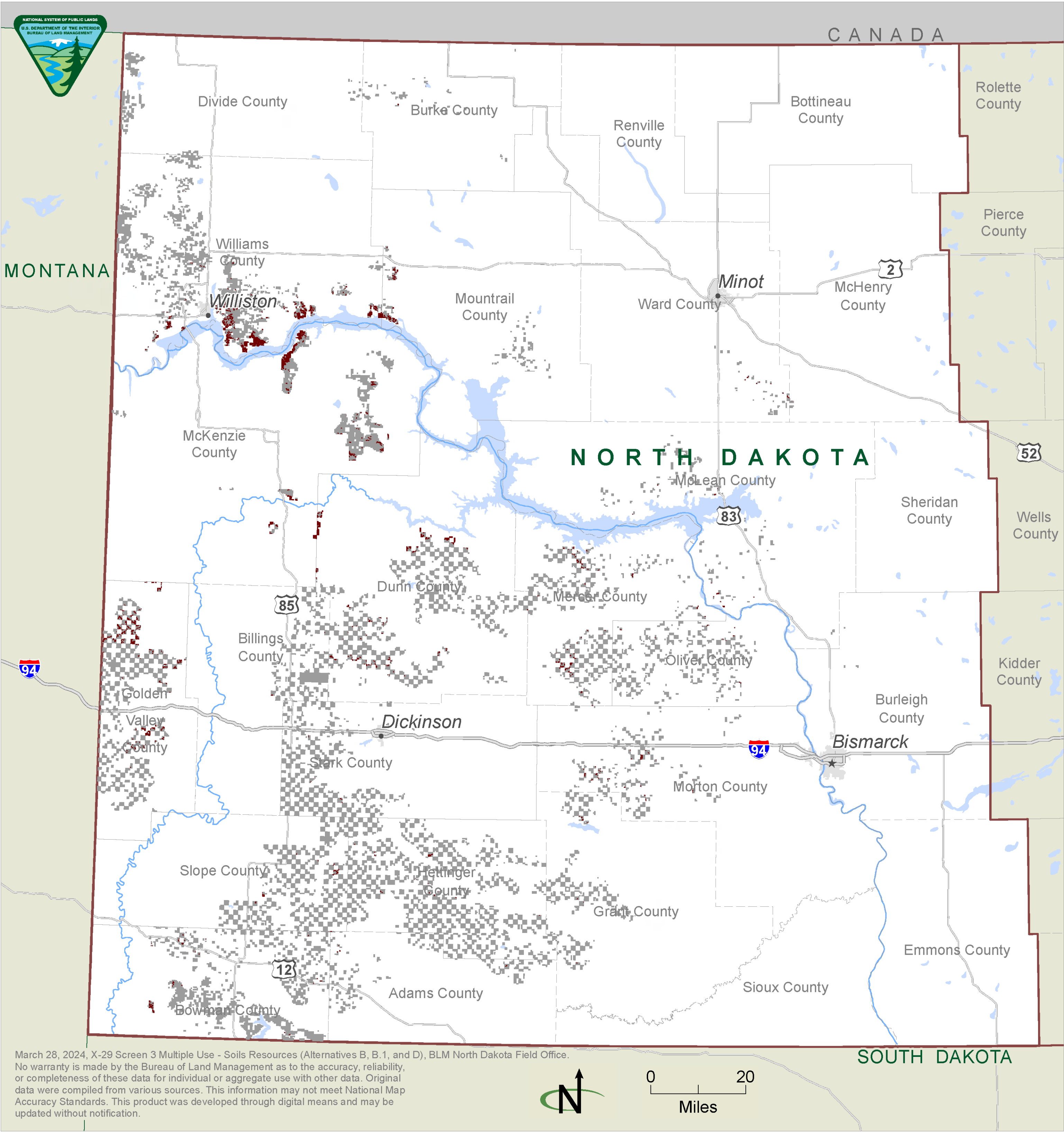
-  North Dakota RMP planning area, western half
-  Unsuitability without Exception
-  Unsuitability with Exception
-  Coal Decision Area within Coal Potential



**Map F-27**  
**Screen 3 Multiple Use - Air and Climate; Existing Infrastructure (Alternative D)**

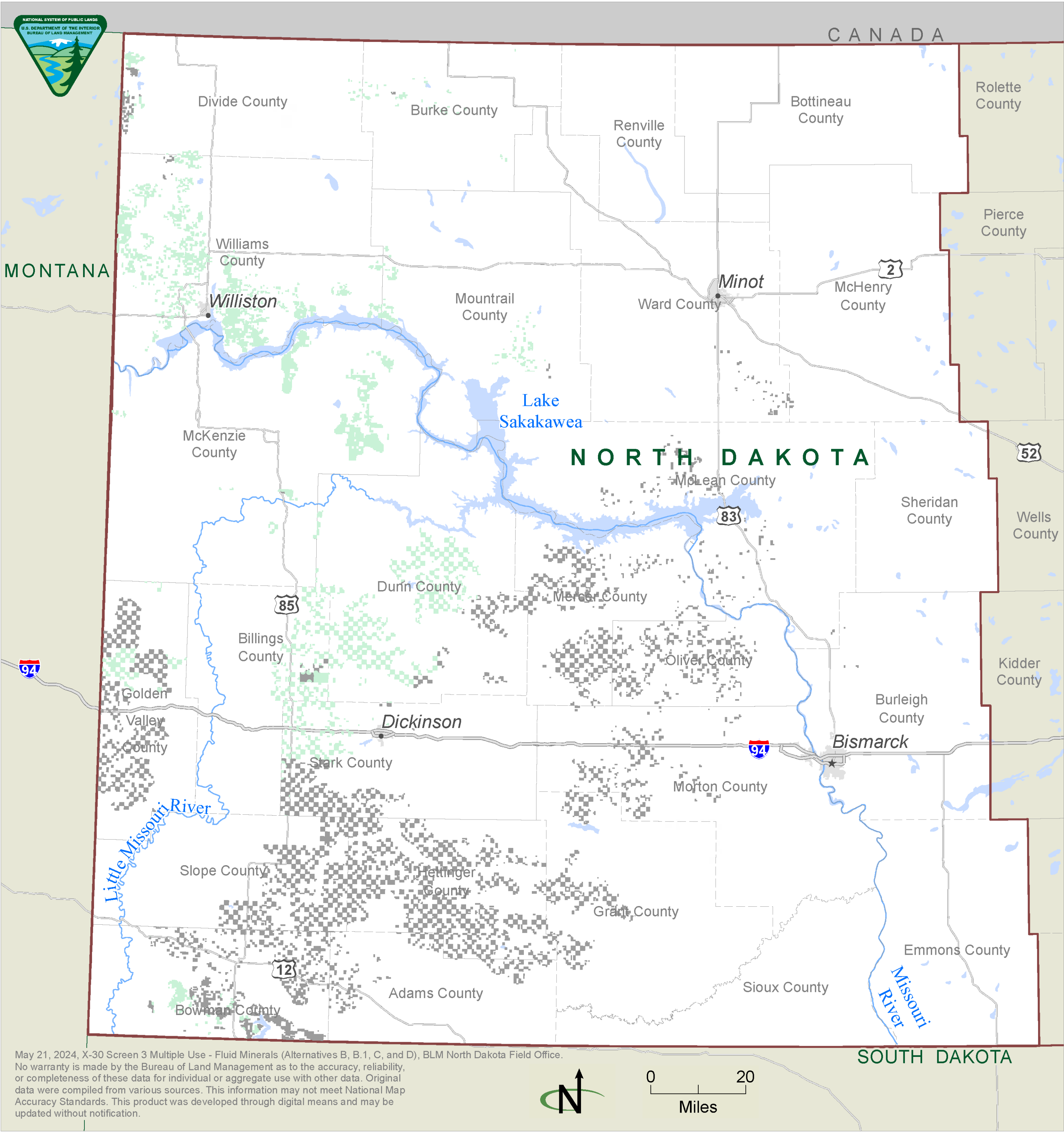
-  North Dakota RMP planning area, western half
-  Leonardite Potential
-  Outside Mine Permit Boundary 4-Mile Development Area
-  Coal Decision Area within Coal Potential





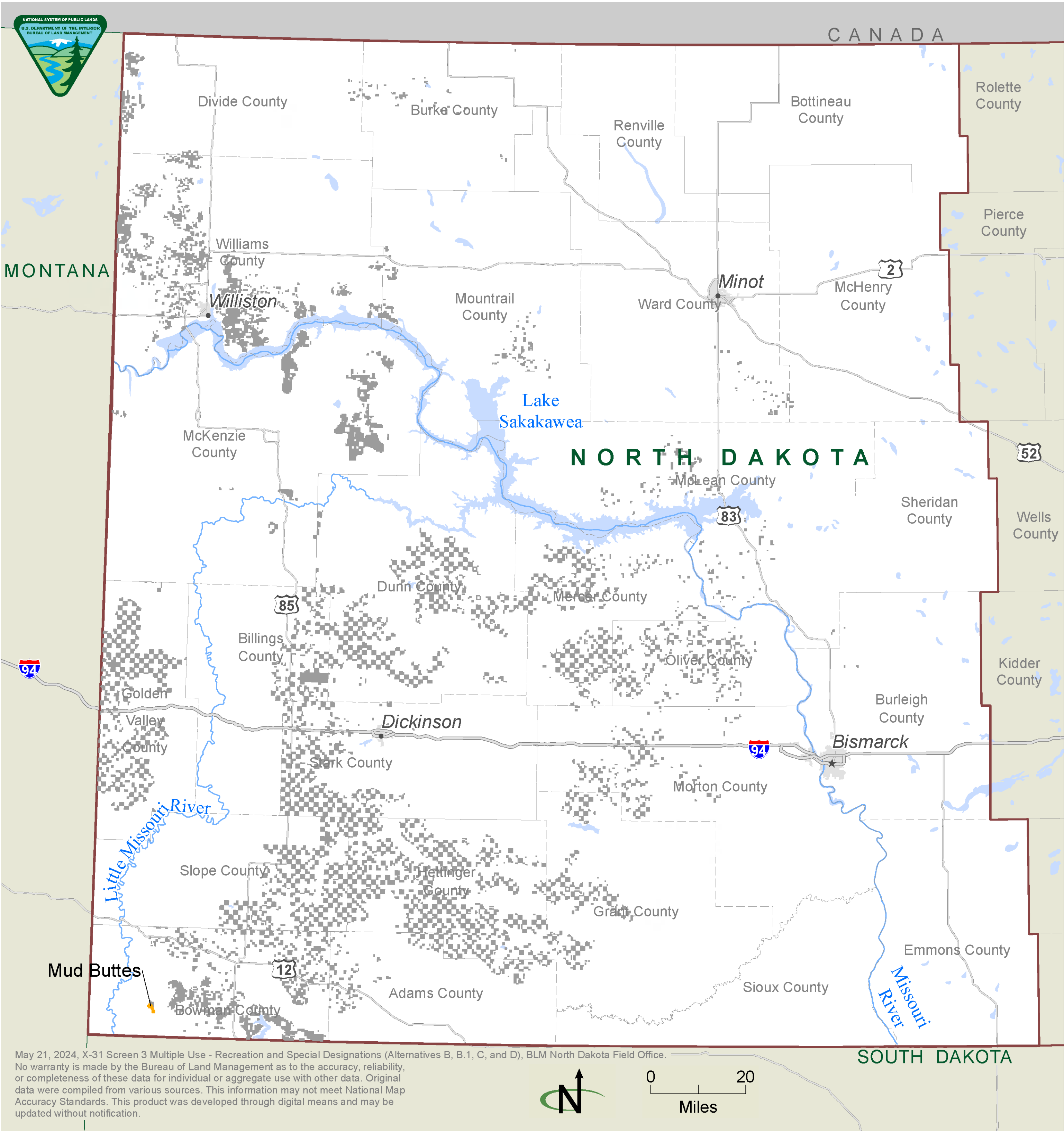
**Map F-28**  
**Screen 3 Multiple Use - Soils Resources (Alternative D)**

- North Dakota RMP planning area, western half
- Slopes Over 30% and Over 10 Acres
- Coal Decision Area within Coal Potential



Map F-29  
Screen 3 Multiple Use - Fluid Minerals (Alternatives D)

- North Dakota RMP planning area, western half
- Active Oil & Gas Fields and Wells
- Coal Decision Area within Coal Potential

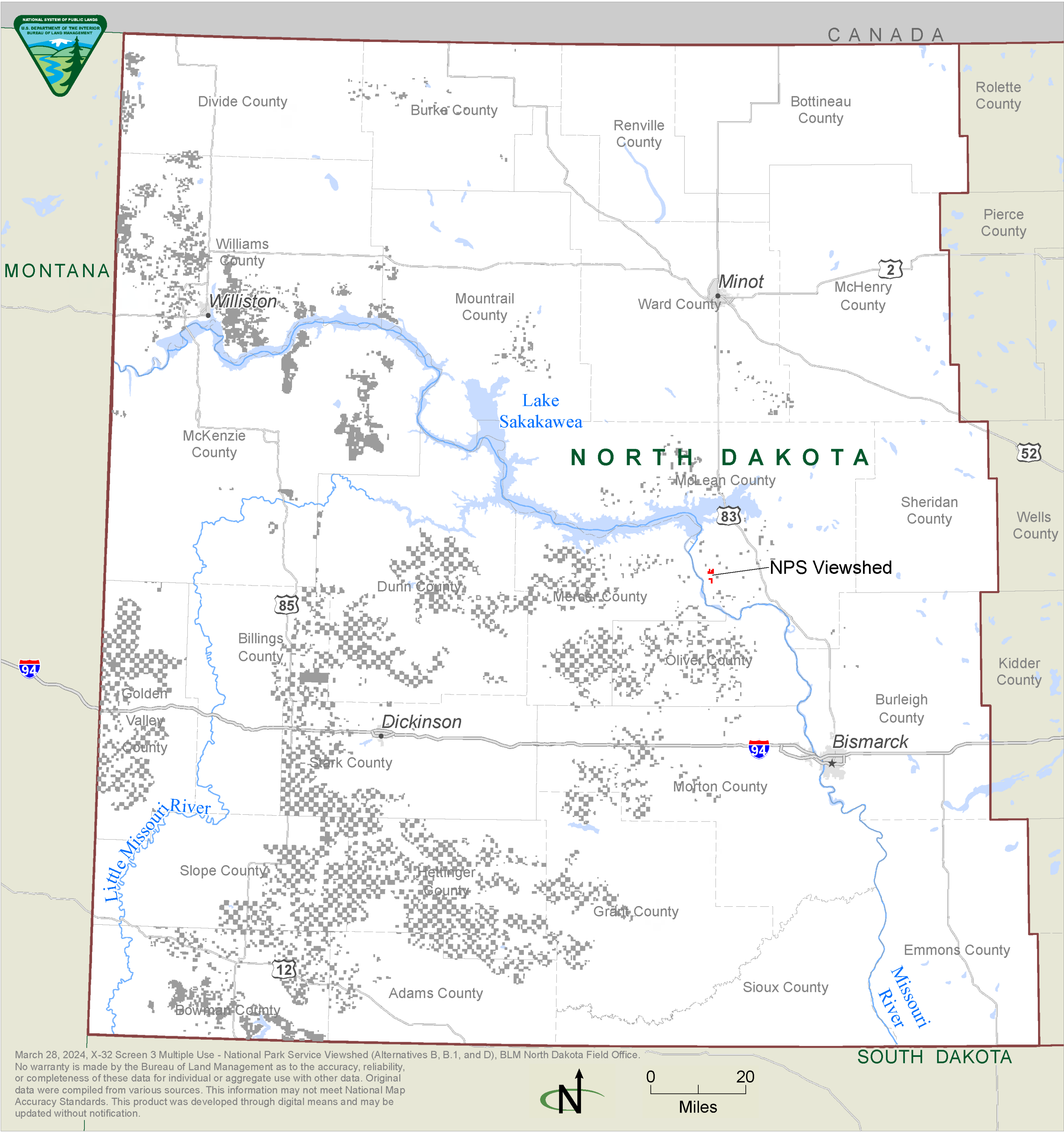


**Map F-30**

**Screen 3 Multiple Use - Recreation and Special Designations (Alternative D)**

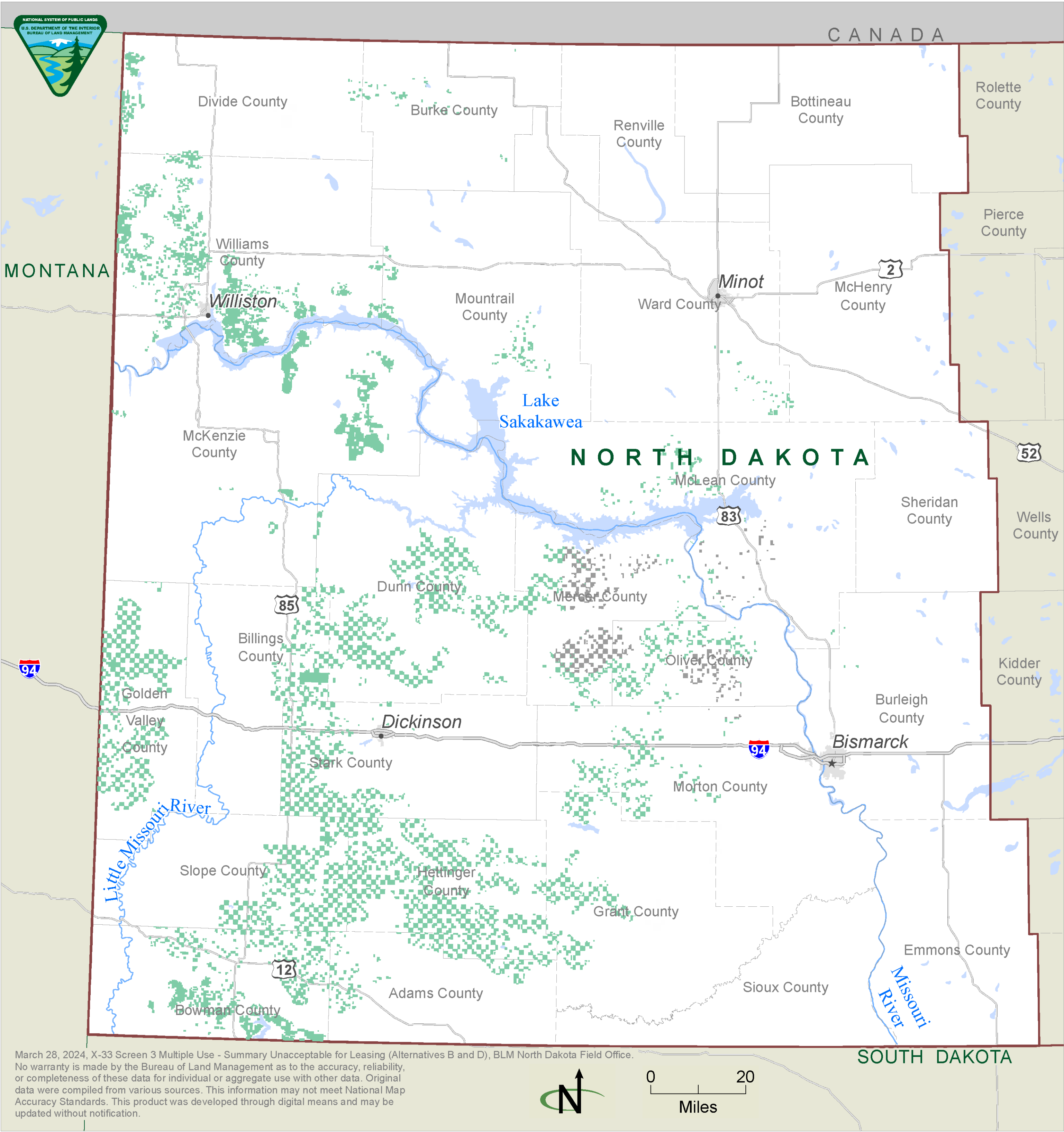
- North Dakota RMP planning area, western half
- Mud Buttes ACEC
- Coal Decision Area within Coal Potential








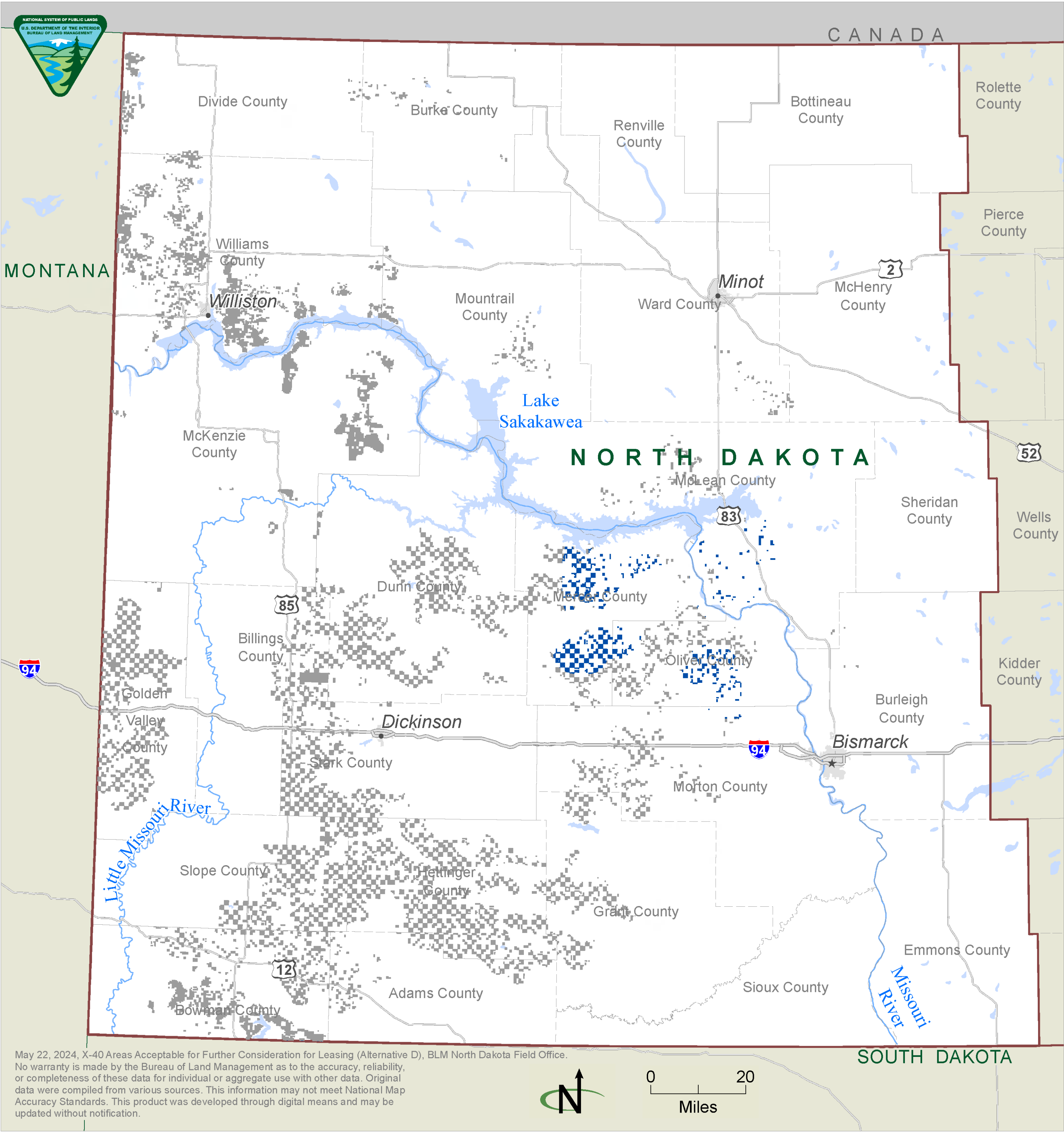
Map F-31

Screen 3 Multiple Use – National Park Service Viewshed (Alternative D)






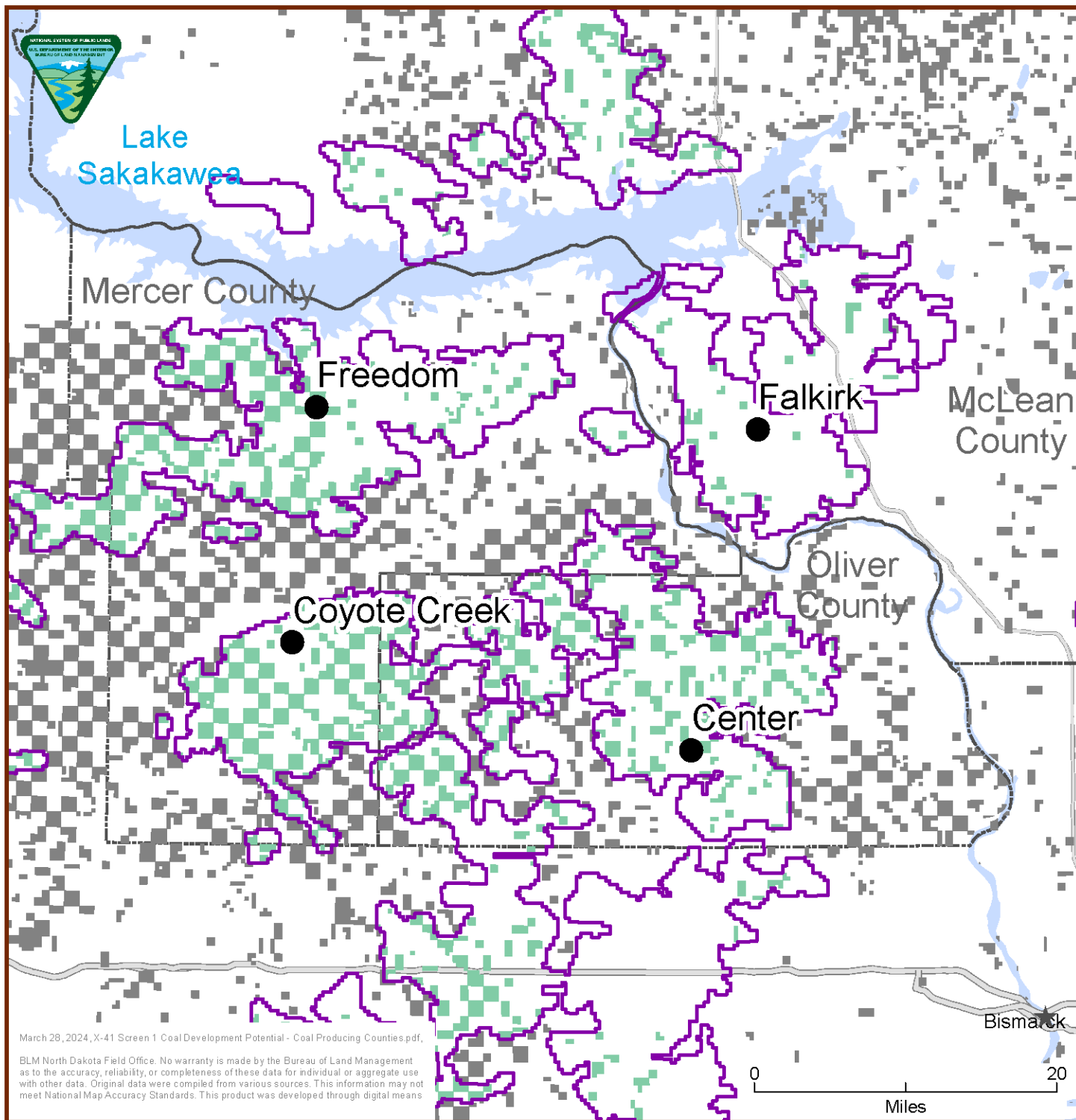
**Map F-32**  
**Screen 3 Multiple Use - Summary Unacceptable for Leasing (Alternative D)**

-  North Dakota RMP planning area, western half
-  Alternative D Screen 3 Unacceptable for Leasing
-  Coal Decision Area within Coal Potential



**Map F-33**  
**Areas Acceptable for Further Consideration for Leasing (Alternative D)**

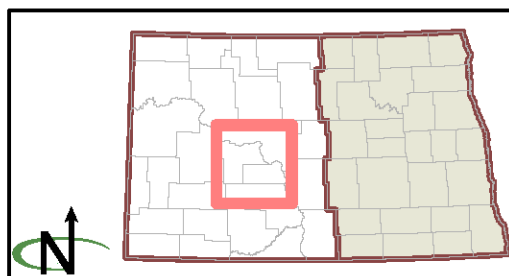
-  North Dakota RMP planning area, western half
-  Areas Acceptable for Further Consideration (Alternative D)
-  Coal Decision Area within Coal Potential



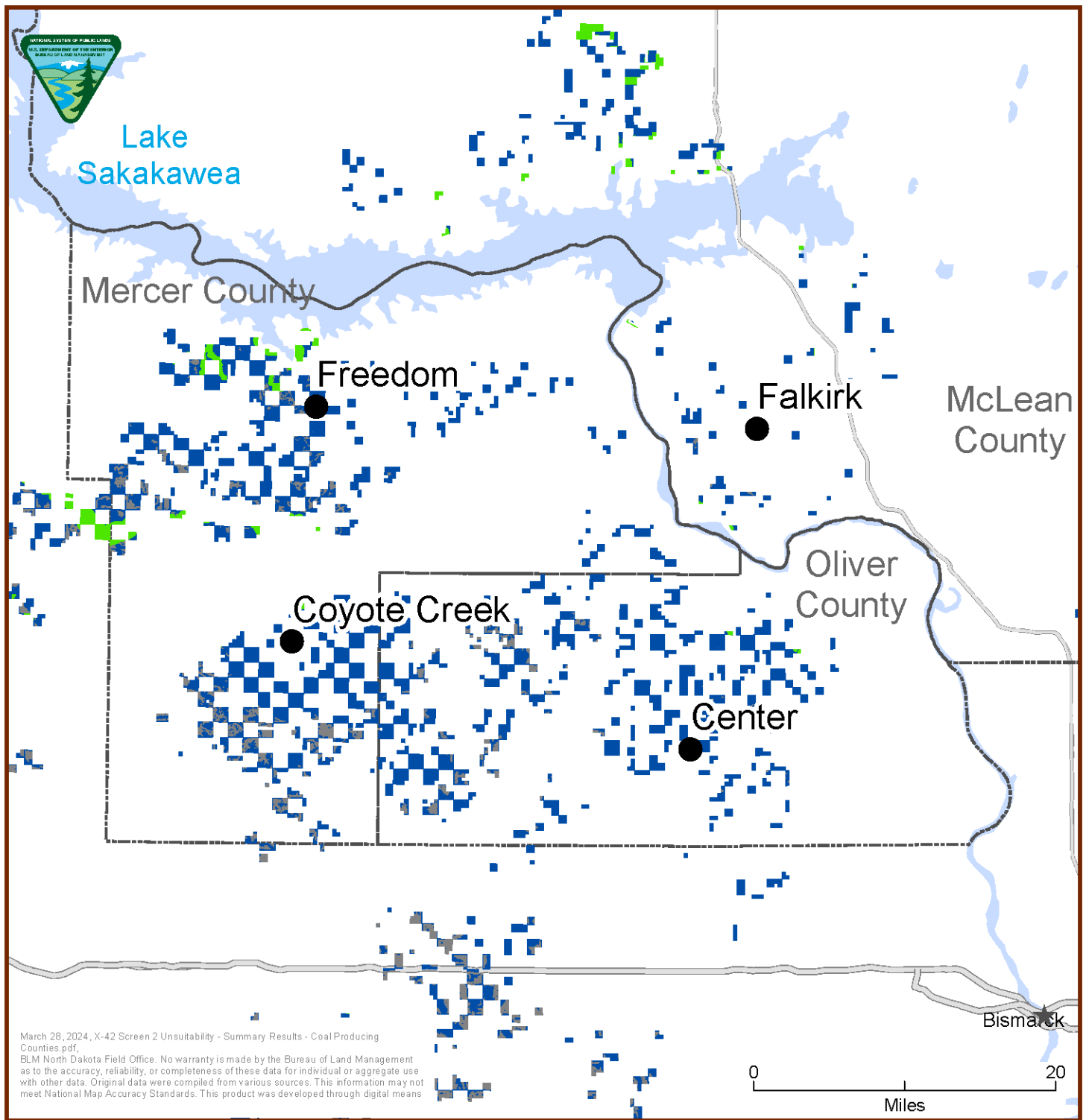
## Map F-34

### Screen 1 Coal Development Potential - Coal Producing Counties

- Coal Mine
- ▭ Coal Potential
- ▭ Coal Decision Area within Coal Potential
- ▭ Coal Decision Area



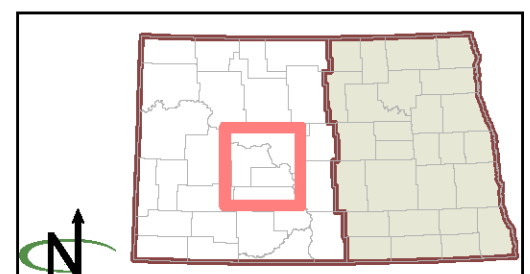


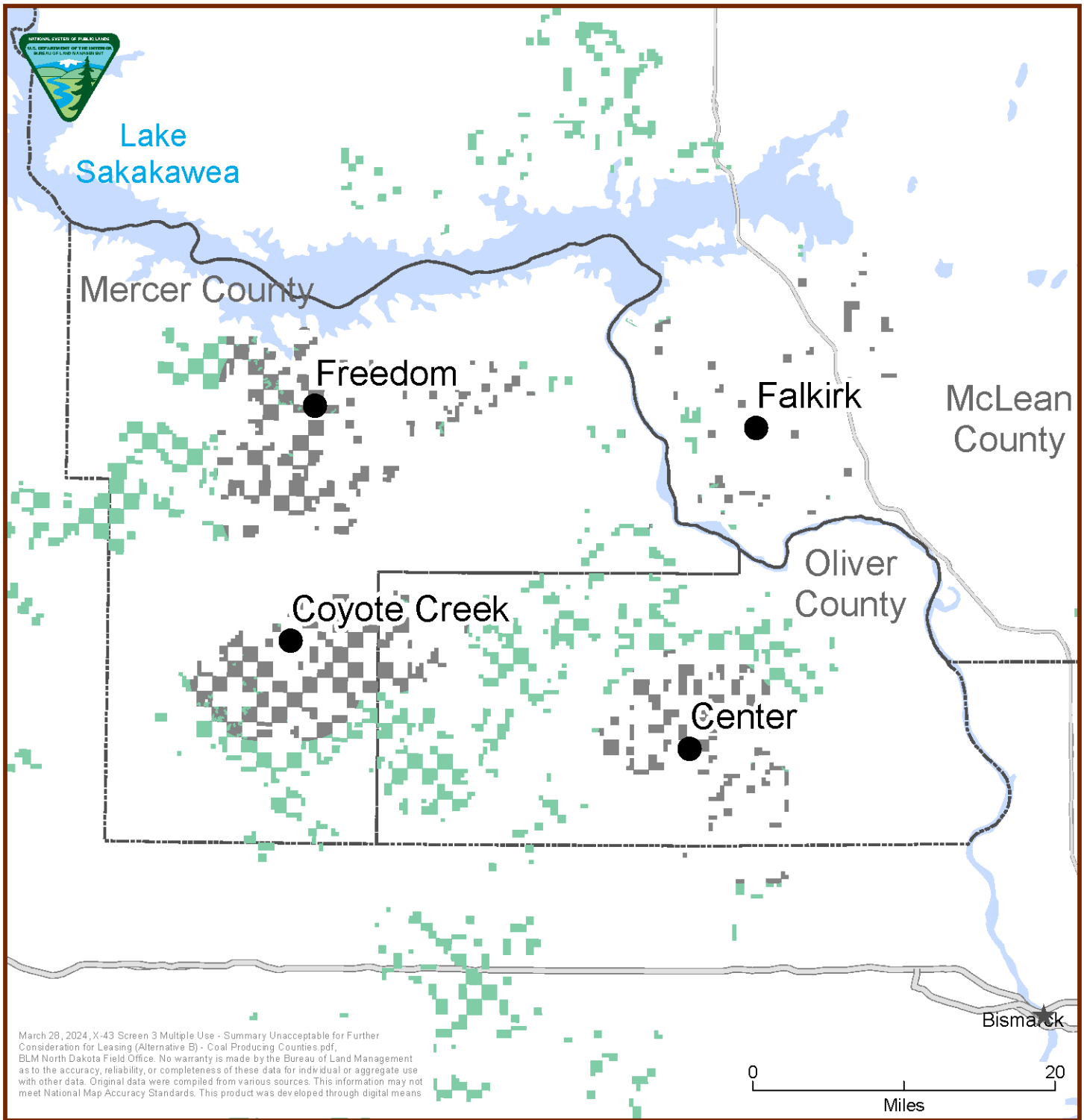


## Map F-35

### Screen 2 Unsuitability - Summary Results - Coal Producing Counties

- Coal Mine
- Unsuitability without Exception
- Unsuitability with Exception
- Coal Decision Area within Coal Potential

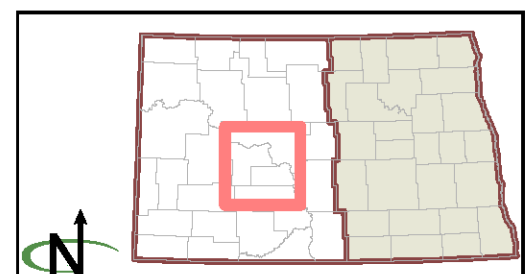


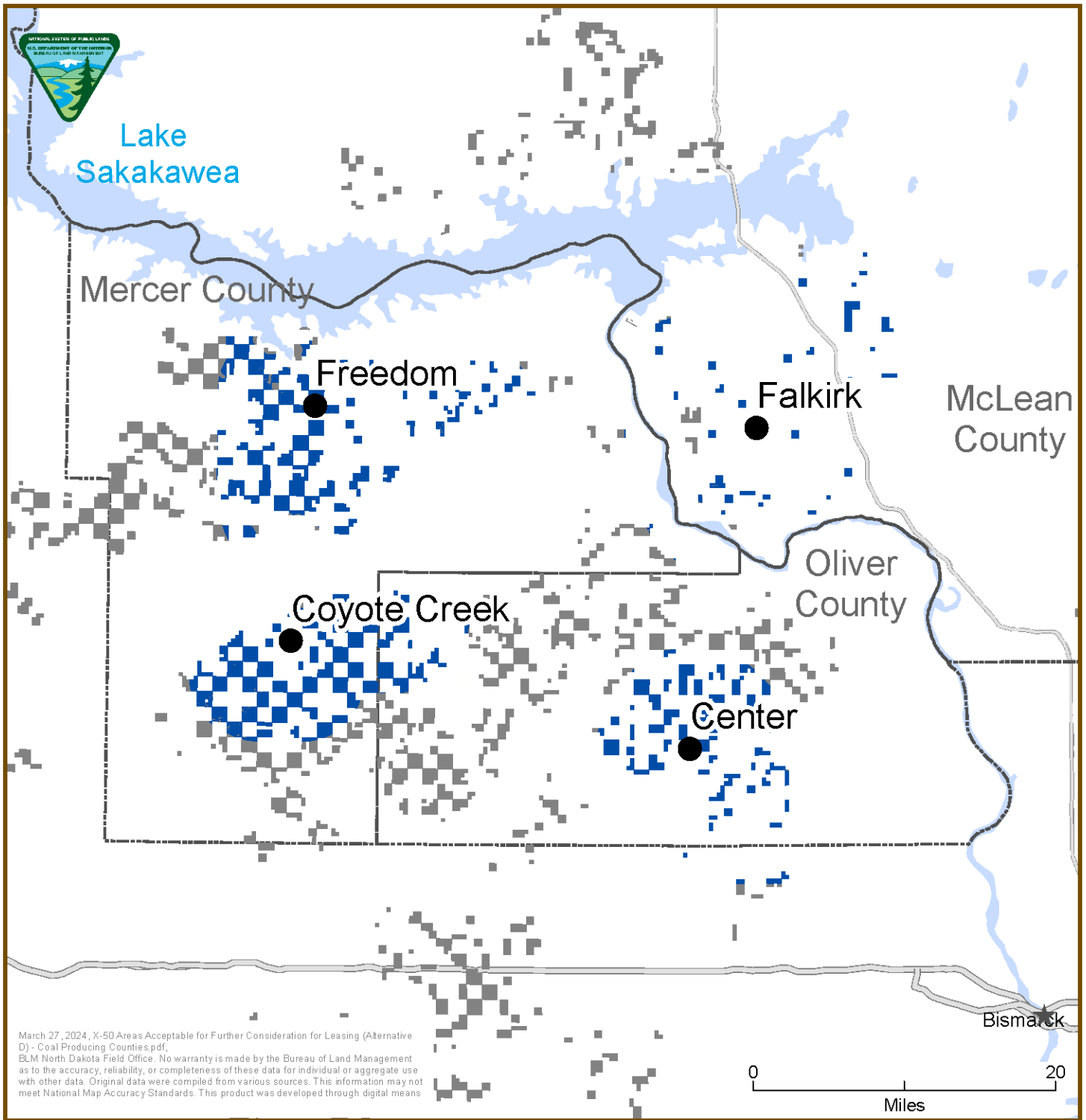


## Map F-36

### Screen 3 Multiple Use - Summary Unacceptable for Further Consideration for Leasing (Alternative D) - Coal Producing Counties

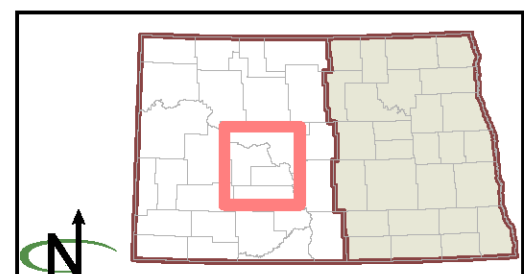
- Coal Mine
- Alternative D Screen 3 Unacceptable for Leasing
- Coal Decision Area within Coal Potential





**Map F-37**  
**Areas Acceptable for Further Consideration for Leasing**  
**(Alternative D) - Coal Producing Counties**

- Coal Mine
- Areas Acceptable for Further Consideration (Alternative D)
- Coal Decision Area within Coal Potential



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# Appendix G

## Land Tenure Adjustment Categories

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# Appendix G. Land Tenure Adjustment Categories

## G.1 ALTERNATIVE A

This section describes the general guidance for the land pattern adjustment program and specific criteria used to assess the manageability and resource values of individual tracts under current management (Alternative A). This is documented in Appendix D of the 1987 Proposed RMP/Final EIS for North Dakota.

### G.1.1 Retention Criteria

Manageable lands containing the following values would be retained:

- Wetlands and riparian areas determined to come under the definition of Executive Order 11990
- Areas of national economic significance, such as designated mineral resource areas, where the disposal of the surface would interfere with the logical development of the mineral estate
- Areas where management is cost effective or lands containing other important characteristics and public values that can best be managed in public ownership by the BLM, including but not limited to:
  - Strategic tracts along rivers, streams, lakes, ponds, springs, and trails
  - Important hunting or fishing areas
  - Recreation sites and areas
- Lands with a combination of broad multiple-use values
- Areas where future plans would lead to further consolidation and improvement of land patterns and reduce the costs of management
- Public lands withdrawn by the BLM for which the purpose of the withdrawal remains valid and the BLM can manage resource uses concurrently
- Public lands that provide public access and contain previously mentioned public values that, when considered together, warrant their retention

### G.1.2 Disposal Criteria

Disposal decisions would be made in the public interest based upon the following criteria:

- Lands specifically identified through land use plans for sale, exchange, transfer, or Recreation and Public Purposes Act applications
- Lands of limited public value
- Widely scattered parcels that are difficult for the BLM to manage with anything beyond minimal custodial administration
- Lands with high public values managed better by other federal agencies, or state or local government
- Lands that would service important public objectives (such as community expansion) if outside of BLM administration

- Lands where disposal would aid in aggregating or repositioning other public lands or public land resource values in retention areas to facilitate national, state, and local objectives
- Lands with long-term unauthorized use problems, and that are not required for specific public purposes
- Lands where disposal would increase the range of economic opportunities provided to the general public
- Lands in which the highest value or most appropriate long-term use is agriculture, or commercial or industrial development
- Lands involved in BLM/Forest Service jurisdictional transfer and ongoing exchanges

### **G.1.3 Selection Criteria**

All acquisition proposals would be evaluated to determine if the selected lands would:

- Facilitate access to areas retained for long-term public use
- Enhance congressionally designated areas, rivers, or trails
- Facilitate national, state, and local BLM priorities or mission statement needs
- Facilitate implementation and/or be consistent with BLM land use and activity plans
- Stabilize or enhance local economies or values
- Meet long-term public land management goals
- Be of sufficient size to improve use of adjoining public lands or, if isolated, large enough to allow the identified potential public land use
- Allow more diverse use, more intensive use, or a change in uses to better fulfill the BLM's mission
- Maintain or enhance important and recognized public land values; especially noteworthy are identified, designated, special, or high interest areas, or values identified in state comprehensive outdoor recreation plans.
- Enhance the opportunity for new or emerging public land uses or values
- Contribute to a wide spectrum of uses or a large number of public land users
- Facilitate management practices, uses, scale of operations, or degrees of management intensity that are viable under economic program efficiency standards
- Secure significant water-related land interests for the public. These interests include lakeshore, riverfront, stream, pond, or spring sites.

### **G.1.4 Site-Specific Evaluation Criteria**

All proposed disposal and acquisition actions would be subject to a detailed environmental analysis prior to a final decision. In addition to meeting the general objectives and criteria presented above, each disposal or acquisition would be measured against the site-specific criteria presented below. The criteria include both manageability and resource quality factors. The criteria are grouped according to the relative importance an individual criterion would have in the decision-making process.

#### ***High Relative Weight***

- Lands are in close proximity (i.e., within 150 miles) to the North Dakota Field Office.
- Lands are in close proximity (i.e., within 25 miles) to known retention lands.

- Parcels or contiguous parcels are large enough to manage effectively (320 acres or larger).
- The potential exists for intensive management through activity planning (e.g., allotment or habitat management plan and watershed management plan).
- There is a willing party for sale or exchange.
- There is the potential for unauthorized use to continue undetected given present funding and staffing (negative factor).
- There is a lack of management opportunities due to the movement of river channels and periodic flooding (negative factor).
- Lands contain high-quality riparian vegetation, which could be destroyed if transferred from public ownership.
- Lands are located along the Little Missouri River, the Missouri River, or a major tributary.
- Lands contain threatened or endangered wildlife species habitat.
- Rare plant and animal populations and exemplary natural communities of high interest to the state are present.
- Lands provide legal access to other public use areas.
- Lands contain noxious weeds (negative factor).

***Moderate Relative Weight***

- Lands are located in a 100-year floodplain.
- Lands contain wetlands that serve as groundwater recharge areas and have the potential to be drained, if disposed.
- Lands have a high potential for mineral materials development.
- Lands are located within a coal study area or coal lease.
- Lands contain high-quality woody vegetation, which could be lost if disposed.
- Lands contain high-quality native prairie, which could be lost if disposed.
- Lands serve as high-value wildlife habitat because of surrounding agriculturally disturbed lands.
- Lands possess value for the reduction of sediment or other pollutants, which could be lost if disposed.
- Lands contain cultural resources eligible or potentially eligible for the NRHP.
- Lands contain vertebrate fossils of significant scientific interest.
- Lands are located less than 50 miles from a city with a population greater than 500 people.
- Lands have legal access.
- Lands have legal and physical access.

***Low Relative Weight***

- Lands are presently leased or there is an opportunity to issue a grazing lease.
- There is an opportunity to eliminate all public lands in the county (negative factor).
- Lands contain authorized range improvements.
- Lands are inundated by water (negative factor).

## **G.2 APPROVED RMP**

This section describes the general guidance for the land pattern adjustment program and specific criteria used to assess the manageability and resource values of individual tracts under The Approved RMP.

### **G.2.1 Category 1 (Retention)**

- Lands with high resource values
- Areas such as ACECs, lands acquired with funding from the Land and Water Conservation Fund, and other congressionally designated areas
- Acquisition of lands or interest in lands would receive priority if located within and/or adjacent to BLM managed lands in Category 1 provided lands meet one or more of the criteria in Land Ownership Adjustment Criteria. (See below for criteria)
- Lands within Category 1 would not be transferred from BLM management by any method for the life of the plan; however, with the exception of lands acquired with funds from the Land and Water Conservation Fund, transfers to other public agencies would be considered where improved management efficiency would result.

### **G.2.2 Category 2 (Retention-Limited Disposal)**

- Lands are generally for retention in public ownership.
- Lands would not be available for sale under FLPMA.
- Lands could be exchanged for lands or interest in lands when in the public interest and when resulting in a net resource value gain.
- Parcels may be identified for transfer under the Recreation and Public Purposes Act. Such recreation or public purpose use could be considered on a case-by-case basis. Examples include parcels for schools or other public administration, parks or recreation areas, or historic preservation.
- Lands could be considered for an airport purpose under the Airport and Airway Improvement Act, or for public agency jurisdictional transfer.
- Lands may contain significant resource values protected by law or policy, and any disposal action is contingent upon prior review and approval. If action cannot be taken to adequately mitigate impacts from disposal of those lands, the parcels would be retained. Exchanges and other conveyances of land containing special status species plants or wildlife habitat would be permitted only when would result in a net conservation gain.
- Acquisition of lands or interest in lands located within or adjacent to BLM-administered lands in Category 2 would be considered in accordance with the landownership adjustment criteria (see below for criteria).
- Where improved management efficiency would result, transfers to other public agencies would be considered.

### **G.2.3 Category 3 (Disposal)**

- Lands are identified for disposal through any method, including sale.
- These lands are generally surrounded by private land with no legal access, or the BLM has selected them for disposal due to management issues.
- Disposal of lands by exchange would have priority over disposal by sale.

- In addition, parcels may be identified for transfer under the Recreation and Public Purposes Act. Such recreation or public purpose use could be considered on a case-by-case basis. Examples include parcels for schools or other public administration, parks or recreation areas, or historic preservation.
- Lands could be considered for an airport purpose under the Airport and Airway Improvement Act, or for public agency jurisdictional transfer on a case- by case basis.
- Where improved management efficiencies would result, transfers to other public agencies would be considered.

#### **G.2.4 Criteria for Landownership Adjustments**

##### ***Areas of National Significance***

- Areas that have national environmental significance, including wilderness, wilderness study areas, and former wilderness studied for protective management
- ACECs
- Areas that have national cultural and recreational significance, including lands nominated or eligible for the National Register of Historic Places or designated as National Scenic and Historic Trails
- Areas that have important wildlife features, such as greater sage-grouse priority habitat management areas and general habitat management areas, threatened and endangered species habitat, prime fisheries habitat, big game seasonal habitat, waterfowl and upland game bird habitat, and habitat for sensitive species, including raptors and other nongame species
- Areas that have important watershed features, such as strategic tracts along rivers, streams, lakes, ponds, and springs

##### ***Areas Important to BLM Programs***

- Areas that have important recreational and cultural features, such as hunting and fishing sites, and areas that contribute significantly to the interpretive potential of cultural resources already in public ownership
- Tracts of public land that are consolidated enough to make management of their resources cost effective, and that have physical and legal access
- Areas that provide access to other public lands with high resource values (including, but not limited to, recreation such as hunting, biking, and fishing)
- Access generally should allow for public use but, at the least, should allow administrative access to manage the resources.
- Areas usually contain a combination of multiple use values and have characteristics that facilitate BLM priorities on the national, state, and local level.
- Areas may have improvements that represent public investments; be encumbered by Recreation and Public Purposes Act leases, withdrawals, etc.; or be managed by cooperative agreements with other agencies.

##### ***Areas Important to the Economy***

These areas include tracts having mineral potential, forestlands, rangelands and others that contribute to the stability of the local economy by virtue of federal ownership and the preservation of working lands.

**Other Criteria**

Federal minerals underlying nonfederal surface land would generally be retained in federal ownership. However, an exchange of this type of mineral estate may be considered on a case-by-case basis if found to be in the public interest. The sale of this type of mineral interest under Section 209(b) of FLPMA could be considered only if the requirements of this same section were met. Conversely, the acquisition of patented mining claims would also be addressed on a case-by-case basis.

**G.2.5 Further Guidance for Lands Available for Disposal**

The BLM develops most RMPs to guide management of land over 20 or more years. The Secretary of the Interior's policy is, generally, not to dispose of public lands. However, for long-term planning purposes, the situation may arise, especially in areas where public land tracts are isolated and difficult to manage, where it is useful for the BLM to identify these areas as suitable for leaving public ownership. Any decision regarding whether to dispose of a particular parcel under any particular authority, for instance by sale under Section 203 of FLPMA; exchange under Section 206 of FLPMA; or patent under the Recreation and Public Purposes Act of 1926, as amended, would require site-specific consideration and analysis. This would include, but not be limited to, considerations of access, popular recreational uses, the existence of cultural resources or habitat for species, and whether such a parcel, isolated from the rest of the public lands, might be better suited for nonfederal ownership.

Section 203 of the FLPMA specifies that the BLM may only sell a tract of public land under Section 203 if the tract is identified as a result of land use planning, pursuant to Section 202 of the FLPMA, as meeting one or more of the disposal criteria listed in Section 203. The RMP determination that a particular tract meets one or more of the criteria for disposal through sale does not necessarily mean the BLM would sell or dispose of the land by another means. Rather, the process for disposing of public lands under FLPMA Section 203 (Sales) or Section 206 (Exchanges), or any other authority, is a lengthy multi-decisional process requiring a comprehensive site-specific analysis, and cadastral, cultural, and other resource surveys, when necessary, prior to the sale or disposition of a tract of public land.

The BLM bases the determination whether a tract meets one or more of the Section 203 disposal criteria on its ongoing inventory of all public lands and their resources conducted pursuant to Section 201 of the FLPMA. The requirement under Section 203 that this determination be made through land use planning is consistent with the Section 202 requirement to manage public lands under land use plans, which represent a broader scope, longer-term approach to management of public lands in an entire planning area. They take into account a wide variety of possible uses of the public lands.

The management of lands and minerals returned to BLM administration through withdrawal revocation or title reversions (for example R&PP or Cemetery Act) will be managed in the same manner as comparable surrounding public lands. Disposal of lands returned to BLM administration through withdrawal revocation or expiration and title reversion will be addressed on a case-by-case basis.



In preparation for this land use planning initiative, the BLM conducted an inventory of the public land in the planning area to determine whether there are any tracts that meet one or more of the FLPMA Section 203 criteria for disposal out of federal ownership:

1. Such tract, because of its location or other characteristics, is difficult and uneconomic to manage as part of the public lands, and is not suitable for management by another federal department or agency; or
2. Such tract was acquired for a specific purpose and the tract is no longer required for that or any other federal purpose; or
3. Disposal of such tract would serve important public objectives, including but not limited to, expansion of communities and economic development, which cannot be achieved prudently or feasibly on land other than public land and which outweigh other public objectives and values, including, but not limited to, recreation and scenic values, which would be served by maintaining such tract in federal ownership.

### **G.2.6 Legal Descriptions of Lands Available for Disposal**

The lands identified below meet Criteria 1 of Section 203 of FLPMA, described above, for disposal through sale. Additional environmental review may be needed to confirm the absence of sensitive resources that may warrant the parcel being retained in federal ownership.

T. 153 N., R. 75 W.,  
sec. 25, NE1/4SW1/4.  
T. 155 N., R. 76 W.,  
sec. 10, NE1/4SW1/4.  
T. 155 N., R. 77 W.,  
sec. 9, NW1/4SE1/4.  
T. 152 N., R. 77 W.,  
sec. 23, SW1/4NE1/4  
T. 148 N., R. 78 W.,  
sec. 23, SW1/4NE1/4.  
T. 150 N., R. 79 W.,  
sec. 26, SE1/4NW1/4.  
T. 151 N., R. 84 W.,  
sec. 29, NE1/4SW1/4.  
T. 159 N., R. 87 W.,  
sec. 32, NE1/4SW1/4.  
T. 156 N., R. 88 W.,  
sec. 17, SW1/4NE1/4.  
T. 156 N., R. 89 W.,  
sec. 3, SE1/4NW1/4.  
T. 142 N., R. 90 W.,  
sec. 4, NE1/4SW1/4.  
T. 154 N., R. 91 W.,  
sec. 4, SW1/4NE1/4.  
T. 155 N., R. 91 W.,  
sec. 7, NW1/4SE1/4.

- T. 154 N., R. 94 W.,  
sec. 10, NE1/4SW1/4.
- T. 155 N., R. 94 W.,  
sec. 15, SW1/4NE1/4.
- T. 154 N., R. 97 W.,  
sec. 17, SW1/4NE1/4.
- T. 156 N., R. 102 W.,  
sec. 14, NE1/4SW1/4 and NW1/4SE1/4.
- T. 153 N., R. 103 W.,  
sec. 27, NE1/4SW1/4.
- T. 142 N., R. 103 W.,  
sec. 32, SE1/4NW1/4.

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# Appendix H

## Recreation Management Areas

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# Appendix H. Recreation Management Areas

**Objective:** Manage the Schnell Ranch SRMA for a variety of both developed and dispersed non-motorized recreation opportunities.

**Map H-1,** Alternative D, Recreation Management Areas, Schnell Ranch Special Recreation Management Area

**Table H-1**  
**Schnell Ranch Special Recreation Management Area**  
**(Alternative D/Approved RMP, West Zone RMZ)**

Approved RMP <i>Designate SRMA with RMZs, West Zone</i>		
<i>Targeted Activities</i>		Camping, hiking, bicycling, horseback riding, hunting, fishing, and wildlife viewing.
<i>Targeted Experiences</i>		<ul style="list-style-type: none"> <li>• Low density, day use, non-motorized, community backyard recreation</li> <li>• Enjoying access to close-to-home outdoor amenities.</li> <li>• Enjoying social interactions and family togetherness.</li> <li>• Enjoying participation in outdoor activities.</li> <li>• Getting physical exercise.</li> </ul>
<i>Targeted Benefits</i>		<ul style="list-style-type: none"> <li>• Enhanced ability for visitors to find areas providing recreation experiences and benefits.</li> <li>• Developing improved community cooperation and involvement with site maintenance.</li> </ul>
Recreation Setting Characteristics		
<i>Physical</i>	<i>Remoteness</i>	Front Country
	<i>Naturalness</i>	Front Country
	<i>Facilities</i>	Middle Country
<i>Social</i>	<i>Contacts</i>	Back Country
	<i>Group Size</i>	Back Country
	<i>Evidence of Use</i>	Middle Country
<i>Operational</i>	<i>Access</i>	Back Country
	<i>Visitor Services</i>	Back Country
	<i>Management Controls</i>	Middle Country



Approved RMP Designate SRMA with RMZs, West Zone	
Allocations	
<i>Rights-of-Way</i>	Avoidance for new subsurface ROWs. Exclusion for new surface ROWs.
<i>Realty</i>	Acquire lands through exchange, purchase, or donation to enhance recreational opportunities and outcomes. Manage acquired lands within or adjacent to the SRMA as part of the SRMA.
<i>R&amp;PP</i>	Authorize targeted/ prescribed grazing for resource benefit through an R&PP lease.
<i>VRM</i>	Class III.
<i>Leasable Minerals: Fluids</i>	N/A ( <i>no federal fluid minerals present</i> ).
<i>Leasable Minerals: Coal</i>	Unacceptable for leasing ( <i>not within coal potential</i> ).
<i>Leasable Minerals: Nonenergy Solids</i>	Closed.
<i>Locatable Minerals</i>	Not recommended for withdrawal from locatable mineral entry.
<i>Mineral Materials</i>	Closed.
<i>Facility Development</i>	Expand trail system and develop facilities (e.g., picnic shelters) to support visitation levels.
<i>Camping Restrictions</i>	N/A ( <i>Standard restrictions</i> ).
<i>Special Recreation Permits</i>	Issue SRPs that are beneficial or neutral to SRMA objectives.
<i>Travel Management</i>	Closed (except campground road).
<i>Livestock Grazing</i>	Unavailable for standard term livestock grazing leases. Prescribed grazing may be authorized through non-standard, free use, or temporary nonrenewable leasing for the benefit of other resources and not as a commodity use.
<i>Forestry</i>	Permit the collection of dead and downed wood where beneficial or neutral to SRMA objectives.

**Objective:** Manage the Schnell Ranch SRMA for a variety of both developed and dispersed non-motorized recreation opportunities.

**Map H-1,** Alternative D, Recreation Management Areas, Schnell Ranch Special Recreation Management Area

**Table H-2**  
**Schnell Ranch Special Recreation Management Area**  
**(Alternative D/Approved RMP, East Zone RMZ)**

Approved RMP Designate SRMA with RMZs, East Zone		
<i>Targeted Activities</i>		Camping, hiking, bicycling, horseback riding, hunting, fishing, and wildlife viewing.
<i>Targeted Experiences</i>		<ul style="list-style-type: none"> <li>• Low density, day use, non-motorized, community back-forty recreation.</li> <li>• Enjoying access to close-to-home outdoor amenities.</li> <li>• Enjoying exploration.</li> <li>• Enjoying social interactions and family togetherness.</li> <li>• Enjoying participation in outdoor activities.</li> <li>• Getting physical exercise.</li> </ul>
<i>Targeted Benefits</i>		<ul style="list-style-type: none"> <li>• Enhanced ability for visitors to find areas providing recreation experiences and benefits.</li> <li>• Experiencing greater self-reliance.</li> <li>• Developing improved community cooperation and involvement with site maintenance.</li> </ul>
Recreation Setting Characteristics		
<i>Physical</i>	<i>Remoteness</i>	Middle Country
	<i>Naturalness</i>	Back Country
	<i>Facilities</i>	Back Country
<i>Social</i>	<i>Contacts</i>	Back Country
	<i>Group Size</i>	Back Country
	<i>Evidence of Use</i>	Back Country
<i>Operational</i>	<i>Access</i>	Back Country
	<i>Visitor Services</i>	Back Country
	<i>Management Controls</i>	Back Country

Approved RMP Designate SRMA with RMZs, East Zone	
<b>Allocations</b>	
<i>Rights-of-Way</i>	ROW Exclusion.
<i>Realty</i>	Acquire lands through exchange, purchase, or donation to enhance recreational opportunities and outcomes. Manage acquired lands within or adjacent to the SRMA as part of the SRMA.
<i>R&amp;PP</i>	Authorize targeted/ prescribed grazing for resource benefit through an R&PP lease.
<i>VRM</i>	Class II.
<i>Leasable Minerals: Fluids</i>	N/A ( <i>no federal fluid minerals present</i> ).
<i>Leasable Minerals: Coal</i>	Unacceptable for leasing ( <i>not within coal potential</i> ).
<i>Leasable Minerals: Nonenergy Solids</i>	Closed.
<i>Locatable Minerals</i>	Not recommended for withdrawal from locatable mineral entry.
<i>Mineral Materials</i>	Closed.
<i>Facility Development</i>	<ul style="list-style-type: none"> <li>Limited facilities.</li> <li>Expand trail system to support visitation levels.</li> </ul>
<i>Special Recreation Permits</i>	Issue SRPs that are beneficial or neutral to SRMA objectives.
<i>Travel Management</i>	Closed.
<i>Livestock Grazing</i>	Unavailable for standard term livestock grazing leases. Prescribed grazing may be authorized through non-standard, free use, or temporary nonrenewable leasing for the benefit of other resources and not as a commodity use.
<i>Forestry</i>	Permit the collection of dead and downed wood where beneficial or neutral to SRMA objectives.

**Table H-3**  
**Figure Four Backcountry Conservation Area**

**Objective:** Manage the Figure Four Backcountry Conservation Area for as an intact landscape to provide visitors a primitive recreation experience with a focus on big game hunting and the associated wildlife habitat.

**Map H-2,** Alternative D, Recreation Management Areas, Figure Four Backcountry Conservation Area

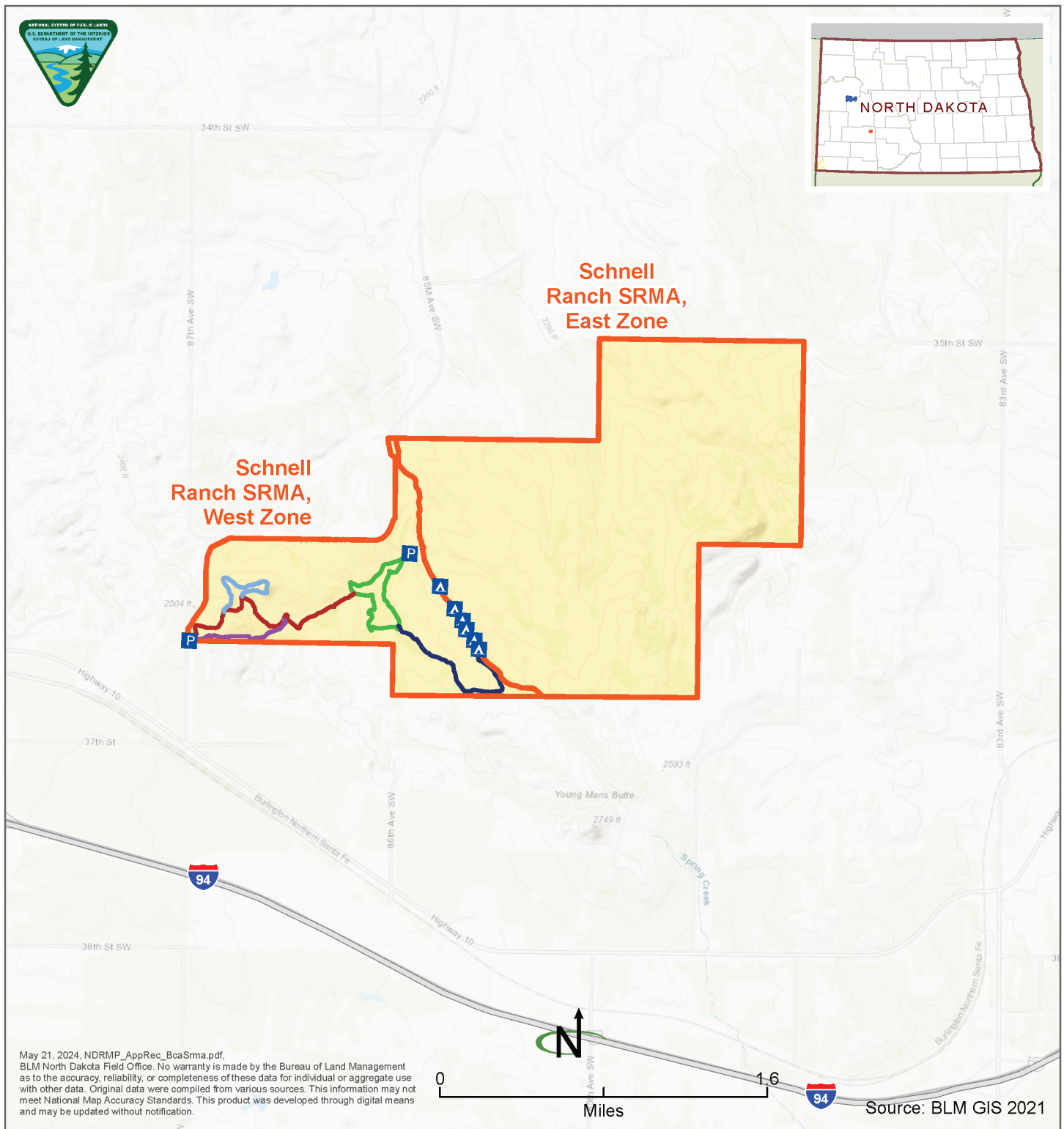
		Approved RMP <i>Designate Figure Four</i>
<i>Targeted Activities</i>		Manage for primitive recreation in support of hunting.
<b>Recreation Setting Characteristics</b>		
<i>Physical</i>	<i>Remoteness</i>	Back Country
	<i>Naturalness</i>	Middle Country
	<i>Facilities</i>	Primitive
<i>Social</i>	<i>Contacts</i>	Primitive
	<i>Group Size</i>	Primitive
	<i>Evidence of Use</i>	Back Country
<i>Operational</i>	<i>Access</i>	Back Country
	<i>Visitor Services</i>	Primitive
	<i>Management Controls</i>	Primitive
<b>Allocations</b>		
<i>Rights-of-Way</i>		ROW avoidance for all ROWs.
<i>Realty</i>		Improve public access and expand recreational opportunities by acquiring lands or access easements. Manage lands acquired adjacent to the BCA as part of the BCA.
<i>VRM</i>		VRM Class II.
<i>Leasable Minerals: Fluids</i>		NSO ( <i>note: partially leased</i> ).
<i>Leasable Minerals: Coal</i>		Unacceptable for leasing ( <i>not within coal potential</i> ).
<i>Leasable Minerals: Nonenergy Solids</i>		Closed.
<i>Locatable Minerals</i>		Not recommended for withdrawal from locatable mineral entry.
<i>Mineral Materials</i>		Closed.
<i>Camping Restrictions</i>		N/A ( <i>Standard restrictions</i> ).
<i>Special Recreation Permits</i>		Issue SRPs that are beneficial or neutral to SRMA objectives.
<i>Travel Management</i>		Limited.

**Table H-4**  
**Lost Bridge Backcountry Conservation Area**

**Objective:** Manage the Lost Bridge Backcountry Conservation Area for as an intact landscape to provide visitors a primitive recreation experience with a focus on big game hunting and the associated wildlife habitat.

**Map H-3,** Alternative D, Recreation Management Areas, Lost Bridge Backcountry Conservation Area

		Approved RMP Designate Lost Bridge
<i>Targeted Activities</i>		Manage for primitive recreation in support of hunting.
<b>Recreation Setting Characteristics</b>		
<i>Physical</i>	<i>Remoteness</i>	Back Country
	<i>Naturalness</i>	Middle Country
	<i>Facilities</i>	Primitive
<i>Social</i>	<i>Contacts</i>	Primitive
	<i>Group Size</i>	Primitive
	<i>Evidence of Use</i>	Back Country
<i>Operational</i>	<i>Access</i>	Back Country
	<i>Visitor Services</i>	Primitive
	<i>Management Controls</i>	Primitive
<b>Allocations</b>		
<i>Rights-of-Way</i>		ROW avoidance for all ROWs.
<i>Realty</i>		Improve public access and expand recreational opportunities by acquiring lands or access easements. Manage lands acquired adjacent to the BCA as part of the BCA.
<i>VRM</i>		VRM Class II.
<i>Leasable Minerals: Fluids</i>		NSO ( <i>note: already leased</i> ).
<i>Leasable Minerals: Coal</i>		Unacceptable for leasing ( <i>not within coal potential</i> ).
<i>Leasable Minerals: Nonenergy Solids</i>		Closed.
<i>Locatable Minerals</i>		Not recommended for withdrawal from locatable mineral entry.
<i>Mineral Materials</i>		Closed.
<i>Camping Restrictions</i>		N/A ( <i>Standard restrictions</i> ).
<i>Special Recreation Permits</i>		Issue SRPs that are beneficial or neutral to SRMA objectives.
<i>Travel Management</i>		Limited.

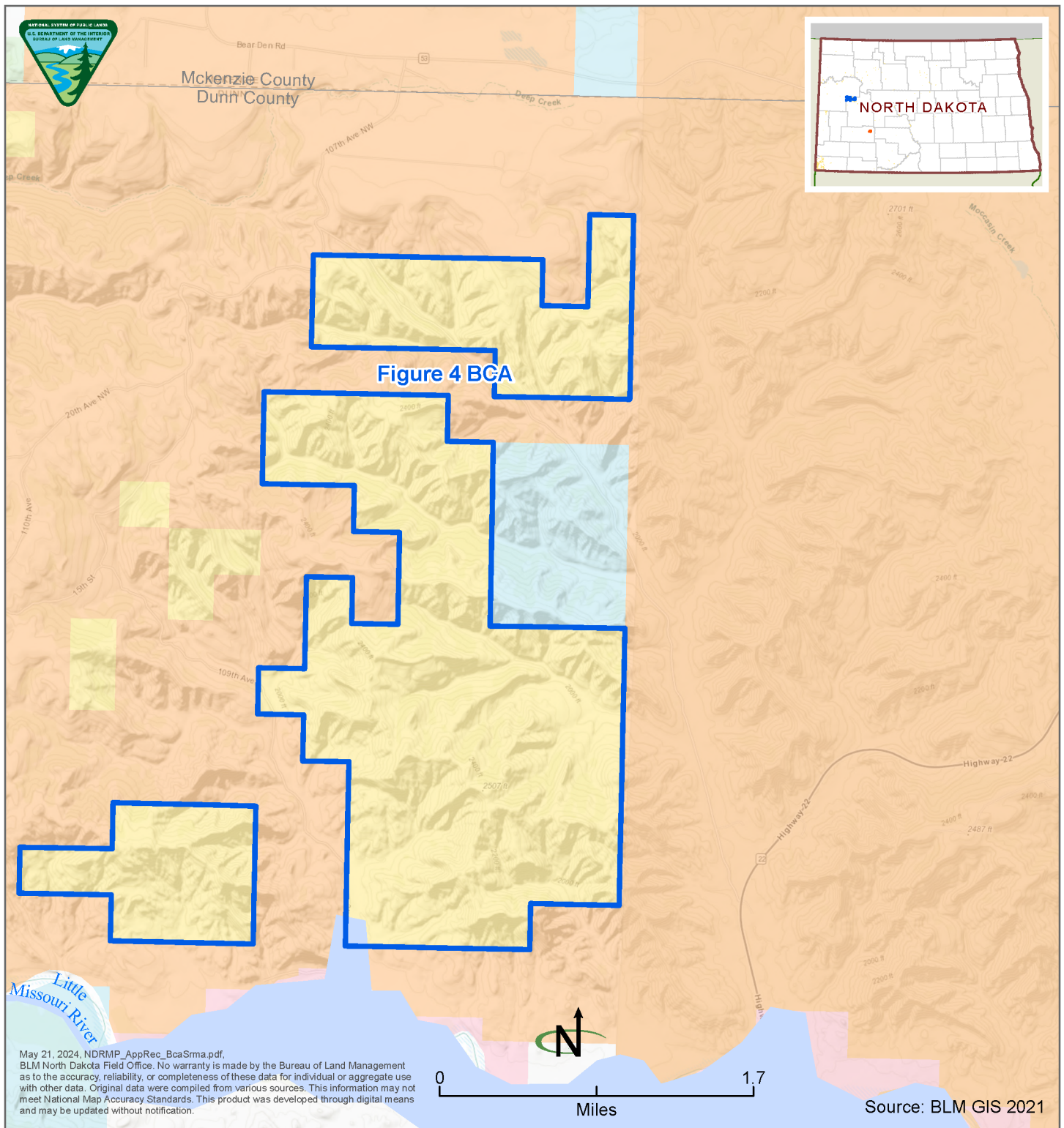


## Map H-1









### Alternative D, Recreation Management Areas, Schnell Ranch SRMA

- |   |   |  |
|---|---|--|
| Special Recreation Management Area (SRMA) | Parking or camping facility                       | North Dakota RMP planning area, western half |
| Bur Oak Nature Loop                       | Bureau of Land Management (surface decision area) |  |
| Campground Trail                          | Private   |  |
| Grassland Trail                           |   |  |
| Hilltop Trail                             |   |  |
| Woodland Trail                            |   |  |

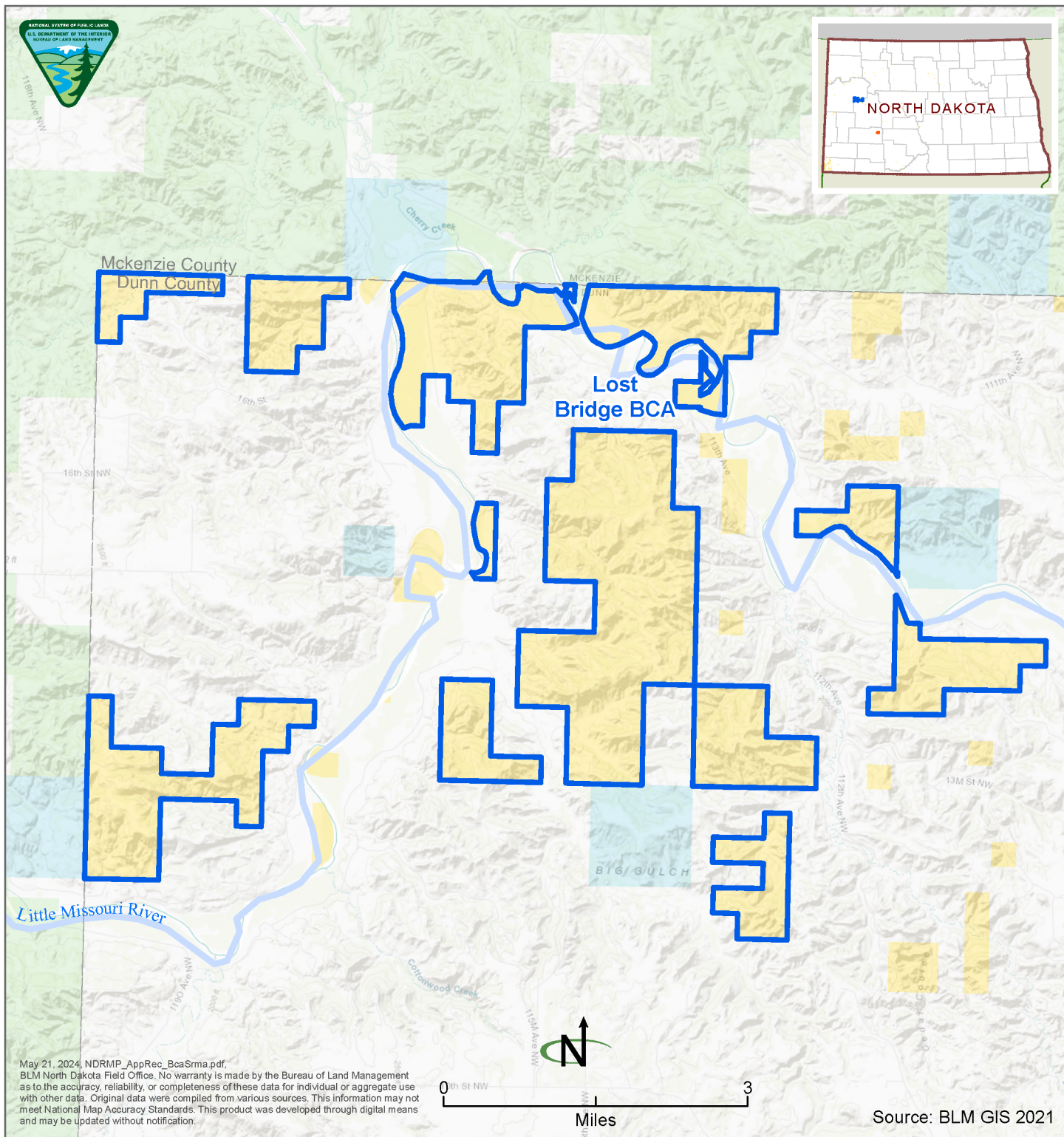




## Map H-2 Alternative D, Recreation Management Areas, Figure 4 BCA

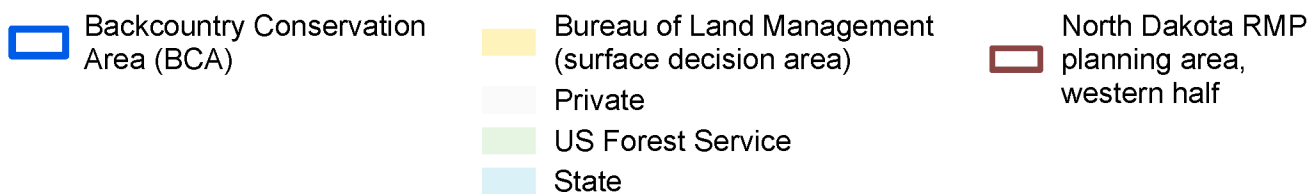
- |   |   |  |
|---|---|--|
|  Backcountry Conservation Area (BCA) |  Bureau of Land Management (surface decision area) |  North Dakota RMP planning area, western half |
|   |  Private   |  |
|   |  Bureau of Indian Affairs                          |  |
|   |  US Forest Service                                 |  |
|   |  US Department of Defense                          |  |
|   |  State   |  |





### Map H-3

#### Alternative D, Recreation Management Areas, Lost Bridge BCA





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# Appendix I

## Evaluation of Proposed Areas of Critical Environmental Concern

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## ACRONYMS AND ABBREVIATIONS

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### Full Phrase

ACEC	Area of Critical Environmental Concern
BLM	United States Department of the Interior, Bureau of Land Management
CFR	Code of Federal Regulations
EIS	environmental impact statement
FLPMA	Federal Land Policy and Management Act
K-Pg	Cretaceous-Paleogene
RMP	resource management plan
USC	United States Code

# Appendix I. Evaluation of Proposed Areas of Critical Environmental Concern

## I.1 SUMMARY AND INTRODUCTION

### I.1.1 Summary

As part of the United States Department of the Interior, Bureau of Land Management (BLM), North Dakota Resource Management Plan (RMP) revision, the Interdisciplinary Teams analyzed whether proposed Areas of Critical Environmental Concern (ACECs) met the relevance and importance criteria. The Interdisciplinary Team analyzed one ACEC and found that the Mud Buttes area met the relevance and importance criteria, for a total of 960 acres (see **Appendix A**). The area was found to meet both the relevance and importance criteria and will be identified as a potential ACEC fully considered for designation and management in the RMP (BLM Manual 1613.21).

### I.1.2 Introduction

As part of the process for developing the North Dakota RMP revision, the Interdisciplinary Teams reviewed all BLM-managed lands in the planning area to determine whether any areas should be considered for designation as ACECs. The Federal Land Policy and Management Act (FLPMA) requires that priority shall be given to the designation and protection of ACECs. ACECs are defined in FLPMA Section 103(a) (43 United States Code [USC] 1702) and in 43 CFR 1601.0-5(a) as “areas within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.” The following analysis and the resultant findings for ACEC relevance and importance criteria has been performed pursuant to FLPMA Section 202(c)(3) (43 USC 1712), 43 CFR 1610.7-2, and BLM Manual 1613, *Areas of Critical Environmental Concern*.

## I.2 REQUIREMENTS FOR ACEC DESIGNATION

To be eligible for designation as an ACEC, an area must meet the relevance and importance criteria described in 43 CFR 1610.7-2 and BLM Manual 1613, and it must require special management. ACECs that met both the relevance and importance criteria were carried forward and further analyzed in the Draft RMP/EIS. Relevance and importance are defined as follows:

**Relevance**—There shall be present a significant historic, cultural, or scenic value, a fish or wildlife resource or other natural system or process, or natural hazard.

**Importance**—The above-described value, resource, system, process, or hazard shall have substantial significance and value, which generally requires qualities of more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern. A natural hazard can be important if it is a significant threat to life or property.

### **I.2.1 Relevance**

An area meets the relevance criterion if it contains one or more of the following:

- A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).
- A fish and wildlife resource (including but not limited to habitat for endangered, sensitive, or threatened species or habitat essential for maintaining species diversity).
- A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities that are terrestrial, aquatic, or riparian; or rare geological features).
- Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action might meet the relevance criteria if it is determined through the resource management planning process to have become part of a natural process.

### **I.2.2 Importance**

An area meets the importance criterion if it meets one or more of the following:

- Has more than locally significant qualities that give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.
- Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.
- Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.
- Has qualities that warrant highlighting to satisfy public or management concerns about safety and public welfare.
- Poses a significant threat to human life and safety or to property.

### **I.2.3 Special Management Attention**

Special management attention refers to “management prescriptions developed during preparation of an RMP or amendment expressly to protect the important and relevant values of an area from the potential effects of actions permitted by the RMP, including proposed actions deemed to be in conformance with the terms, conditions, and decisions of the RMP” (BLM Manual 1613.12). Thus, these are management measures that would not be necessary and prescribed if the relevant and important values were not present.

A management prescription is considered special if it is unique in the area involved and includes terms and conditions specifically to protect the values found in the area.

### **I.2.4 Evaluation Process**

In compiling a list of areas to be analyzed in this report, the BLM Interdisciplinary Team followed the guidance set forth in BLM Manual 1613 and considered:

- Areas recommended for ACEC consideration (internal and external nominations)

- Areas identified through inventory and monitoring
- Adjacent designations of other federal and state agencies

ACECs may be nominated by BLM staff, other agencies, or members of the public at any time. During the RMP revision scoping process, the BLM solicited nominations and comments from the public and other agencies.

### I.3 MUD BUTTES PROPOSED ACEC

**Nominator:** North Dakota Geological Survey

**Rationale for nomination provided by the nominator:** The Cretaceous-Paleogene (K-Pg) boundary in the Mud Buttes area is one of the best-preserved examples of this geological feature in North America and is one of the easiest K-Pg boundary sections to recognize and study in the field. Elsewhere in the region, identification of the K-Pg boundary often requires additional laboratory testing to confirm its exact placement. Numerous scientific studies on the Cretaceous extinction event have been conducted by institutions from across the country in the Mud Buttes region and similar studies will likely continue to take place so long as the boundary section remains intact and accessible in this location.

**Area nominated:** The 960-acre Mud Buttes Proposed ACEC is located in southwestern North Dakota in Bowman County within T. 130 N., R. 105 W. and T. 129 N., R. 105. W. (see **Table I-1** and **Figure I-1**).

**Additional rationale for nomination provided by the BLM:** The Mud Buttes area of Bowman County, North Dakota has been a focus of paleontological research for several decades. The research informs us about the extinction of dinosaurs and the ecological recovery afterward. The rock exposed in the area is called the Hell Creek Formation. The Hell Creek is exposed across central and southeastern Montana and into both North and South Dakota. The Hell Creek was deposited along the western shore of the Late Cretaceous Interior Seaway in a complex series of low elevation rivers, estuaries, and marshes. Terrestrial animals and plants, as well as semiaquatic and fully aquatic animals, are well preserved in the Hell Creek.

Near the top of the Hell Creek and the overlying Ludlow Formation is the “impact layer”—the result of a very large asteroid that impacted the earth 66 million years ago. The impact created a huge crater near the modern Yucatan Peninsula and threw millions of tons of rock and dust into the atmosphere, which rained down over the entire earth. This layer, which can be traced around the world, is what geologists call an isochron, a layer created around the globe with a single event. There are several characteristics of this layer that allow it to be identified, such as the presence of shocked quartz crystals and high levels of the element iridium. This impact layer is easily identifiable at Mud Buttes.

Additionally, a phenomenal collection of fossil plants has come from Mud Buttes. Almost 90 separate species of plants, and several thousand specimens, have been collected. Sharks, crocodilians, champsosaurus (croc-like reptile), dinosaurs, and mammals are also common. So, the diversity of animal and plant fossils, as well as the boundary impact layer that marked the extinction of dinosaurs, make Mud Buttes uniquely significant in North Dakota.



**Table I-1**  
**Summary of Proposed ACEC in the Planning Area Determined to Meet the Relevance and Importance Criteria**

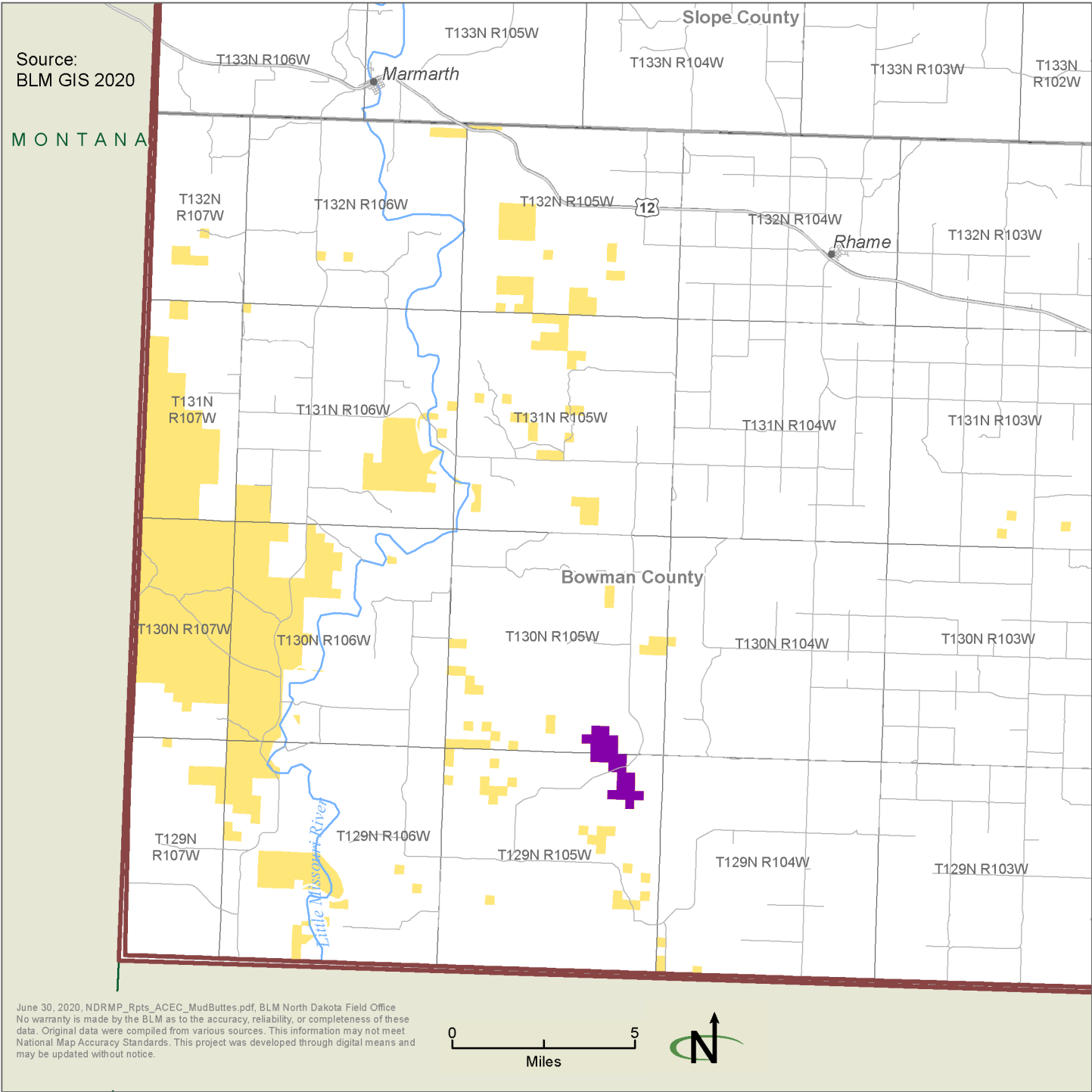
<b>Name of Proposed ACEC</b>	<b>Proposed Internal or External</b>	<b>Values Assessed</b>	<b>Relevance Criteria</b>	<b>Importance Criteria</b>
Mud Buttes	External	Natural Process/ System	The K-Pg boundary section in the Mud Buttes area meets the relevance requirement by virtue of being a rare geological feature.	The K-Pg boundary section in the Mud Buttes area meets the importance requirement in that it has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.
-	-	Historic/cultural: Paleontological values	Rare fossils, particularly plant fossils, in the Mud Buttes area.	Rare fossils have been found in the Mud Buttes area that have not been identified anywhere else.

Potential management actions in Alternatives B, C, and D for the proposed Mud Buttes ACEC include:

- Manage paleontological resources in order to protect them and make them accessible to appropriate research and public enjoyment.
- Continue to inventory for paleontological resources and evaluate their significance for protection, conservation, research, or interpretation.
- Protect known paleontological resources from destruction or degradation. This also applies to fossils collected from the area stored in museum collections.
- Manage uses to prevent unnecessary damage to paleontological resources.
- Facilitate appropriate paleontological research to improve understanding of fossil resources.
- Increase public education and appreciation of paleontological resources through interpretation and dissemination of research.
- Manage uses to prevent damage to unique geological features and geomorphologic features (small-scale expressions of geological processes) and to minimize activities in high-hazard areas.
- Only allow motorized access under permit, including research permits.
- Use reciprocal access as a tool to secure access across private lands to conduct research within the ACEC.



**Figure I-1**  
**Vicinity Mud Buttes Proposed Area of Critical Environmental Concern**



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# Appendix J

Biological Assessment and Concurrence Letter

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# **Appendix J. Vegetation and Wildlife Species Tables**

## **J.1 BIOLOGICAL ASSESSMENT**



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U.S. DEPARTMENT OF THE INTERIOR  
**BUREAU OF LAND  
MANAGEMENT**

April 2024

# **North Dakota Draft Resource Management Plan and Environmental Impact Statement**

## **Biological Assessment**

Prepared by:

**US Department of the Interior  
Bureau of Land Management**

Cover Photo: the Lost Bridge area in Dunn County, North Dakota  
(photo credit: Mitch Iverson)

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## **APPENDIXES**

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A	USFWS IPaC List
B	Maps

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## ACRONYMS AND ABBREVIATIONS

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Full Phrase

ACEC	area of critical environmental concern
BA	biological assessment
BCA	backcountry conservation area
BLM	Bureau of Land Management
BMP(s)	best management practice(s)
CFR	Code of Federal Regulations
CSU	controlled surface use
EIS	environmental impact statement
EMPSi	Environmental Management and Planning Solutions Inc.
ESA	Endangered Species Act of 1973
GIS	geographic information systems
GRSG	greater sage-grouse
IPaC	Information for Planning and Consultation
NDFO	North Dakota Field Office
NEL	nonenergy leasable
NEPA	National Environmental Policy Act
NHT	national historic trail
NSO	no surface occupancy
NWR	National Wildlife Refuge
NWSRS	National Wild and Scenic Rivers System
OHV	off-highway vehicle
PIM	Permanent Instruction Memorandum
RMP	resource management plan
ROW	right-of-way
SRMA	special recreation management area
SSA	species status assessment
TL	timing limitation
US	United States
USC	United States Code
USFWS	United States Fish and Wildlife Service
VRM	visual resource management
WSR	wild and scenic river



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# Summary of Findings

This biological assessment (BA) addresses 12 federally threatened or endangered species and one candidate species, as well as designated critical habitat for three federally threatened or endangered species, that were identified by the Bureau of Land Management (BLM) and United States Fish and Wildlife Service (USFWS) as potentially occurring in the action area.

**Table I** lists the species and critical habitats analyzed in this BA and provides a summary of the preliminary effect determinations. Preliminary effect determinations are based on 1) discussions and correspondence with the USFWS, BLM, and state wildlife agencies; 2) habitat requirements and the known distribution of these species and critical habitats within the action area; and 3) the intensity and location of anticipated effects from the proposed action.

**Table I**  
**Effect Determination Summary**

Species Name	Status	Determination of Effect
<b>Endangered, Threatened, and Proposed Species</b>		
Black-footed ferret ( <i>Mustela nigripes</i> )	Endangered	No effect
Gray wolf ( <i>Canis lupus</i> )	Endangered	No effect
Grizzly bear ( <i>Ursus arctos horribilis</i> )	Threatened	No effect
Northern long-eared bat ( <i>Myotis septentrionalis</i> )	Endangered	May affect, but not likely to adversely affect
Piping plover ( <i>Charadrius melodus</i> )	Threatened	May affect, but not likely to adversely affect
Red knot ( <i>Calidris canutus rufa</i> )	Threatened	May affect, but not likely to adversely affect
Whooping crane ( <i>Grus americana</i> )	Endangered	May affect, but not likely to adversely affect
Pallid sturgeon ( <i>Scaphirhynchus albus</i> )	Endangered	May affect, but not likely to adversely affect
Dakota skipper ( <i>Hesperia dacotae</i> )	Threatened	May affect, but not likely to adversely affect
Monarch butterfly ( <i>Danaus plexippus</i> )	Candidate	May affect, but not likely to jeopardize
Poweshiek skipperling ( <i>Oarisma poweshiek</i> )	Endangered	No effect
Rusty patched bumble bee ( <i>Bombus affinis</i> )	Endangered	No effect
Western prairie fringed orchid ( <i>Platanthera praeclara</i> )	Threatened	No effect
<b>Critical Habitats</b>		
Piping plover critical habitat	Final	May affect, but not likely to adversely modify
Dakota skipper critical habitat	Final	May affect, but not likely to adversely modify
Poweshiek skipperling critical habitat	Final	No effect

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# Chapter I. Introduction

## I.1 PURPOSE OF THE BIOLOGICAL ASSESSMENT

The purpose of this BA is to determine the effects of the United States (US) Department of the Interior, BLM North Dakota Field Office (NDFO) resource management plan (RMP) revision for the North Dakota planning area (the proposed action) on species that are federally protected under the Endangered Species Act of 1973 (ESA), as amended. The BA is intended to fulfill Section 7 of the ESA and is intended to ensure the proposed action would not likely jeopardize the continued existence of federally listed species, nor result in the destruction or adverse modification of designated critical habitat, as defined in the Endangered Species Consultation Handbook (USFWS and NMFS 1998).

The BLM NDFO is revising the RMP for the North Dakota planning area. The RMP is supported by a National Environmental Policy Act of 1969 (NEPA) analysis in an environmental impact statement (EIS), hereinafter referred to as the Proposed RMP/EIS. Currently, the NDFO operates under the North Dakota RMP, which was approved in 1988, as amended.

Site-specific evaluations will be conducted for activities authorized under the Proposed RMP/EIS at the time they are proposed. Consultation or conference would occur with the USFWS for activities that may affect threatened, endangered, proposed, or candidate species, as well as final or proposed critical habitats.

## I.2 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The purpose and need statement describes why the BLM is revising the 1988 RMP and what outcomes the BLM intends the Proposed RMP/EIS to achieve. The purpose and need statement helps define the range of alternatives that will be analyzed in the planning process; this is because the alternatives must respond to the purpose of and need for action to be considered reasonable.

This plan revision process takes place against the backdrop of past planning efforts, including the following:

- Endangered Species Act of 1973
- Bald & Golden Eagle Protection Act (1962)
- Migratory Bird Treaty Act (1918)
- BLM Manual 6840-SSS Management
- Clean Air Act (42 U.S.C. 7401 et seq.)
- Vegetation Treatment on BLM Lands in Thirteen Western States Final EIS (BLM 1991a)
- Bighorn Sheep North Dakota RMP Environmental Assessment/Amendment (BLM 1991b)
- Final Activity Plan and Environmental Assessment for the Schnell Ranch Recreation Area (BLM 1996)
- Standards for Rangeland Health and Guidelines for Livestock Grazing Management (BLM 1997)
- Off-Highway Vehicle Plan (statewide amendment) (BLM 2001)
- Fire/Fuels Management Plan (statewide amendment) (BLM 2003)
- Greater Sage-Grouse RMP Amendment (BLM 2015)

These previous planning efforts and their supporting analyses, together with the results of the scoping process for this planning effort, have helped to inform the BLM's discretion in determining this action's purpose and need and whether new land use planning decisions need to be explored and implemented.

### **I.2.1 Need for the Action**

The transformations that have taken place in the planning area over the past 30 years have resulted in changed circumstances and different users and uses of BLM-administered lands in North Dakota. In 2007, the BLM conducted plan evaluations in accordance with its planning regulations, which require that RMPs “shall be revised as necessary based on monitoring and evaluation findings, new data, new or revised policy and changes in circumstances affecting the entire plan or major portions of the plan” (43 Code of Federal Regulations [CFR] 1610.5-6). The BLM NDFO initiated an RMP revision process, in coordination with the South Dakota Field Office; however, this effort was ultimately postponed due to the Bakken oil boom and the subsequent shift in workload priorities for the BLM. Though the larger RMP revision was postponed, the Greater Sage-Grouse RMP Amendment (BLM 2015) did occur as part of the larger regional effort.

The existing RMP needs to be revised because of new or changing resource conditions, shifting demands for resource uses, new technologies, new program and resource guidance and policies, and new scientific information since the development of the 1988 RMP. These changes include, but are not limited to, the following:

- Horizontal drilling, hydraulic fracturing, and the dramatic increase in the amount of oil and gas development in western North Dakota
- A changed land base resulting from acquisitions, exchanges, withdrawals, and disposals since 1988
- An increasing community emphasis on recreational opportunities and access to BLM-administered lands
- Updated scientific information, the evaluation of a proposed area of critical environmental concern (ACEC), suitability of stream segments for wild and scenic river (WSR) designation, and a visual resource inventory
- Updated scientific information regarding species habitats and distributions, including alterations and changes in listings for species under the ESA, such as for the northern long-eared bat, which was not a listed species in 1988 and has subsequently been listed.
- Changes in the BLM Montana/Dakotas special status species list, and the inclusion (when data and information warrant) of specific conservation measures for the current threatened and endangered species in the planning area.

### **I.2.2 Purposes of the Action**

The proposed action is to revise the 1988 RMP with land use allocations, management objectives, and management direction that best meet the purpose and need. The purpose of the proposed action is to make land use plan decisions to guide the management of BLM-administered lands. The following four purposes describe the BLM NDFO's distinctive role in the North Dakota landscape in contributing to the multiple-use and sustained-yield mission.

#### ***Provide Opportunities for Minerals and Energy Development***

The purpose of the action includes providing opportunities for minerals and energy development on BLM-administered lands. The significant amount of leasing, exploration, and development associated with the

Bakken oil boom in western North Dakota is a driving force behind a comprehensive revision of the RMP. Records from federal, state, and oil industry data suggest there are currently approximately 25,800 active or open wells associated with petroleum development in North Dakota (IHS 2019). This level of development has created a pressing need for new inventories and revised data to design appropriate lease stipulations.

Previous reasonably foreseeable development scenarios and reasonably foreseeable development scenario amendments for the NDFO were completed in 1988, 2009, 2011, and 2014. Additionally, new technological developments, such as horizontal drilling and hydraulic fracturing, have opened new oil and gas reserves and created opportunities to shape development footprints. The BLM has also identified that the coal screens applied during issuance of federal coal leases need to be updated to reflect the best available data.

### ***Contribute to Conservation and Recovery of Threatened, Endangered, and Special Status Species***

The purpose of the action includes managing native prairie habitat and woody draws to contribute to the conservation and recovery of special status species in the planning area. Sensitive pollinator species such as the Dakota skipper (*Hesperia dacotae*), Monarch butterfly (*Danaus plexippus*), and western bumblebee (*Bombus occidentalis*) rely on native prairie in the planning area. Native prairie also provides cover, nesting substrate, and forage for numerous sensitive bird species. Native prairie has been largely converted to farmland, so the native prairie that remains on BLM-administered lands is of high importance to maintaining the habitat. Woody draws with connections to water sources are important for numerous species, including migratory birds, special status birds, big game, and the northern long-eared bat (*Myotis septentrionalis*). These areas provide food, cover, and protection for these species and support northern long-eared bat foraging and roosting/maternity colonies. Since these habitats are localized and uncommon on the landscape, the BLM plays an essential role in maintaining and connecting woody draws to support this species.

### ***Provide Recreational Opportunities and Improve Access to BLM-Administered Lands***

The purpose of the action includes providing recreational opportunities. The Federal Land Policy and Management Act requires that, among other uses, “the public lands be managed in a manner that will ... provide for outdoor recreation” (43 United States Code [USC] 1701, Section 102.a.8). The Schnell Ranch Recreation Area is the only established recreation area on BLM-administered lands in the planning area; it was deeded directly to the BLM in 1993. Changes in BLM policy since the 1988 RMP for recreation land use allocations and management objectives necessitate updates to the management of this area. There is also a need to consider opportunities for establishing recreation management areas or backcountry conservation areas (BCAs) and for improving or providing new access to noncontiguous BLM-administered parcels to enhance dispersed recreational uses, including hunting.

### ***Manage for Other Social and Scientific Values***

The purpose of the action is also to manage for scientific, scenic, and historical values, including, but not limited to, geological, cultural, and paleontological resources; special designations; and public health and safety. These values contribute an important part to North Dakota’s broader social and scientific values.

### I.3 ACTION AREA

Although the species list was developed based on species potentially present in the state of North Dakota (see Section 1.5 below), the BLM's decision space and potential for impacts is more localized. As such, four action areas are analyzed in this BA, depending on the resource being managed, corresponding to the decision areas described further in **Section 2.1**, Description of the Planning Area (**Maps 3, 4, 5, and 6**, in **Appendix B**):

- BLM-administered surface lands, 58,500 acres: Decisions related to vegetation and fuels management, wildlife management (including listed and candidate species), lands and realty, recreation, travel and trails, livestock grazing, and special designations.
- Subsurface management for coal, 4,071,600 acres: Decisions related to coal management.
- Subsurface management for fluid minerals, 489,300 acres: Decisions related to fluid minerals management.
- Subsurface management for other minerals, 362,600 acres: Decisions related to NEL minerals, locatable minerals, and mineral materials management.

### I.4 CONSULTATION HISTORY

The BA development coordination and correspondence between the BLM, the USFWS, and other parties to date are summarized below:

- Beginning in 2019, the BLM and USFWS engaged in early coordination regarding the RMP revision, including data sharing.
- February 10, 2023: Environmental Management and Planning Solutions Inc. (EMPSi) (a BLM contractor) obtained a species list using the USFWS Information for Planning and Consultation (IPaC) system using the BLM NDFO administrative boundary (**Appendix A**; USFWS 2023a).
- March 7, 2023: There was a conference call between the BLM, USFWS, and EMPSi regarding the BA's development, including the list of species to analyze, the proposed action area, and the time frame for USFWS review.
- May 30, 2023: The USFWS provided comments on BLM's Draft RMP/EIS, including comments pertaining to threatened and endangered species. EMPSi incorporated relevant information from these comments into the BA.
- March 7, 2024: The USFWS provided comments on the BLMs draft Biological Assessment.

### I.5 SPECIES CONSIDERED IN THE BIOLOGICAL ASSESSMENT

The species considered for inclusion in the BA are those that are known to occur, or with the potential to occur, in the state of North Dakota. They were identified based on the IPaC list (**Appendix A**; USFWS 2023a) and coordination between the USFWS and BLM, as described above. **Table 2** summarizes these species. Some species and critical habitats identified in the table are not carried forward for detailed analysis in the BA, either because the action area lacks suitable habitat for the species or because the species are considered to be extirpated from the action area.

**Table 2** provides a summary of the species, a habitat description, and the rationale for whether they were carried forward for detailed analysis. After the table, **Section 1.6**, Rationale for Species Not Analyzed in Detail, includes additional rationale for those species and critical habitats not carried forward.

**Table 2**  
**Species and Critical Habitats Considered in the Biological Assessment**

<b>Species Name</b>	<b>Habitat</b>	<b>Carried Forward for Detailed Analysis?</b>
Black-footed ferret ( <i>Mustela nigripes</i> ), Endangered	This species was historically found throughout the Great Plains, mountain basins, and semiarid grasslands of North America. It depends on prairie dogs for food and on prairie dogs' burrows for shelter. The species is considered extirpated from North Dakota (USFWS 2013, 2019a).	No. This species is considered extirpated from the state. There is an experimental population, but there is limited historical range in the southeastern part of the state, where the BLM action area is very limited. This species will be evaluated for Section 7 consultation and concurrence on a project basis.
Gray wolf ( <i>Canis lupus</i> ), Threatened/Under Review	This species uses a wide range of habitats, including temperate forests, mountains, tundra, taiga, and grasslands. In midwestern states, habitats range from mixed hardwood-coniferous forests in wilderness and sparsely settled areas, to forest and prairie landscapes dominated by agricultural and pasture lands (USFWS 2012a).	No. The planning area is outside the species' known occupied range. This species will be evaluated for Section 7 consultation and concurrence on a project basis.
Grizzly bear ( <i>Ursus arctos horribilis</i> ) Threatened	Grizzly bears occupy a variety of habitat types in portions of Idaho, Montana, Washington, and Wyoming in the lower-48 States, including high mountain forests, subalpine meadows, tundra, wetlands, grasslands, and mixed-conifer forests. In general, a grizzly bear's individual habitat needs and daily movements are largely driven by the search for food, water, mates, cover, security, or den sites. Diverse habitat complexes, such as forest interspersed with moist grass-forb meadows, are important because they provide both abundant food and cover.	No. The planning area is outside the species' known occupied range. This species will be evaluated for Section 7 consultation and concurrence on a project basis.
Northern long-eared bat ( <i>Myotis septentrionalis</i> ), Endangered	Summer habitats consist of forested areas, where bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live trees and snags (USFWS 2015a, 2016a, 2022a). During the winter, bats hibernate in various-sized caves or mines with suitable conditions for prolonged bouts of torpor (USFWS 2022a).	Yes. Range and suitable habitat occur in the planning area.
Piping plover ( <i>Charadrius melodus</i> ), Threatened	Piping plovers breed and raise young on unvegetated or sparsely vegetated sandy, loamy, or rocky areas along beaches, lakeshores, marshes, lakes, and rivers (USFWS 2015b). River and alkali wetlands are important breeding habitats in the northern Great Plains (Swift et al. 2021).	Yes. Range and critical habitat occur in the planning area. Also, the BLM action area occurs in and around Lake Sakakawea and the river system, where the species is known to occur.



Species Name	Habitat	Carried Forward for Detailed Analysis?
Red knot ( <i>Calidris canutus rufa</i> ), Threatened	Observations are rare in the state, but red knots may stop over in alkaline and freshwater lakes in North Dakota during migration. The species has also been observed in the Missouri River system as well as sewage lagoons and large, permanent freshwater wetlands (Dyke et al. 2015).	Yes. Range and habitat occur in the planning area. The species has similar habitat to the piping plover's habitat; however, this species is a transitory migrant with few occurrences in the state.
Whooping crane ( <i>Grus americana</i> ), Endangered	During migration, whooping cranes are often observed in riverine habitats, and the Missouri River in North Dakota is known as a frequently used stopover area. Birds roost on submerged sandbars in wide, unobstructed channels that are isolated from human disturbance (CWS and USFWS 2007).	Yes. Range and habitat occur in the planning area, and the state is a primary stopover habitat during migration. However, this species only has the potential to occur in the planning area during the migration season.
Pallid sturgeon ( <i>Scaphirhynchus albus</i> ), Endangered	This species inhabits large, free-flowing, warmwater, and turbid rivers, with a diverse assemblage of dynamic physical habitats in the Missouri and Mississippi Rivers and some tributaries (USFWS 2014a). In North Dakota, pallid sturgeon are commonly found in the upper Missouri River, upstream of Lake Sakakawea, and in the Yellowstone River near the confluence of the two rivers (Dyke et al. 2015). They have also been recorded below Garrison Dam in the center of the state.	Yes. Range and habitat occur in the planning area. Also, the BLM action area occurs in and around Lake Sakakawea, where the species may occur.
Dakota skipper ( <i>Hesperia dacotae</i> ), Threatened	This species inhabits wet lowland prairie dominated by bluestem grasses and dry upland prairie dominated by mixed bluestem and needle stem grasses.	Yes. Range and habitat occur in the planning area and overlap the BLM action area.
Monarch butterfly ( <i>Danaus plexippus</i> ), Candidate	This species occurs across most of North America primarily in prairies, meadows, and grasslands and along roadsides with the presence of milkweed.	Yes. Range and habitat occur in the planning area; however, there is a lack of data as to where the habitat occurs.
Poweshiek skipperling ( <i>Oarisma poweshiek</i> ), Endangered	Habitat includes prairie fens, grassy lake and stream margins, moist meadows, sedge meadows, and wet-to dry native prairie. Historically, the species was found on both dry and wet native prairies across the Midwest.	No. This species is considered extirpated from the state. There is limited historical range in the southeastern part of the state, where the BLM action area is very limited. This species will be evaluated for Section 7 consultation and concurrence on a project basis.
Rusty patched bumble bee ( <i>Bombus affinis</i> ), Endangered	This species has been observed in a variety of habitats, including prairies, woodlands, marshes, agricultural landscapes, and residential parks and gardens. It requires areas that support sufficient food, including nectar and pollen from diverse and abundant flowers, as well as undisturbed nesting sites that are near those floral resources.	No. This species is considered extirpated from the state. This species will be evaluated for Section 7 consultation and concurrence on a project basis.

Species Name	Habitat	Carried Forward for Detailed Analysis?
Western prairie fringed orchid ( <i>Platanthera praeclara</i> ), Threatened	This species occurs in moist tallgrass prairies and sedge meadows.	No. There is limited range in the southeastern part of the state, where the BLM action area is very limited. This species will be evaluated for Section 7 consultation and concurrence on a project basis.
<b>Critical Habitats</b>		
Piping plover final critical habitat	For the Northern Great Plains breeding population, critical habitat originally included approximately 183,422 acres of prairie alkali wetlands, inland and reservoir lakes, and portions of four rivers (totaling approximately 1,207.5 river miles) in Montana, Nebraska, South Dakota, North Dakota, and Minnesota (USFWS 2002).	Yes. Critical habitat occurs in the planning area.
Dakota skipper final critical habitat	In total, approximately 19,900 acres are designated as critical habitat in Minnesota, North Dakota, and South Dakota. In the action area, 13 critical habitat units are designated in McHenry, McKenzie, Ransom, Richland, and Rolette Counties.	Yes. Critical habitat occurs in the planning area.
Poweshiek skipperling final critical habitat	In total, approximately 25,900 acres are designated as critical habitat in Iowa, Michigan, Minnesota, North Dakota, South Dakota, and Wisconsin. In the action area, two critical habitat units are designated in Richland County, in the southeastern corner of the state.	No. Critical habitat occurs in the southeastern portion of the state, where the BLM action area is very limited. The action area does not overlap critical habitat. This critical habitat will be evaluated for Section 7 consultation and concurrence on a project basis.

## I.6 RATIONALE FOR SPECIES NOT ANALYZED IN DETAIL

### I.6.1 Black-footed Ferret

Black-footed ferrets historically occurred throughout the Great Plains, mountain basins, and semiarid grasslands of North America. Because they depend on prairie dogs for food and on prairie dogs' burrows for shelter, the black-footed ferret's historical range coincided with the ranges of the black-tailed prairie dog (*Cynomys ludovicianus*), Gunnison's prairie dog (*C. gunnisoni*), and white-tailed prairie dog (*C. leucurus*). However, the black-footed ferret's historical range has been greatly reduced due to conversion of shortgrass prairie habitat for agricultural use as well as reductions in prairie dogs due to habitat loss, disease, and recreational hunting. Black-footed ferrets are considered extirpated from North Dakota, although potential sites for experimental populations have been identified (USFWS 2013, 2019a). As such, this species is not expected to occur in the action areas. The proposed action would have **no effect** on black-footed ferrets.

### I.6.2 Gray Wolf

Gray wolves use a wide range of habitats, including temperate forests, mountains, tundra, taiga, and grasslands. In midwestern states such as North Dakota, habitats range from mixed hardwood-coniferous forests in wilderness and sparsely settled areas, to forest and prairie landscapes dominated by agricultural

and pasture lands. The species historically occurred throughout the Great Plains, but targeted elimination programs resulted in the extirpation of wolves from the Great Plains by the early twentieth century.

Recent surveys have not been conducted to document wolf presence in the Great Plains states between the areas known to be occupied by the northern Rocky Mountains and the Great Lakes populations. A few individual dispersing wolves have been detected in North Dakota. The eastern portion of the state is within 81 miles from occupied habitat in Minnesota (USFWS 2012a). The USFWS IPaC database includes the entire state within the range of gray wolves, however, the action area is outside the species' known occupied range. As such, gray wolves are not expected to occur in the action area, and the proposed action would have **no effect** on gray wolves.

### **1.6.3 Grizzly Bear**

Grizzly bears have a broad range of habitat tolerance, which suggests adaptive flexibility in food habits of different populations. Basic habitat requirements include the availability of food and water, security from humans and other bears, and den sites. Contiguous, relatively undisturbed mountainous habitat having a high level of topographic and vegetation diversity characterizes most areas where the species remains (USFWS 1993).

Before Euro-American settlement, grizzly bears ranged throughout western North America, and were distributed in one large contiguous area throughout all or portions of 18 western States, including North Dakota. However, due to western expansion of settlers and bounty programs aimed at eradication, grizzly bears were reduced to 2 percent of their former range by the 1930s (US District Court 2018). Today, grizzly bears in the lower 48 states, individuals are largely restricted to the confines of national parks and wilderness areas in Washington, Idaho, Montana, and Wyoming (USFWS 1993, 2018a).

As a result of these range reductions, grizzly bears are considered extirpated from the state of North Dakota, and from the entire great plains region. The nearest currently inhabited ecosystems to the action area are in Greater Yellowstone Ecosystem, covering portions of Wyoming, Montana, and Idaho and the Northern Continental Divide Ecosystem of north-central Montana. Both these ecosystems are over several hundred miles from the action area (USFWS 1993, 2018a). Although grizzly bears are able to disperse long distances, they are largely regulated to areas of limited human influence, and they are therefore not expected to occur in or disperse into the action area. As such, the proposed action would have **no effect** on grizzly bears.

### **1.6.4 Rusty Patched Bumble Bee**

The rusty patched bumble bee uses a variety of habitats, including prairies, woodlands, marshes, agricultural landscapes, and residential parks and gardens. Habitat requirements are areas that support sufficient food (nectar and pollen from diverse and abundant flowers), nesting sites near floral resources, and overwintering sites for hibernating queens.

Historically, the species was widely distributed across most of the midwestern and eastern US, and two Canadian provinces. Recent records indicate that the range has declined; its current range does not include North Dakota, and it is considered to be extirpated from the state (USFWS 2016b, 2022b).

The nearest current documentations to the action area are in north-central Minnesota, over 100 miles from the North Dakota border (USFWS 2016b, 2022b). The USFWS considers the maximum dispersal

distance of the rusty patched bumble bee to be between about 0.6 to 6.2 miles (USFWS 2016b, p. 11). Given this, this species is not expected to occur in the action area. The proposed action would have **no effect** on the rusty patched bumble bee.

#### **I.6.5 Poweshiek Skipperling**

Once common and abundant throughout native, wet or mesic to dry tallgrass prairies in its historical range, recent survey data indicate Poweshiek skipperling has declined to zero or to undetectable levels at 96 percent of sites where it has been recorded. Poweshiek skipperlings have been historically documented at 17 sites in seven eastern North Dakota counties, but the species was last observed in North Dakota in 2001. The Poweshiek skipperling is now considered extirpated within North Dakota (Dyke et al. 2015; USFWS 2019b).

The nearest extant distribution to the action area is in northwestern Minnesota at the Minnesota Department of Natural Resources-managed Chicog Wildlife Management Area (USFWS 2019b, p. 9). This is over 25 miles from the North Dakota border (and over 80 miles northeast of Poweshiek skipperling critical habitat in the action area in Richland County). The USFWS considers the maximum dispersal distance of the Poweshiek skipperling to be about a mile (USFWS 2014b, p. 63686). Given this, this species is not expected to occur in the action area. The proposed action would have **no effect** on the Poweshiek skipperling.

The USFWS designated critical habitat for the Poweshiek skipperling on October 1, 2015 (80 *Federal Register* 59248) (USFWS 2015c). In the action area, two critical habitat units totaling approximately 47 acres are designated in Richland County, in the southeastern corner of the state. A map of critical habitat in the action area is in **Map 2, Critical Habitat**, in **Appendix B**. There is no BLM-administered surface or BLM-administered subsurface action area near Poweshiek skipperling critical habitat. The nearest BLM action area is about 15 miles away near the Sheyenne National Grasslands in central-western Richland County. The primary constituent elements of the critical habitat would not be expected to respond to any effects of the proposed action. The proposed action would have **no effect** on Poweshiek skipperling critical habitat.

#### **I.6.6 Western Prairie Fringed Orchid**

Western prairie fringed orchid is a perennial orchid of the North American tallgrass prairie; it is found most often on unplowed, calcareous prairies and sedge meadows. In North Dakota, this species most frequently occurs in the sedge meadow community on the Glacial Sheyenne Delta and also in the tallgrass prairie community. Western prairie fringed orchids generally occur within the wetter areas of such prairies or in associated sedge (*Carex* sp.) meadows (USFWS 1996).

The distribution of western prairie fringed orchid in the planning area is limited to approximately 1,477,900 acres (using the range as reported by the USFWS IPaC system) in and near the Sheyenne National Grasslands in Richland and Ransom Counties (USFWS 2009, 2021a), where it grows in calcareous, mesic tallgrass prairie habitats. The BLM action area in this vicinity is limited to a single surface parcel and a few scattered parcels of subsurface action area (see **Maps 1-2 through 1-5 in Appendix B** of the EIS, which depict the BLM action areas, called the “decision areas” in the EIS). The BLM is not aware of suitable habitat for this species in this limited action area.

On BLM surface, split estate, and on fee/fee/fed lands when in accordance with Permanent Instruction Memorandum (PIM) 2018-014, the BLM would require surveys for the presence of BLM sensitive species before authorizing surface-disturbing activities. The BLM would authorize activities only if protective measures can mitigate adverse effects on species and their habitat. Surface disturbance would be prohibited within 0.25 miles of known special status plant species populations. Implementation-level design features would further protect habitat for western prairie fringed orchids; these design features include those for wetlands and riparian areas (DF-14), special status species and habitat (DF-20), and tallgrass prairie (DF-22) (**Appendix D** from the Draft RMP/EIS).

The BLM would manage all action areas in Richland and Ransom Counties as closed to fluid mineral leasing and unsuitable for coal leasing; therefore, there would be no effects from these resources uses on western prairie fringed orchid individuals or habitat.

The subsurface action area around the Sheyenne National Grasslands would generally be managed as open to nonenergy solid mineral leasing subject to standard lease terms and conditions. However, tallgrass prairie would be closed to nonenergy solid mineral leasing, and the same implementation-level design features would apply. These would protect habitat for western prairie fringed orchids (**Appendix D** from the Draft RMP/EIS). Similarly, the subsurface action area around the Sheyenne National Grasslands would be managed as open to locatable mineral entry, though the same implementation-level design features would apply and protect habitat for western prairie fringed orchids.

The subsurface action area around the Sheyenne National Grasslands would generally be managed as open to mineral materials disposal. However, tallgrass prairie would be closed to mineral materials disposal, as would areas within 300 feet of wetlands and riparian areas. As above, the same implementation-level design features would apply; these would protect habitat for western prairie fringed orchids (**Appendix D** from the Draft RMP/EIS).

Together, these measures described above would reduce the potential for effects on western prairie fringed orchids from the proposed action to discountable levels. As such, the proposed action would have **no effect** on western prairie fringed orchids.

# Chapter 2. Description of the Proposed Action

## 2.1 DESCRIPTION OF THE PLANNING AREA

The Proposed RMP/EIS planning area includes the entire state of North Dakota (**Map 1**, North Dakota Planning Area, in **Appendix B**). Throughout this BA, the term “planning area” will be used to refer to all lands within the state regardless of jurisdiction. The BLM, however, will only make management decisions on the portions of the planning area that fall under the BLM’s jurisdiction. **Table 3** shows the number of surface acres administered by federal and state agencies in the planning area, excluding reservations.

**Table 3**  
**Federal and State Surface Landownership in the Planning Area**

Land Managing Agency	Acres <sup>1</sup>	Percentage of the Planning Area
Forest Service	1,104,100	2.4
State of North Dakota	680,200	1.5
US Army Corps of Engineers	531,600	1.2
USFWS	516,200	1.1
National Park Service	71,700	0.2
BLM	58,500	0.1
Bureau of Reclamation	57,800	0.1

Source: BLM GIS 2021

<sup>1</sup> Acres are rounded to the nearest 100.

**Decision Area.** The Proposed RMP/EIS decision area is made up solely of lands in the planning area that the BLM administers, as well as federal mineral estate where the BLM has authority to make decisions. The decision area is, collectively, the surface estate and subsurface mineral estate lands in the planning area over which the BLM has authority to make land use planning and management decisions.

The surface decision area is the 58,500 acres of BLM-administered surface lands (**Map 3**, BLM Surface Decision Area, in **Appendix B**). Most BLM-administered surface lands in the planning area are in Dunn, Bowman, and Stark Counties, which are in western North Dakota. In northwestern Dunn County, approximately 15,000 acres comprise the Lost Bridge area. In western Bowman County, about 22,000 acres are in the Big Gumbo area, and 2,000 acres comprise the Schnell Ranch Recreation Area (see **Map 3** in **Appendix B**, and Map 3-2 in the Analysis of the Management Situation report [BLM 2020]). Most of the remaining BLM-administered surface lands are small, isolated tracts scattered throughout the state.

The subsurface decision area is divided into three decision areas comprised of federal minerals in the planning area: 1) coal; 2) fluid minerals; and 3) mineral materials, locatable minerals, and nonenergy leasable (NEL) minerals (see **Map 4**, BLM Coal Subsurface Decision Area; **Map 5**, BLM Fluid Minerals Subsurface Decision Area; and **Map 6**, BLM Mineral Material Disposal, Locatable Minerals, and Nonenergy Solid Leasable Minerals Subsurface Decision Areas, in **Appendix B**). The majority of the federal subsurface mineral estate is coal (approximately 4 million acres, including areas with federal coal only, federal ownership of all minerals, and other minerals). Federal subsurface oil and gas reserves in the decision area

(fluid minerals) comprise 489,300 acres of the decision area. Decisions under the proposed action apply to the areas described, to the extent that the BLM has jurisdiction.

The largest component of the NDFO's minerals management activities has been actions occurring on non-BLM-administered land over federal mineral estate, which is known as split-estate lands. Split-estate lands are lands where mineral rights were separated (severed) from the surface ownership and retained by the federal government (see Appendix K in the Proposed RMP/EIS for more information on split-estate lands). This means that a state, tribal, or other federal agency or private landowner may own the right to manage the surface lands, while the BLM owns the right to access the underlying minerals.

Although the BLM administers all federal mineral estate, the BLM does not make decisions pertaining to the availability of federal minerals for development underlying Bureau of Reclamation, Army Corps of Engineers, National Park Service, or National Forest System lands. Federal mineral estate underlying these surface jurisdictions are not within this plan's decision area.

**Table 4** shows the relative acres of BLM-administered surface and other subsurface lands compared with total federal mineral estate. As shown in this table, the acres of federal mineral estate vary by mineral type. This is because in some places, either the mineral is not present across the entire federal mineral estate, or the federal government does not own the rights to certain minerals in particular areas. In addition, in some places, the federal government owns the rights to all minerals, and in other places the federal government may own the rights to one or two types of minerals. The acres in **Table 4** differ by mineral type and may overlap for this reason.

**Table 4**  
**BLM-Administered Surface and Federal Mineral Estate**

Mineral Estate	BLM Surface Acres	BLM Subsurface Acres	Total Acres
Subsurface management, coal	51,300	4,020,300	4,071,600
Subsurface management, fluid minerals	54,100	435,200	489,300
Subsurface management, NEL minerals, locatable minerals, <sup>1,2</sup> and mineral materials <sup>2</sup>	50,700	311,900	362,600

Source: BLM GIS 2021

<sup>1</sup> Recommendations for locatable mineral withdrawal only occur on BLM-administered surface.

<sup>2</sup> The decision area for locatable minerals and mineral materials does not include coal-only minerals. Coal reservation minerals, however, may be disposed of through other mineral authorities, such as locatable and mineral materials. There are 3,702,100 acres of coal-only reservation minerals in the planning area that may be suitable for locatable and mineral materials deposits. Resource protections identified for mineral management would apply to coal-only areas, should an application be received.

## 2.2 PROPOSED RMP

The proposed RMP (referred to in this BA as the "proposed action") emphasizes sustaining the ecological integrity of habitats for all priority plant, wildlife, and fish species, while allowing appropriate development scenarios for allocations (such as mineral leasing, recreation, rights-of-way [ROWs], and livestock grazing). Under the proposed action, the BLM would provide opportunities for minerals and energy development in some areas and would close 213,100 acres of low development potential to fluid mineral leasing. Where oil and gas are available for leasing, major or moderate stipulations (that is, no surface occupancy [NSO] and controlled surface use [CSU]) would apply to most areas.

Additionally, all areas outside of a 4-mile buffer from existing coal mine permits would be unacceptable for further consideration for coal leasing, along with several other areas (Coal Screen 3, see Appendix F, Coal Screening Process, of the RMP/EIS). In total, the BLM would manage 1,037,800 acres as unacceptable for further consideration for coal leasing.

The proposed action also provides opportunities for recreation and improved access by designating one special recreation management area (SRMA) and two BCAs. The proposed action would also manage for other social and scientific values by designating one ACEC. Allocations and restrictions would be implemented to minimize impacts on natural and cultural resources throughout North Dakota.

See **Table 2-2**, Land Use Plan Decisions by Alternative, in the PRMP for a comparison of the proposed action (Alternative D in the PRMP/FEIS) and the No Action Alternative. **Table 2-1**, Quantitative Summary of the Alternatives in Acres and Percent of Decision Area, in the PRMP provides a summary of the existing condition allocations compared with the proposed action.

## **2.3 CONSERVATION MEASURES**

### **2.3.1 Design Features, Stipulations and Allocations**

The BLM would use design features to meet statutory requirements for environmental protection and to comply with resource-specific goals and objectives set forward in the NDFO RMP/EIS. The BLM would apply design features and best management practices (BMPs) to modify the operations of authorized land uses or activities to meet these obligations. The intent is to reduce effects associated with authorized land uses or activities such as roads, pipelines, power line construction; mineral development; range improvements; and recreation. The stipulations and allocations that are specific to the species or habitats, or both, addressed in this BA are listed below.

A full list of conservation measures (design features and BMPs) meant to avoid, minimize, rectify, reduce, and compensate for negative effects on resources of concern, including air, water, soil, cultural, recreation, and biological resources, is provided in **Appendix D** from the Draft RMP/EIS. Additional protections for other resources may provide incidental protection for listed or candidate species; those are shown in **Table 2-2** of the Draft RMP/EIS and analyzed below as applicable under each species.

#### ***Design Features***

DF-14, Riparian/Wetland, Streams, and Floodplains: Surface-disturbing activities within riparian/wetland areas, ephemeral, intermittent, and perennial drainages, and floodplains may be prohibited. If no practical alternative exists for relocating the activity, an exception may be granted by the BLM Authorized Officer if a plan is approved demonstrating design features that maintain or improve the functionality of these areas and minimizes the potential for adverse effects. Where no alternative to road construction exists, keep roads to the minimum necessary for the approved activity. The plan will address: (1) potential effects on riparian and wetland resources, (b) mitigation to reduce effects to acceptable levels (including timing and restrictions), (c) post-project restoration, and (d) monitoring. Following established protocols, the operator must conduct monitoring capable of detecting early signs of changing riparian and wetland conditions.

DF-15, Pallid Sturgeon: No instream work from April 1 to July 31 in pallid sturgeon habitat.



DF-16, Migratory Birds: Implement project design features to avoid or minimize impacts from ground disturbing activities to migratory bird nesting.

DF-20, Special Status Species: Prior to surface disturbance and disrupting activities, the proponent will prepare a plan as a component of the project application to be approved by the BLM Authorized Officer. The proponent should not initiate surface-disturbing activities unless the Authorized Officer has approved the plan. The plan must demonstrate to the Authorized Officer's satisfaction that the function and suitability of the habitat would not be impaired.

DF-22, Tallgrass Prairie and Woody Draws: Surface disturbance will be avoided within Tallgrass Prairie and Upland Deciduous Woodland habitat types as identified in coordination with the North Dakota Game and Fish and North Dakota Natural Resource Heritage Program. Where no practicable alternative exists the BLM Authorized Officer may approve development if shown to minimize the potential for adverse environmental impacts.

DF-28, Fluid Mineral Development: There are numerous measures associated with this design feature. Several that are particularly relevant to listed species are presented below. The full text of this design feature is presented in Appendix D of the RMP/EIS. See also Appendix E, Reclamation Standards, in the RMP/EIS for reclamation measures of success criteria, standards, and practices.

Implement preventative measures for the conservation of migratory birds. These measures will be implemented to reduce the potential for bird mortality, injury and/or harm from project activities such as pad construction, drilling, testing, completion, and production of a well. Operators can work with the BLM North Dakota Field Office during all stages of the project to determine and utilize the best preventative measures to implement. Such measures may include but are not limited to netting or covering all containers or pits, mowing vegetation, screening drip buckets or containers, and installing "exhaust cones" on top of exhaust stacks.

Locate production facilities to maximize interim reclamation of the cut and fill slopes (3:1 slope is optimal) of the well pad and centralized tank battery (CTB) (if applicable). Place production tanks on the "cut" portion of the pad, except where interim reclamation re-contouring would preclude that placement. Ensure load lines terminate inside the dike and have adequate drip containment catch basins. Ensure facilities comply with American Petroleum Institute's Recommended Practice for Setting, Maintenance, Inspection, Operation, and Repair of Tanks in Production Service (API RP 12 RI).

Conduct interim reclamation within 6 months to minimize erosion and transport of soils from disturbed surfaces. Reclaim portions of the access road and well pad (including any CTB pads) not needed for production. Re-contour cut and fill slopes, rip compacted subsoil, spread topsoil and reseed during the next spring or fall seeding period.

Utilize closed loop drilling system. Drill cuttings will be stored in three sided tanks on locations prior to be transported offsite to an approved disposal facility. Disposal of all solids and liquids (drilling fluids/cuttings, produced water, trash, sewage, and chemicals) would meet all state, federal, and county requirements.

Develop and implement a Spill Prevention, Control, and Countermeasure (SPCC) plan.

Use common utility or right-of-way corridors containing roads, power lines, and pipelines. All power lines to individual well locations (excluding major power source lines to the operating oil or gas field) and all flow lines will be buried in or immediately adjacent to the access roads, where feasible. Retrofit existing powerlines by burying them or installing perch guards to prevent their use as raptor perches.

Raptor perch avoidance devices will be installed on all new power lines and existing lines that present a potential hazard to raptors.

To reduce potential impacts to critical Piping Plover habitat: a. Construction, drilling, and reclamation earthwork shall not be conducted from April 15 to August 31, within 0.50 mile of designated Piping Plover Critical Habitat. b. The final aggregate utilized on the pads will be coarse in nature to prevent the attraction of piping plovers to the newly constructed pad as a nesting site. The size of the aggregate will be no smaller than 1.5 inches in diameter.

### ***Stipulations and Allocations***

#### *Streams, Waterbodies, Riparian Areas, Wetlands, and Floodplains*

NSO 11-70 Streams, Waterbodies, Riparian Areas, Wetlands, and Floodplains: Surface occupancy and use are prohibited within perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas.

CSU–New: Surface occupancy and use are subject to the following operating constraints: Prior to surface occupancy and use within 300 feet of riparian areas, wetlands, ephemeral, intermittent, perennial drainages, and waterbodies, a plan must be approved by the BLM Authorized Officer with design features that demonstrate how actions would maintain or improve the functionality of the resource. The plan would address: 1) mitigation to reduce impacts to a level where the project is neutral or positive to the resource, 2) interim and final reclamation, and 3) monitoring. Following established protocols, the operator must conduct monitoring capable of detecting early signs of changing conditions.

Close riparian areas and wetlands (plus a 300-foot buffer) to mineral material disposal.

Manage riparian areas and wetlands as ROW avoidance areas. ROWs may be permitted where no practical alternative exists and where design features and BMPs can be implemented to mitigate impacts and maintain riparian area and wetland functionality. Fens are of particular concern for avoidance.

#### *Waterfowl Nesting Habitat*

Allocation: TL 13-15: No seismic exploration is allowed within 500 feet of waterfowl nesting habitat from March 1 through July 1 to protect nesting waterfowl.

#### *Tallgrass Prairie*

NSO–New: Surface occupancy and use are prohibited in identified tallgrass prairie.

Close tallgrass prairie to mineral materials disposal.

Close tallgrass prairie to NEL minerals.

Manage tallgrass prairie as ROW exclusion.

*Woody Draws*

CSU–New: Surface occupancy and use within woody draws is subject to a plan approved by the BLM to maintain functionality of the habitat.

Manage woody draws as ROW avoidance areas; these areas may be available for ROWs with special design features (to be determined at the project level) to minimize disturbance.

*Threatened, Endangered, or Other Special Status Species*

CSU 12-12: Surface occupancy or use is subject to the following special operating constraints:

The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. The BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid a BLM-approved activity that will contribute to a need to list such a species or their habitat. The BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. The BLM will not approve any ground-disturbing activity that may affect any such species or requirements of the Endangered Species Act (ESA), as amended, 16 United States Code (USC) § et seq., including completion of any required procedure for conference or consultation.

NSO 11-24: No surface occupancy or use is allowed within 0.25 miles of special status plants or populations.

CSU 12-11: Surface occupancy and use are subject to the following special operating constraint: A field inspection will be conducted for special status plant species by the lessee prior to any surface disturbance. A field inspection will be conducted for special status plant species by the lessee prior to any surface disturbance. A list of special status plant species and any known populations or suitable habitat will be provided to the lessee after issuance of the lease/ Plant species on the list are subject to change over time, as new information becomes available. Plant inventories must be conducted at the time of year when the target species are most easily identifiable (for example, when flowering or fruiting). An acceptable report must be provided to the BLM documenting the presence or absence of special status plants in the area proposed for surface-disturbing activities. The findings of this report may result in restrictions to the operator's plans or may preclude use and occupancy.

Manage special status plant locations as ROW avoidance areas; these areas may be available for ROWs with special stipulations/design features (to be determined at the project level) to minimize nest disturbance.

*Piping Plover*

NSO 11-156: Surface occupancy and use is prohibited in and within 0.25 miles of piping plover habitat.

CSU–New: Surface occupancy and use within 0.50 miles of piping plover habitat is subject to a plan approved by the BLM to maintain the functionality of the habitat.

Manage areas within 0.50 miles of piping plover habitat as ROW avoidance; these areas may be available for ROWs with special stipulations/design features (to be determined at the project level) to minimize nest disturbance.

Surface-disturbing activities within 0.50 miles of piping plover habitat are subject to special stipulations/design features (to be determined at the project level) to minimize habitat disturbance.

Closed to nonenergy solid mineral leasing within 0.50 miles of piping plover habitat.

Closed to mineral material disposal within 0.50 miles of piping plover habitat.

#### *Pallid Sturgeon*

NSO–New: Surface occupancy and use is prohibited within 0.50 miles of the ordinary high-water mark of identified pallid sturgeon habitat.

Manage areas within 0.50 miles of the ordinary high water mark of identified pallid sturgeon habitat as ROW avoidance; these areas may be available for ROWs with special stipulations/design features (to be determined at the project level) to minimize spawning disturbance.

Surface-disturbing activities within 0.50 miles of the ordinary high water mark of identified pallid sturgeon streams are subject to special stipulations/design features to minimize habitat disturbance and maintain habitat functionality.

#### *Dakota Skipper*

NSO–New: Surface occupancy and use is prohibited within 500 meters of occupied Dakota skipper habitat.

CSU–New: Surface occupancy and use within 0.62 miles (1 kilometer) of occupied Dakota skipper habitat is subject to a plan approved by the BLM to minimize disturbance.

Manage within 0.62 miles (1 kilometer) of occupied Dakota skipper habitat as ROW avoidance; these areas may be available for ROWs with special stipulations/design features, to be determined at the project level, to minimize disturbance.

Surface-disturbing activities within 0.62 miles (1 kilometer) of occupied Dakota skipper habitat subject to special stipulations/design features, to be determined at the project level, to minimize habitat disturbance.

Closed to nonenergy solid mineral leasing occupied Dakota skipper habitat and within 0.62 miles (1 kilometer).

Closed to mineral material disposal within occupied Dakota skipper habitat and within 0.62 miles (1 kilometer).

### **2.3.2 Additional Recommended Conservation Measures**

Conservation measures are actions to benefit or promote the recovery of listed species that the BLM includes as an integral part of the proposed action. These actions would be taken by the BLM or applicant, and serve to minimize or compensate for project effects on the species under review. These may include actions taken prior to the initiation of consultation, or actions that the BLM or applicant have committed

to complete a BA or similar document (USFWS and NMFS 1998). Site-specific evaluations will be conducted for activities authorized under the Proposed RMP/EIS at the time they are proposed. Consultation or conference would occur with the USFWS for activities that may affect threatened, endangered, proposed, or candidate species, as well as final or proposed critical habitats.

To minimize impacts on listed species and critical habitat, the BLM would implement the conservation measures described below:

CM-Northern long-eared bat-1: Survey for roosting bats prior to tree removal within the northern long-eared bat's range.

CM-Northern long-eared bat-2: If wind energy development occurs on BLM-administered lands, the BLM would employ operational strategies (such as feathering turbine blades when bats are most likely to be active) to reduce the severity of impacts described in USFWS 2022c.

CM-Piping plover-1: Motorized, wheeled, cross-country travel would be prohibited in designated critical habitat for piping plovers.

CM-Piping plover-2: Livestock grazing would be prohibited in designated critical habitat for piping plovers.

CM-Piping plover-3: If conducting vegetation treatments within piping plover range or critical habitat, include treatments that reduce encroachment of woody vegetation onto sandbars.

CM-Migratory birds-1: Survey for migratory birds, including rufa red knot and whooping crane, prior to permitting any surface or noise disturbance activities within the migration corridor.

CM-Dakota skipper-1: The BLM would follow all applicable recommended conservation measures in the Dakota Skipper Conservation Guidelines (USFWS 2016c), including when planning prescribed fire, haying, livestock grazing, and invasive plant management on BLM-administered lands in Dakota skipper habitat and critical habitat. The BLM would also stipulate compliance with any applicable conservation measures when authorizing ROWs within 0.62 miles of occupied Dakota skipper habitat and critical habitat to minimize the potential for detrimental effects on dispersing adults during the flight season. These may include adherence with conservation recommendations for mowing (haying) and invasive plant management that may be carried out in ROWs.

CM-Dakota skipper-2: Where otherwise allowed under Coal Screen 2 with stipulation for Criterion 15 (Draft RMP/EIS **Appendix F**, Table F-1), the BLM would not approve proposals for coal development in suitable habitat for Dakota skipper, including, but not limited to, tallgrass prairie, including within 0.62 miles of these areas. This is because Criterion 15 stipulates that disturbed habitats are reclaimed to equal or better conditions than at the time of disturbance. In practice, however, successful restoration of Dakota skipper habitat has not been demonstrated to date, and there is no evidence to support a presumption that destroyed Dakota skipper habitat could be restored through planting or other means (USFWS 2016c). Therefore, conformance with the stipulation for Criterion 15 is likely impossible.

CM-Dakota skipper-3: Motorized, wheeled, cross-country travel would be prohibited in designated critical habitat for Dakota skippers, as well as known occupied native prairie habitat areas. Known habitat would be determined through consultation with the USFWS.

CM-Dakota skipper-4: Within designated critical habitat for Dakota skippers, as well as known occupied native prairie habitat areas, livestock grazing regimes would be developed using the combined skills and knowledge of persons with Dakota skipper expertise, persons with grazing expertise, and land manager input (or other party familiar with the site's grazing history and characteristics). This would be done to:

- Avoid or minimize the extent of grazing regimes that reduce the density or diversity of floral nectar resources during the flight period.
- Include at least one period of rest during the growing season and to not graze a site during the same time each year.
- Avoid adverse effects from livestock grazing in the wet-mesic prairies that Dakota skippers inhabit in parts of North Dakota, which are more sensitive to disturbance from grazing than in the dry-mesic habitat type.

CM-Monarch butterfly-I: The BLM would incorporate the applicable recommended conservation measures in the Nationwide Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands (Cardno 2020). Applicable BLM-authorized activities may include, but not be limited to, the following:

- Vegetation management on BLM-administered lands for resource conservation and enhancement
- ROW authorization and ongoing, periodic vegetation management in ROWs on BLM-administered lands
- Minerals leasing, development, and periodic vegetation management in lease areas on BLM-administered surface and subsurface decision areas
- Authorized livestock grazing management

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# Chapter 3. Species Accounts

## 3.1 NORTHERN LONG-EARED BAT

### 3.1.1 Listing Status and Recovery Plan

The USFWS listed the northern long-eared bat (*Myotis septentrionalis*) as a threatened species under the ESA on April 2, 2015 (USFWS 2015a). The USFWS published a final Section 4(d) rule<sup>1</sup> the following year that specifically defines the “take” prohibitions and also determined that it was not prudent to designate critical habitat for the species (USFWS 2016a, 2016d).

The USFWS proposed to reclassify the northern long-eared bat as endangered on March 23, 2022, and the final rule reclassifying the species as endangered was published on November 30, 2022 (USFWS 2022c, 2022d). In addition to reclassifying the northern long-eared bat from a threatened species to an endangered species, the rule also removes the northern long-eared bat’s species-specific rule issued under Section 4(d) of the ESA; this is because such rules apply only to species listed as threatened species. However, the effective date of the final rule amending 50 CFR 17, published November 30, 2022, at 87 *Federal Register* 73488, was delayed until March 31, 2023 (USFWS 2023b).

A recovery plan is not yet available for the northern long-eared bat, but the 2022 species status assessment (SSA) identified downward trends in the northern long-eared bat’s population abundance and distribution over the last 14 years. The report concluded that the species’ resiliency is greatly compromised in its current condition and is projected to decline under future scenarios (USFWS 2022a).

### 3.1.2 Life History and Habitat Characteristics

Northern long-eared bats need access to food and water resources when they are not hibernating, along with suitable habitat throughout their annual life cycle. During the spring, summer, and fall, they require suitable foraging, roosting, traveling (between summer and winter habitat), and swarming habitats with appropriate conditions for maternity colony members. Summer habitats consist of forested areas, where they roost singly or in colonies underneath bark, in cavities, or in crevices of both live trees and snags (USFWS 2015a, 2016a, 2022a). During the winter, northern long-eared bats typically hibernate in various-sized caves or mines, called hibernacula, with suitable conditions for prolonged bouts of torpor. These conditions include constant and relatively cooler (32 to 48 degrees Fahrenheit) temperatures, high humidity, and no air currents (USFWS 2022a).

Population growth and reproductive rates are influenced by hibernation conditions, prey availability, summer roosting habitat, and habitat connectivity. Healthy populations require a population size and growth rate sufficient to withstand natural environmental fluctuations, habitat of sufficient quantity and quality to support all life stages, gene flow among populations, and a matrix of interconnected habitats that support spring migration, summer maternity colony formation, fall swarming, and winter hibernation (USFWS 2022a).

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<sup>1</sup> A 4(d) rule provides for the conservation of a threatened species by tailoring protections to those needed to prevent further decline and facilitate recovery.



### 3.1.3 Status and Distribution

Prior to 2006 (that is, before white-nose syndrome was first documented), northern long-eared bats were abundant and widespread throughout much of their range with 737 occupied hibernacula, a maximum count of 38,181 individuals, and a range distributed across more than 1.2 billion acres in the United States and Canada. Abundance and occurrence varied temporally and spatially, but they were stable on the landscape level (USFWS 2022a).

Currently, the northern long-eared bat is still a widespread species; bats are found in 37 states and eight Canadian provinces in North America, including much of the eastern and north-central United States (USFWS 2022a). However, available data demonstrate declines in both winter and summer abundance. For example, rangewide winter abundance has declined by 49 percent, and the number of extant winter colonies (populations) has declined by 81 percent. There has also been a noticeable shift toward smaller colony sizes, with a 96 to 100 percent decline in the number of large hibernacula (100 or more individuals). Projections indicate the rangewide abundance, number of hibernacula, and spatial extent will continue to decline into the future (USFWS 2022a).

### 3.1.4 Occurrence in the Action Area

Northern long-eared bats have only been identified in a few locations in North Dakota. They have been documented in forested habitat in the Turtle Mountains and the riparian corridors of the Little Missouri and Missouri Rivers. They are thought to be seasonal visitors because no hibernacula have been identified for this species in the state. Their statewide abundance is rare (Dyke et al. 2015).

The acres of the northern long-eared bats' range in the action areas are summarized in **Table 5**, below. A map depicting the range is shown in **Map 7** in **Appendix B**.

**Table 5**  
**Northern Long-Eared Bat Range in the Action Areas**

Action Area	Range (Acres) <sup>1</sup>	Percentage of Action Area
BLM Surface	11,200	19
Fluid Minerals	55,600	11
Coal	297,500	7
Other Minerals <sup>2</sup>	37,500	10

Source: BLM GIS 2023

<sup>1</sup> Range as reported by the USFWS IpaC system

<sup>2</sup> Includes mineral materials and locatable minerals

### 3.1.5 Threats

White-nose syndrome, a disease caused by a fungal pathogen, is the main threat to this species. The fungus that causes the disease, *Pseudogymnoascus destructans*, causes infection that leads to increases in the frequency and duration of arousals during hibernation and eventual depletion of fat reserves needed to survive winter. White-nose syndrome often results in mortality and has caused estimated northern long-eared bat population declines of 97 to 100 percent across 79 percent of the species' range (USFWS 2022a).

Other threats to northern long-eared bats include impacts on hibernacula, the loss or degradation of summer habitat, effects of climate change, pesticides, and wind energy-related mortality. Wind energy-

related mortality primarily results from direct collisions with moving turbine blades; this may occur over 49 percent of the species' range (USFWS 2022a). Wind turbines have been identified as a source of mortality to bats, and several turbine farms are under construction in parts of North Dakota (Dyke et al. 2015).

## **3.2 PIPING PLOVER**

### **3.2.1 Listing Status and Recovery Plan**

In January 1986, the piping plover (*Charadrius melodus*) was listed as a federally threatened species in the Northeast Region (Region 5) and a federally endangered species in the Great Lakes-Big River Region (Region 3) (USFWS 1985). The population that occurs in the action area is the Northern Great Plains piping plover.

Critical habitat was designated on the Northern Great Plains breeding grounds on September 11, 2002 (USFWS 2002). In 2015, the USFWS issued the Draft Revised Recovery Plan for the Northern Great Plains Piping Plover (USFWS 2015b). The most recent 5-year review of piping plovers was completed in 2020 (USFWS 2020a).

### **3.2.2 Life History and Habitat Characteristics**

The recovery plan cited above and the 2012 Comprehensive Conservation Strategy for the Piping Plover (*Charadrius melodus*) in its Coastal Migration and Wintering Range in the Continental United States contain detailed information on the species' biology, ecology, habitat, and status (USFWS 2012b, 2015b). Unless otherwise noted, the following description of piping plovers' life history, habitat, distribution, and ecology is taken from these documents.

The species is made up of two subspecies from three distinct breeding populations in three geographic regions in North America. Atlantic populations along the coast of the US and Canada belong to the *C. m. melodus* subspecies, whereas those in the Great Lakes and Northern Great Plains regions belong to *C. m. circumcinctus* (Miller et al. 2010). Within the interior subspecies, *C. m. circumcinctus*, the Northern Great Plains and Great Lakes populations constitute distinct population segments due to marked separation. This separation is due to breeding behavior and differences in habitat and wintering distribution. Observations of banded individuals have shown a very low level of interchange between the three piping plover populations. This is consistent with the subspecies differentiation between Atlantic coast and interior piping plovers (USFWS 2020a).

Piping plovers spend up to 10 months of their annual cycle on their migration and winter grounds, typically from July 15 through May 15. Southward migration from breeding grounds primarily occurs from July to September, with the majority of birds initiating migration by the end of August (USFWS 2003). Piping plovers depart wintering grounds as early as mid-February and as late as mid-May, with peak migration occurring in March.

Migrating and wintering piping plovers use a mosaic of ephemeral habitats in response to local weather and tidal conditions throughout the coastal migration and wintering range. Preferred coastal habitats include sand spits, small islands, tidal flats, shoals (usually flood tidal deltas), and sandbars that are often associated with inlets. Sandy mud flats, ephemeral pools, seasonally emergent seagrass beds, mud and sand flats with scattered oysters, and overwash fans are considered primary foraging habitats. Prey availability and distribution are key factors in piping plovers' foraging habitat use (USFWS 2012b).

Piping plovers breed and raise young on unvegetated or sparsely vegetated sandy, loamy, or rocky areas along beaches, lakeshores, marshes, lakes, and rivers. Males construct nests and place them in loose substrate along exposed sandbars or shorelines. Nests are constructed by scraping away surface debris, creating a small depression near clumps of vegetation away from the high tide. Nesting and feeding territories are generally contiguous and may occupy an area of up to 2 acres (USFWS 2015b).

Recent monitoring has shown that river and alkali wetland habitats in the Northern Great Plains appear to be of higher quality than reservoir habitats, which had lower annual survival, increased movement away from the habitat, lower renesting success, and lower reproductive output. In general, habitat availability was positively associated with improved piping plover vital rates. Managing the Missouri River for abundant breeding habitat and successful first nests for Northern Great Plains piping plovers is essential for improving reproductive output (Swift et al. 2021).

### 3.2.3 Status and Distribution

The species' historical range included Alabama, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, South Dakota, Texas, Virginia, the Virgin Islands, Wisconsin, and Wyoming.

The breeding population of the Northern Great Plains piping plover extends from Nebraska north along the Missouri River through South Dakota, North Dakota, and eastern Montana. It also extends on alkaline lakes along the Missouri River Coteau (a large plateau extending north and east of the Missouri River) in North Dakota and Montana, and extending into Canada. The majority of piping plovers from Prairie Canada winter along the south Texas coast, while breeding piping plovers from the US are more widely distributed along the Gulf Coast from Florida to Texas.

### 3.2.4 Occurrence in the Action Area

Piping plovers occur in North Dakota from mid-April to August, where they nest on sandy or gravelly beaches and sandbars or alkaline wetlands. Their peak breeding season occurs from late May to mid-July. Their statewide abundance is uncommon, with a statewide population estimate of approximately 300–400 breeding pairs on the Missouri River system and 200–300 breeding pairs on the alkali lakes (Dyke et al. 2015). The US Army Corps of Engineers' annual census and monitoring program for piping plovers within the Northern Rivers Management Region (on the Missouri River from Lake Sakakawea, North Dakota, to Lake Oahe, South Dakota) showed the annual abundance of piping plover breeding adults has varied from approximately 200 to 1,300 breeding pairs over the past 30 years (USFWS 2020a).

The acres of piping plover range and critical habitat in the action areas are summarized in **Table 6**, below. A map depicting the range and critical habitat is in **Map 8** in **Appendix B**.

**Table 6**  
**Piping Plover Range and Critical Habitat in the Action Areas**

Action Area	Range (Acres) <sup>1</sup>	Percentage of Action Area	Critical Habitat (Acres)	Percentage of Action Area
BLM Surface	19,900	34	700	1
Fluid Minerals	313,200	64	2,800	1

Action Area	Range (Acres) <sup>1</sup>	Percentage of Action Area	Critical Habitat (Acres)	Percentage of Action Area
Coal	2,884,400	71	700	<1
Other Minerals <sup>2</sup>	256,100	71	2,600	<1

Source: BLM GIS 2023

<sup>1</sup> Range as reported by the USFWS IpaC system

<sup>2</sup> Includes mineral materials and locatable minerals

### 3.2.5 Threats

Cumulative losses of habitat and habitat function throughout the coastal migration and wintering range continue to be the primary threat to piping plovers. Continued impacts on habitats, individual survival, and negative effects from recreational disturbance indicate current conservation efforts aimed at protecting habitat and minimizing recreational disturbance are not adequately addressing the threat. Other lower-priority threats include oil spills, predation, storms, the accelerating sea level rise, and severe cold weather (USFWS 2020a).

Sandbar nesting habitat in the action area has been drastically altered due to channelization, irrigation, and dam construction along the Missouri River sandbar habitat for nesting. Also, current river flows do not mimic the natural river flows instrumental in forming sandbar habitat. High water releases during peak breeding season may flood nests. Encroachment of woody vegetation onto sandbars reduces nesting habitat availability. A wet cycle in North Dakota, beginning in 1993, has resulted in high water levels on alkali lakes and inundation of breeding habitat (Dyke et al. 2015).

Additionally, in North Dakota, predation by several species of avian and mammalian predators, mortality from collisions with power lines, and mortality from collisions with wind turbines are of increasing concern. Intensifying oil and gas development in North Dakota overlaps much of the breeding range of piping plovers, and there is increasing risk of oilfield contamination to alkali lakes and the Missouri River system (Dyke et al. 2015).

### 3.2.6 Critical Habitat

In 2001, critical habitat was designated for the breeding population in the US Great Lakes region, while a separate rule determined critical habitat for the US portion of the Northern Great Plains breeding population in 2002 (USFWS 2002). There are 557,400 acres of piping plover critical habitat in the action area (**Figure 2 in Appendix B**). **Table 6**, Piping Plover Range and Critical Habitat in the Action Areas, summarizes the acres of piping plover critical habitat in the action area.

Critical habitat for the Northern Great Plains breeding population originally included 19 critical habitat units containing approximately 183,422 acres of prairie alkali wetlands, inland and reservoir lakes, and portions of four rivers (totaling approximately 1,207.5 river miles) in Montana, Nebraska, South Dakota, North Dakota, and Minnesota (USFWS 2002). The Nebraska portion of the critical habitat was vacated by US District Court on October 13, 2005. The physical primary constituent elements of critical habitat for the Northern Great Plains breeding population of piping plovers are as follows (USFWS 2002):

- On prairie alkali lakes and wetlands, the physical primary constituent elements include 1) shallow, seasonally to permanently flooded, mixosaline to hypersaline wetlands with sandy to gravelly, sparsely vegetated beaches, salt-encrusted mud flats, and/or gravelly salt flats; 2) springs and fens

along edges of alkali lakes and wetlands; and 3) adjacent uplands 200 feet above the high-water mark of the alkali lake or wetland.

- On rivers, the physical primary constituent elements include sparsely vegetated channel sandbars, sand and gravel beaches on islands, temporary pools on sandbars and islands, and the interface with the river.
- On reservoirs, the physical primary constituent elements include sparsely vegetated shoreline beaches; peninsulas; islands composed of sand, gravel, or shale; and their interface with the reservoirs.
- On inland lakes (Lake of the Woods), the physical primary constituent elements include sparsely vegetated and windswept sandy to gravelly islands, beaches, and peninsulas, and their interface with the lakes.

### **3.3 RUFA RED KNOT**

#### **3.3.1 Listing Status and Recovery Plan**

The rufa red knot was listed as threatened throughout its range on December 11, 2014 (USFWS 2014c). Critical habitat has not been designated or proposed for this species, and no review plan or recovery plans have been drafted for this species. Unless otherwise noted, the following description of rufa red knots' life history, habitat, distribution, and ecology is taken from the Rufa Red Knot Background Information and Threats Assessment (USFWS 2014d).

#### **3.3.2 Life History and Habitat Characteristics**

Rufa red knots are long-distance migrants that breed in the Arctic tundra and winter in coastal habitats along the southern coast of South America. Annually, a single individual may travel up to 19,000 miles. They arrive on the breeding grounds in late May or June and move to inland nesting habitat a few days after arrival. Nesting habitat consists of dry, elevated, and windswept tundra, usually sparsely vegetated and often on exposed rock.

The reproductive chronology for this species is poorly known, though pair bonds generally begin as soon as suitable conditions are available (Niles et al. 2008). Female rufa red knots produce one clutch of eggs annually, and they generally do not attempt a second clutch even after success or failure of the first. Clutch size is 3–4 eggs, and the shared incubation period lasts approximately 22 days. Young leave the nest almost immediately and can be seen foraging in flocks with adults. Females are thought to leave the breeding grounds soon after the chicks hatch; thus, males provide the parental care. Males then abandon the newly fledged chicks to move south about 25 days later.

During migration staging and on the wintering grounds, rufa red knots can be seen in flocks foraging for primarily hard-shelled mollusks and less often for soft foods such as shrimp or horseshoe crab eggs. In the early stages of the breeding season, the species has been observed feeding on vegetation; however, this is short lived as they move to a diet of invertebrates as soon as they become available.

Primary impacts on the species include loss of habitat, disruption of natural predator cycles on breeding grounds, reduced prey availability during migration and wintering, and increasing frequency and mismatched timing of the birds' annual migratory cycle relative to favorable food and weather conditions.

### 3.3.3 Status and Distribution

During migration, the species is known or believed to occur throughout much of the United States, including North Dakota, Nebraska, Kansas, Oklahoma, and Texas. The range includes breeding grounds in the Canadian Arctic to migration stopover areas along the Atlantic and Gulf Coasts of North America. The range also includes wintering grounds throughout the southeastern US, the Gulf Coast, and South America (reaching as far south as Tierra del Fuego at the southern tip of South America).

Wintering areas for rufa red knots include the northwest Gulf of Mexico from the Mexican state of Tamaulipas through Texas (particularly at Laguna Madre) to Louisiana, and the southeast US from Florida (particularly the central Gulf Coast) to North Carolina.

### 3.3.4 Occurrence in the Action Area

Rufa red knots occur in North Dakota during the spring and/or fall migration periods in mid-May and mid-September to October. Observations of rufa red knots are rare in the state, but both alkaline and freshwater lakes have been used in North Dakota during migration. The species has also been observed in the Missouri River system as well as sewage lagoons and large, permanent freshwater wetlands. Rufa red knots are considered a rare migrant in North Dakota, with a statewide migration population estimate of approximately 100 individuals. There are no stopover sites consistently used by the species within the state (Dyke et al. 2015).

The acres of rufa red knot range in the action areas are summarized in **Table 7**, below. A map depicting the range is in **Map 9** in **Appendix B**.

**Table 7**  
**Rufa Red Knot Range in the Action Areas**

Action Area	Range (Acres) <sup>1</sup>	Percentage of Action Area
BLM Surface	20,000	34
Fluid Minerals	306,100	63
Coal	2,878,000	71
Other Minerals <sup>2</sup>	249,000	69

Source: BLM GIS 2023

<sup>1</sup> Range as reported by the USFWS IpaC system

<sup>2</sup> Includes mineral materials and locatable minerals

### 3.3.5 Threats

Primary impacts and threats to the species include loss of habitat, predation on breeding grounds, reduced prey availability during migration and wintering, and increasing frequency and severity of asynchronies (“mismatches”) in the timing of the birds’ annual migratory cycle relative to favorable food and weather conditions. Degradation of wetland habitat is the main threat in North Dakota. Additionally, expanding oil and gas development in North Dakota overlaps the migration range, and there is an increasing risk of oilfield contamination to alkali lakes and the Missouri River system (Dyke et al. 2015).

## 3.4 WHOOPING CRANE

### 3.4.1 Listing Status and Recovery Plan

The whooping crane was originally listed as an endangered species on March 11, 1967, following establishment of the Endangered Species Preservation Act on October 15, 1966. It is currently listed as

endangered under the ESA, as amended. Whooping cranes were reintroduced as experimental populations in the Rocky Mountains (1975–1989), Florida (1993–2005), the eastern US (2001–2010), and Louisiana (2011); however, the Rocky Mountain population was extirpated with the last known individual seen in 2002 (CWS and USFWS 2007).

Critical habitat for whooping cranes was designated on May 15, 1978, at nine locations in the US: Alamosa and Monte Vista National Wildlife Refuges (NWRs) in Colorado, Grays Lake NWR in Idaho, Bosque del Apache NWR in New Mexico, Quivira NWR and Cheyenne Bottoms State Wildlife Management Area in Kansas, an 80-mile stretch of the Platte River in Nebraska, Salt Plains NWR in Oklahoma, and Aransas NWR and vicinity in Texas. With the extirpation of the Rocky Mountain reintroduced whooping crane population, the four locations in Colorado, Idaho, and New Mexico were removed from the list of designated critical habitat areas on July 21, 1997 (USFWS 1997). There is no critical habitat in the action area.

The original US recovery plan was approved on January 23, 1980. It was revised for the first time on December 23, 1986, and for the second time on February 11, 1994. The current International Recovery Plan for the Whooping Crane, Third Revision was approved on May 29, 2007 (CWS and USFWS 2007). The most recent 5-year review was released in 2012 (USFWS 2012c), and a notice of initiation for the next review was released in May 2021 (USFWS 2021b).

### **3.4.2 Life History and Habitat Characteristics**

Whooping cranes occur only in North America. Four geographically distinct populations exist in the wild: the only natural population that migrates between Aransas NWR and Wood Buffalo National Park (Aransas-Wood Buffalo population), a reintroduced experimental nonmigratory population in central Florida, an experimental population that migrates between Wisconsin and Florida, and a nonmigratory flock in Louisiana. None of the reintroduced populations are self-sustaining, and the Whooping Crane Recovery Team has recently recommended abandoning efforts to place more nonmigratory whooping cranes in Florida. A reintroduction was initiated in February 2011 to place a nonmigratory flock at White Lake, Louisiana, where they historically nested as late as the 1930s (USFWS 2012c).

Whooping cranes in the action area are from the Aransas-Wood Buffalo population, the only remaining natural, self-sustaining population. This population breeds in the wetlands of Wood Buffalo National Park in northern Canada and migrates to wintering grounds on the Texas coast at Aransas NWR. Birds begin their fall migration south to Texas in mid-September and begin the spring migration north to Canada in late March or early April. Whooping cranes migrate over 2,400 miles a year. Whooping cranes are a long-lived species; current estimates suggest a maximum longevity in the wild of at least 30 years (CWS and USFWS 2007).

These birds breed, migrate, winter, and forage in a variety of habitats, including coastal marshes and estuaries, inland marshes, lakes, ponds, rivers, wet meadows, and agricultural fields. Within the Wood Buffalo National Park, available nesting areas primarily include flooded potholes and wetlands. Summer foods include large nymphal or larval forms of insects, frogs, rodents, small birds, minnows, and berries. During migration, whooping cranes are often observed in riverine habitats, especially in Nebraska. Frequently used riverine habitats include the South Saskatchewan River in Saskatchewan; the Platte River, North and Middle Loup Rivers, and Niobrara River in Nebraska; the Missouri River in North Dakota; and

the Red River in Texas (CWS and USFWS 2007). Whooping cranes roost on submerged sandbars in wide, unobstructed channels that are isolated from human disturbance.

The species' primary wintering grounds consist of approximately 22,000 acres of salt flats on the Aransas NWR and adjacent islands. Marshes are dominated by saltgrass (*Distichlis spicata*), saltwort (*Batis maritima*), smooth cordgrass (*Spartina alterniflora*), glasswort (*Salicornia* sp.), and sea ox-eye (*Borrchia frutescens*). Inland margins of the flats are dominated by Gulf cordgrass (*Spartina spartinae*). Interior portions of the refuge are gently rolling and sandy and are characterized by oak brush, grassland, swales, and ponds. The refuge maintains as many as 8,200 acres of grassland for cranes, waterfowl, and other wildlife (CWS and USFWS 2007).

### **3.4.3 Status and Distribution**

Historically, over 10,000 whooping cranes once populated North America, ranging east of the Rocky Mountains from Canada to Mexico and from the Rocky Mountains to the East Coast. Population declines were caused primarily by shooting and destruction of habitat in the prairies from agricultural development (CWS and USFWS 2007). By the mid-1800s, only an estimated 1,400 whooping cranes survived in North America. By the mid-1900s, only a few birds remained that nested in Wood Buffalo National Park and wintered in south Texas at what is now the Aransas NWR.

All whooping cranes alive today have come from the all-time low of 15 whooping cranes wintering at Aransas NWR in 1941 (CWS and USFWS 2007). Since then, the Aransas-Wood Buffalo population has slowly increased due to conservation efforts, which include legal protection, habitat preservation, and international cooperation between Canada and the United States. The long-term growth rate in the whooping crane population has averaged 4.4 percent (USFWS 2022e).

Based on aerial surveys during the winter of 2021–2022, the estimated abundance of the Aransas-Wood Buffalo population was 543 whooping cranes. This estimate included at least 31 juveniles and 196 adult pairs. Recruitment of juveniles into the winter flock was 6.1 chicks per 100 adults (USFWS 2022e).

### **3.4.4 Occurrence in the Action Area**

The whooping cranes that migrate through North Dakota are part of the Aransas-Wood Buffalo population, which may stop over in the state during migration from wintering grounds in Aransas NWR in Texas to nesting grounds at Wood Buffalo National Park in Canada. Whooping cranes migrate through North Dakota in April to mid-May and September to early November. During these times, they primarily use wetlands for roosting and foraging. Key stopover sites may be located anywhere throughout the migration corridor, which runs through most of the western and central part of the state (Dyke et al. 2015). The Missouri River in North Dakota is known as a frequently used stopover area for migrating whooping cranes (CWS and USFWS 2007).

The acres of whooping crane range in the action areas are summarized in **Table 8**, below. A map depicting the range is in **Map 10** in **Appendix B**.



**Table 8**  
**Whooping Crane Range in the Action Areas**

Action Area	Range (Acres) <sup>1</sup>	Percentage of Action Area
BLM Surface	24,800	42
Fluid Minerals	401,100	82
Coal	3,855,100	95
Other Minerals <sup>2</sup>	302,200	83

Source: BLM GIS 2023

<sup>1</sup> Range as reported by the USFWS IpaC system

<sup>2</sup> Includes mineral materials and locatable minerals

### 3.4.5 Threats

Habitat destruction, legal hunting before being listed, poaching, and displacement by human-caused activities were the main causes of historical population declines. Delayed sexual maturity, a small clutch size, and a low recruitment rate have precluded a rapid recovery. Current threats include limited genetics of the population, continued loss and degradation of migration stopover habitat, construction of additional power lines, degradation of coastal ecosystems, and the threat of chemical spills in Texas. Wetlands used as stopover habitat by whooping cranes remain at risk of destruction, and there is a lack of large blocks of suitable habitat in which the species seems to prosper. Recolonization of historical breeding areas remains unlikely unless humans assist with habitat restoration and reintroductions (CWS and USFWS 2007; USFWS 2012c).

Power line collisions have been the most common cause of whooping crane mortalities in the last 50 years. Currently, the number of power lines, communication towers, and wind turbines is increasing in the US and may kill as many as 225 million birds annually (CWS and USFWS 2007). The development of wind farms in the whooping crane migration corridor has the potential to cause significant mortality. Cranes could be killed directly by wind turbines or from colliding with new power lines associated with wind farm development. Additionally, intensifying oil and gas development in North Dakota overlaps the migratory corridor of whooping cranes. There is an increasing risk of oilfield contamination of stopover habitat. Whooping cranes may be highly susceptible to disturbance, particularly on their breeding grounds (CWS and USFWS 2007; USFWS 2012c).

## 3.5 PALLID STURGEON

### 3.5.1 Listing Status and Recovery Plan

The pallid sturgeon (*Scaphirhynchus albus*) was listed as federally endangered under the ESA on September 6, 1990 (USFWS 1990). The USFWS listed all populations of the species as endangered; those populations can be found in the Missouri River, from its mouth to Fort Benton, Montana, the lower Yellowstone River, the lower Platte River, and the Mississippi River downstream from its confluence with the Missouri. No critical habitat has been designated for this species. The original recovery plan for the pallid sturgeon was approved in 1993 and revised in 2014 (USFWS 2014a). Unless otherwise noted, the following description of life history, habitat, distribution, and ecology for the pallid sturgeon is taken from the Revised Recovery Plan for the Pallid Sturgeon (*Scaphirhynchus albus*) (USFWS 2014a).

### **3.5.2 Life History and Habitat Characteristics**

The pallid sturgeon is a bottom-oriented, river-dependent fish found in the Missouri and Mississippi Rivers and some tributaries from Montana to Louisiana (USFWS 2014a). Having evolved in the Missouri and Mississippi Rivers, pallid sturgeon have adapted to the historical conditions in these rivers before development. These conditions generally can be described as large, free-flowing, warmwater, and turbid rivers with rocky or sandy substrate, with a diverse assemblage of dynamic physical habitats.

Their diet is poorly studied, though they likely feed on aquatic insects and smaller fish. Pallid sturgeon are well adapted to swiftly moving waters and tend to inhabit areas with a stronger current than the smaller shovelnose sturgeon.

The reproductive cycle of female pallid sturgeon may require multiple years to progress from gonadal development to spawning. Much like other sturgeon species, pallid sturgeon migrate upstream to initiate gamete maturation and spawning. Pallid sturgeon spawn in the springtime after migrating anywhere from 6 to 621 miles. The timing and extent of migration, rate of movement, and reproductive behavior of the pallid sturgeon are poorly known, though it is thought that the lower Yellowstone and lower Platte Rivers may be significant spawning tributaries (USFWS 2014a).

Limiting factors include activities that affect in-river connectivity and the natural form, function, and hydrologic processes of rivers; illegal harvest; impaired water quality and quantity; entrainment; and life history attributes of the species (that is, delayed sexual maturity, females not spawning every year, and larval drift requirements). The degree to which these factors affect the species varies among river reaches. Pallid sturgeon have been declining during at least the past 50 years with only about 200 adults remaining in the upper Missouri River. Only three wild pallid sturgeon were collected during 2007 to 2013, indicating pallid sturgeon numbers in the Missouri River upstream of Fort Peck Reservoir are too low for a reliable population estimate (USFWS 2014a).

### **3.5.3 Status and Distribution**

Pallid sturgeon were historically found throughout the Missouri River, from Montana to the Mississippi River and south to Louisiana. The total length of the pallid sturgeon's range historically was about 3,515 river miles. However, almost all pallid sturgeon habitat has been altered by dams, reservoirs, and channelization projects, and only portions of its former range are currently suitable habitat (USFWS 2014a).

Since listing in 1990, wild pallid sturgeon have been documented in the Missouri River between Fort Benton and the headwaters of Fort Peck Reservoir in Montana; downstream from Fort Peck Dam in Montana to the headwaters of Lake Sakakawea in North Dakota; downstream from Garrison Dam in North Dakota to the headwaters of Lake Oahe in South Dakota; from Oahe Dam downstream to Lake Sharpe in South Dakota; between Fort Randall Dam in South Dakota and Gavins Point Dam in Nebraska; downstream from Gavins Point Dam to St. Louis, Missouri; in the lower Milk River in Montana and Yellowstone River in North Dakota; the lower Big Sioux River in South Dakota; the lower Platte River in Nebraska; the lower Niobrara River in Nebraska; and the lower Kansas River in Kansas. Pallid sturgeon observations and records have increased with sampling efforts in the Mississippi River basin (USFWS 2014a).

New information related to habitat extent and condition, abundance, and potential recruitment in the Mississippi and Atchafalaya Rivers has improved our understanding of the species in these areas. While the numbers of wild pallid sturgeon collected in the Missouri, Mississippi, and Atchafalaya Rivers are higher than initially documented when listed, and evidence for limited recruitment exists for the lower Missouri and Mississippi Rivers, the population has not been fully quantified (USFWS 2014a).

#### 3.5.4 Occurrence in the Action Area

Pallid sturgeon populations are highly fragmented and scarce in the upper Missouri River above Fort Peck Reservoir, as well as the Missouri and lower Yellowstone Rivers between Fort Peck Dam and Lake Sakakawea. In North Dakota, pallid sturgeon are commonly found in the upper Missouri River, upstream of Lake Sakakawea, and in the Yellowstone River near the confluence of the two rivers (Dyke et al. 2015). This species has also been recorded below Garrison Dam in the center of the state. Although pallid sturgeon are not known to occupy BLM-administered waterways, portions of their range overlap the action areas, summarized in **Table 9**, below. A map depicting the range is in **Map 11** in **Appendix B**.

**Table 9**  
**Pallid Sturgeon Range in the Action Areas**

Action Area	Range (Acres) <sup>1</sup>	Percentage of Action Area
BLM Surface	170	<1
Fluid Minerals	170	<1
Coal	770	<1
Other Minerals <sup>2</sup>	110	<1

Source: BLM GIS 2023

<sup>1</sup> Range as reported by the USFWS IpaC system

<sup>2</sup> Includes mineral materials and locatable minerals

#### 3.5.5 Threats

The present or threatened destruction, modification, or curtailment of its habitat and range remains a threat to pallid sturgeon, but the magnitude of the threat varies across the species' range. The following known and potential threats that affect the habitat and range of pallid sturgeon include large-river habitat alterations, including river channelization, impoundment, and altered flow regimes; water quality; entrainment; and climate change. The construction of dams on the Mississippi and Missouri Rivers has destroyed much of the species' habitat by altering the velocity, volume, and timing of flows from pre-impoundment conditions. Channelization has changed the river's velocity, reduced its width, and prevented water flow into backwater areas important to this species. Water releases from impoundments in the river systems have altered water flows, causing impacts on reproduction, larvae rearing, and food supplies (USFWS 2014a).

Other threats include disease, predation, water quality, energy development, hybridization, and aquatic nuisance species (USFWS 2014a). Several species with the potential to impact pallid sturgeon have become established in parts of the species' range. These include Asian carps (common carp [*Cyprinus carpio*], grass carp [*Ctenopharyngodon idella*], silver carp [*Hypophthalmichthys molitrix*], bighead carp [*Hypophthalmichthys nobilis*], and black carp [*Mylopharyngodon piceus*]) and the zebra mussel (*Dreissena polymorpha*). Populations of both Asian carps and zebra mussels are expanding (USFWS 2014a).

All recreational and commercial harvest of pallid sturgeon are prohibited by Section 9 of the ESA as well as State regulations throughout the species' range (USFWS 2014a). Still, incidental and illegal harvest of pallid sturgeon is a significant impediment to the survival and recovery of this species in some parts of its range. Because commercial harvest of shovelnose sturgeon (*Scaphirhynchus platyrhynchus*) has resulted in the documented take of pallid sturgeon where the two species coexist, the shovelnose sturgeon is treated as threatened due to the similarity of appearance.

### **3.6 DAKOTA SKIPPER**

#### **3.6.1 Listing Status and Recovery Plan**

The USFWS listed the Dakota skipper as a threatened species on October 24, 2014 (79 *Federal Register* 63672). The USFWS published a final recovery plan for the Dakota skipper on September 28, 2021 (USFWS 2021c). To develop the recovery plan for Dakota skippers, the USFWS conducted a SSA to evaluate the viability of Dakota skippers (USFWS 2018b). The SSA provides a summary of the species' biology, describes the factors that have led to the current status and those that are likely to affect its status in the future, assesses population health, and describes the species' viability. Information in the sections below is drawn from the SSA, unless otherwise cited.

#### **3.6.2 Life History and Habitat Characteristics**

Dakota skippers are univoltine (having a single flight per year), with an adult flight period that may occur from the middle of June through the end of July. The flight period lasts 2 to 4 weeks, though actual flight periods vary somewhat across the species' range. It can also vary locally from year to year, depending on temperature patterns.

Mating occurs throughout the flight period. Adult male Dakota skippers exhibit perching behavior (perch on tall plants to search for females), but they occasionally appear to patrol in search of mating opportunities. Dakota skippers lay eggs on broadleaf plants and grasses, although larvae feed only on grasses. Female Dakota skippers lay eggs daily in diminishing numbers as they age.

Dakota skipper eggs hatch after incubating for 7–20 days; therefore, hatching is likely completed before the end of July. After hatching, Dakota skipper larvae crawl to the bases of grass plants where they form shelters of silk at the ground surface, fastened on plant tissue. Dakota skippers have six or seven larval stages (instars) and construct 2–3 successively larger shelters as they grow. During the vast majority of their annual life cycle, Dakota skippers are larvae that occur at the bases of their larval food plants.

Dakota skippers overwinter as larvae and complete larval development in the spring. They overwinter (diapause) in ground-level or subsurface shelters. The temperature and relative humidity at or near the soil surface are thought to be important factors dictating larval survival.

In the spring, larvae resume feeding and undergo two additional molts before they pupate. When Dakota skipper larvae metamorphose into adults in late June or early July for their flight period, habitats must provide nectar sources that are sufficient in quality and quantity to meet the butterflies' water and nutritional requirements. Access to nectar during the flight period is critical for adult Dakota skippers, as they obtain both nutrition and water exclusively from nectar. Higher nectar availability is associated with higher native forb density and diversity; nonnative grasses, such as smooth brome (*Bromus inermis*) and Kentucky bluegrass (*Poa pratensis*), displace native forbs and reduce nectar availability. Dakota skippers

have been observed nectaring from nonnative forbs like white sweetclover (*Melilotus alba*); however, native forbs are typically used.

Dakota skippers use two types of habitat, referred to as “type A” and “type B” habitat; the characteristics of these differ. Type A habitat consists of low, wet-mesic prairie with little topographic relief that occurs on near-shore glacial lake deposits that may be more prone to flooding. This habitat is primarily in North Dakota, central and western Manitoba, and northeastern South Dakota. This habitat is dominated by bluestem grasses, including little bluestem (*Schizachyrium scoparium*) and big bluestem (*Andropogon gerardii*). The forbs wood lily (*Lilium philadelphicum*), bluebell bellflower (*Campanula rotundifolia*), and mountain deathcamas (*Zigadenus elegans*) are almost always present. In type A habitats in North Dakota, black-eyed Susan (*Rudbeckia hirta* var. *pulcherrima*) and bluebell bellflower are particularly important nectar plants.

Type B habitat occurs primarily on rolling terrain over gravelly glacial moraine deposits. This habitat is dominated by big bluestem, little bluestem, and needle-and-thread or porcupine grasses (*Hesperostipa* spp.). In type B habitats, purple coneflower (*Echinacea angustifolia*) is especially important.

Dakota skipper larvae feed on several native grass species, including little bluestem, prairie dropseed (*Sporobolus heterolepis*), and sideoats grama (*Bouteloua curtipendula*), which provide larvae with an abundance of edible leaf tissue. Conversely, large leaf blades, leaf hairs, and taller stature preclude the value of big bluestem and Indiangrass (*Sorghastrum nutans*) as larval food plants. Similarly, the morphology and growth habit of invasive grasses like smooth brome and Kentucky bluegrass preclude larval habitat suitability.

Dakota skippers do not extend beyond these habitats except to possibly disperse to nearby habitat patches; however, their capacity to disperse is limited. Dakota skippers are unlikely to move more than 0.6 miles between suitable habitat patches that are separated by unsuitable areas like crop fields, grass-dominated fields, or pastures.

The capacity for Dakota skipper populations to grow is limited by the quantity and quality of the habitat and by connectivity among habitat patches. The minimum extent of habitat that is sufficient to support a healthy local population is unknown, but discrete populations have been recorded in prairie remnant patches as small as 1 acre. Populations in patches this small likely rely heavily on the existence of populations in nearby patches to ensure their long-term persistence.

Periodic disturbance is required to maintain habitat suitability. Without periodic disturbance, the habitat becomes unsuitable due to woody plant encroachment, litter accumulation, reduced nectar and larval plant densities, and nonnative plant invasion. Historically, natural processes such as drought, flooding, fire, and herbivory maintained a shifting matrix of suitable habitat. Contemporary human-caused disturbances, including haying, grazing, and prescribed fire, are now essential to maintain habitat suitability in lieu of the historical natural disturbance processes.

### **3.6.3 Status and Distribution**

Historically—prior to Euro-American settlement—Dakota skippers occurred throughout the grasslands of the north-central US and south-central Canada, extending from Illinois to Saskatchewan (see Figure 3.1, Historical Distribution of Dakota Skipper, in USFWS 2018b). Defining the historical distribution is complicated by a lack of records prior to the 1960s. However, at least 145 metapopulations and approximately 303 subpopulations can be identified, including 45 metapopulations and 70 subpopulations

in North Dakota (see Table 3.1, Number of Metapopulations and Subpopulations by State, in USFWS 2018b). It is likely that delineated populations are artifacts of heavy habitat loss and fragmentation.

The current rangewide distribution of Dakota skippers is depicted in Figure 4.1, Current Distribution of Dakota Skipper, in USFWS 2018. In the early 2000s, an increase in the extirpation of Dakota skipper populations became evident, with drastic declines observed since 2010. As of 2017, 75 metapopulations consisting of 157 subpopulations persist across five states.

The health of many of the remaining metapopulations appears low, with 42 of the metapopulations (56 percent) having a predicted probability of persistence of less than 50 percent over 10 years (see Figures 4.2 and 4.3 in USFWS 2018b). Further, the USFWS believes that the health of these populations may be overstated; modeling done for the SSA (USFWS 2018b) assumes functional connectivity between subpopulations, but the USFWS suspects that actual connectivity may be lower than model assumptions.

Further, the majority of subpopulations' health is very low. Only five subpopulations have more than 70 percent chance of surviving over the next 10 years. None have a greater than 80 percent chance of surviving over the next 10 years. Most subpopulations have less than a 50 percent chance of surviving (see Figure 4.4 in USFWS 2018b).

The USFWS has also undertaken an analysis of the historical and current distribution based on adaptive capacity units within the species' historical range. This is described in detail in Chapters 3 and 4 of the SSA (USFWS 2018b, pp. 33–41). The number of populations has declined, or populations have been extirpated, in all adaptive capacity units rangewide, including the four units in the North Dakota state boundary.

#### **3.6.4 Occurrence in the Action Area**

Potential habitat for Dakota skippers has been modeled in Barnes, Benson, Billings, Bottineau, Burke, Burleigh, Cass, Cavalier, Dickey, Divide, Dunn, Eddy, Emmons, Foster, Golden Valley, Grand Forks, Grant, Griggs, Hettinger, Kidder, La Moure, Logan, McHenry, McIntosh, McKenzie, McLean, Mercer, Morton, Mountrail, Nelson, Oliver, Pembina, Pierce, Ramsey, Ransom, Renville, Richland, Rolette, Sargent, Sheridan, Slope, Stark, Steele, Stutsman, Towner, Traill, Walsh, Ward, Wells, and Williams counties (USFWS 2022f).

Potentially suitable habitat has been modeled from the west and northwest portion of North Dakota running diagonally southeast into western Minnesota and northeastern South Dakota (Barnes et al. 2024). Habitats that have been modeled with the highest habitat suitability include the eastern mixed-grass prairie, or drift prairie. This area contains the glacial lake deltas in the north-central portion of the state. In this area, glaciated flat sheets of sand and gravel or rolling sand dunes support tallgrass prairie communities. A third key landscape is the mixed-grass prairie or Missouri Coteau, which marks the western limits of glaciation in the state. In this area, the Missouri Coteau breaks support native prairie and wetlands.

The acres of modeled Dakota skipper habitat suitability in the action areas are summarized in **Table 10**, below. A map depicting these areas is in **Map 12** in **Appendix B**.

**Table 10**  
**Dakota Skipper Modeled Habitat Suitability in the Action Areas**

Action Area	Potentially Suitable (Acres)	Percentage of Action Area	Potentially Unsuitable (Acres)	Percentage of Action Area
BLM Surface	4,100	7	33,700	58
Fluid Minerals	48,300	10	409,000	84
Coal	652,400	16	3,143,900	77
Other Minerals <sup>1</sup>	39,400	11	293,100	81

Source: BLM GIS 2023, Barnes et al. 2024

<sup>1</sup> Includes mineral materials and locatable minerals

### 3.6.5 Threats

The loss of native prairie and the degradation of remaining patches of habitat have led to the decline of Dakota skippers and pose continuing threats to the species' continued existence. Factors responsible for habitat loss, fragmentation, and degradation include:

- Conversion of native prairie for agriculture, energy development, or urbanization
- Ecological succession of native prairie to habitats dominated by brush or trees
- Invasive species
- Direct and indirect effects of pesticides, including herbicides
- Flooding
- Land management regimes (grazing, haying, or fire) if done in a fashion that degrades the species' habitat
- Expansion of production in the Bakken shale oil fields

A detailed narrative of the threats is included in Chapter 5, Risk and Supportive Factors, of the SSA (USFWS 2018b, pp. 42–54).

Climate change is also anticipated to threaten Dakota skippers. Climate (in addition to fire and herbivory) was a major driver in maintaining suitable habitat for Dakota skippers prior to Euro-American settlement. Climate change may then affect Dakota skippers through changes to their habitat. Specifically, anticipated climate trends include an increasing growing season length, which may facilitate expansion of cool-season grasses, including smooth brome and Kentucky bluegrass. Also, changes in short- and long-term precipitation patterns may alter the species' composition in prairie habitats, as well as land managers' ability to effectively carry out treatments to improve native prairie habitat (USFWS 2018b, pp. 51–52).

### 3.6.6 Critical Habitat

The USFWS designated critical habitat for the Dakota skipper on October 1, 2015 (80 *Federal Register* 59248) (USFWS 2015c). In the action area, 13 critical habitat units totaling approximately 5,081 acres are designated in McHenry, McKenzie, Ransom, Richland, and Rolette Counties. None of these areas occur in any of the action areas. A map of critical habitat in North Dakota is in **Map 2** in **Appendix B**.

The primary constituent elements of critical habitat for Dakota skippers (80 *Federal Register* 59275–59276) are as follows:

1. Primary constituent element 1—Wet-mesic tallgrass or mixed-grass remnant, untilled prairie that occurs on near-shore glacial lake soil deposits or high-quality dry-mesic remnant, untilled prairie on rolling terrain consisting of gravelly glacial moraine soil deposits containing:
  - a. A predominance of native grasses and native flowering forbs
  - b. Glacial soils that provide the soil surface or near surface (between the soil surface and 0.8-inch depth) microclimate conditions conducive to Dakota skipper larval survival and native prairie vegetation
  - c. If present, trees or large shrub cover of less than 5 percent of the area in dry prairies and less than 25 percent in wet-mesic prairies
  - d. If present, nonnative, invasive plant species occurring in less than 5 percent of the area
2. Primary constituent element 2—Native grasses and native flowering forbs for larval and adult food and shelter, specifically:
  - a. At least one of the following native grasses to provide larval food and shelter sources during Dakota skipper larval stages: prairie dropseed (*Sporobolus heterolepis*) or little bluestem (*Schizachyrium scoparium*)
  - b. One or more of the following forbs in bloom to provide nectar and water sources during the Dakota skipper flight period: purple coneflower (*Echinacea angustifolia*), bluebell bellflower (*Campanula rotundifolia*), white prairie clover (*Dalea candida*), upright prairie coneflower (*Ratibida columnifera*), fleabane (*Erigeron* spp.), blanketflower (*Gaillardia* spp.), black-eyed Susan (*Rudbeckia hirta*), yellow sundrop (*Calylophus serrulatus*), prairie milkvetch (*Astragalus adsurgens*), or common gaillardia (*Gaillardia aristata*)
3. Primary constituent element 3—Dispersal grassland habitat that is within 0.6 miles of native, high-quality, remnant prairie (as defined in primary constituent element 1) that connects high-quality wet-mesic to dry tallgrass prairies or moist meadow habitats. Dispersal grassland habitat consists of undeveloped open areas dominated by perennial grassland with limited or no barriers to dispersal, including tree or shrub cover less than 25 percent of the area and no row crops, such as corn, beans, potatoes, or sunflowers.

### **3.7 MONARCH BUTTERFLY**

#### **3.7.1 Listing Status and Recovery Plan**

The USFWS received a petition to list the Monarch butterfly as a threatened species in 2014. In December 2014, the USFWS found the petition presented substantial scientific or commercial information that indicated listing the Monarch butterfly may be warranted (79 *Federal Register* 78775), and the USFWS initiated a rangewide status review. The USFWS published an SSA in 2020 (USFWS 2020b), which provides the biological support for the decision on whether the Monarch butterfly warrants listing under the ESA. On December 17, 2020, the USFWS's 12-month finding (85 *Federal Register* 81813) determined that the Monarch butterfly warranted listing as an endangered or threatened species under the ESA, but that listing was precluded at that time by higher-priority listing actions. With this finding, the Monarch butterfly became a candidate for listing.

Information in the sections below is drawn from the SSA (USFWS 2020b), unless otherwise cited.



### 3.7.2 Life History and Habitat Characteristics

During the breeding season, Monarch butterflies lay their eggs on their obligate milkweed host plant (primarily *Asclepias* spp.), and larvae emerge after 2 to 5 days. Larvae develop through five larval instars over a period of 9 to 18 days, feeding on milkweed and sequestering toxic cardenolides as a defense against predators. The larva then pupate into chrysalis before emerging 6 to 14 days later as an adult butterfly. There are multiple generations of Monarch butterflies produced during the breeding season, with most adult butterflies living approximately 2 to 5 weeks.

Individual Monarch butterflies undergo long-distance migration, where the migratory generation of adults is in reproductive diapause and lives for 6 to 9 months. In the fall, Monarch butterflies in eastern North America (including the action area) begin migrating to their respective overwintering sites (in some cases over 1,800 miles away); this migration can take over 2 months. Migratory individuals in eastern North America predominantly fly south or southwest to mountainous overwintering grounds in central Mexico.

In early spring (February–March), surviving Monarch butterflies break diapause and mate at the overwintering sites before dispersing. The same individuals that undertook the initial southward migration begin flying back to the breeding grounds, and their offspring start the cycle of generational migration over again.

In eastern North America, Monarch butterflies travel north in the spring, from Mexico to Canada, over two to three successive generations, breeding along the way. Individual Monarch butterflies disperse as far north as they can physiologically tolerate based on climatic conditions and available vegetation. The number of generations of Monarch butterflies produced in a given year can vary between three and five and is dependent on environmental conditions.

During breeding and migration, adult Monarch butterflies require a diversity of blooming nectar resources, which they feed on throughout their migration routes and breeding grounds. Monarch butterflies also need milkweed (for both egg-laying and larval feeding) embedded within this diverse nectaring habitat. The correct phenology, or timing, of both Monarch butterflies and nectar plants and milkweed is important for Monarch survival.

### 3.7.3 Status and Distribution

Based on the past annual censuses at overwintering sites in Mexico, the eastern North American population (which includes Monarch butterflies in the action area) has been generally declining over the last 26 years (see Figure 4.4 in USFWS 2020b). Although the numbers at the overwintering sites have declined, the USFWS did not find a corresponding change in the spatial extent of the population during the breeding season. Given its current population size and population growth rate, the USFWS estimates a 61 percent probability of the population size dropping below a threshold at which extinction would become inevitable over the next 60 years.

### 3.7.4 Occurrence in the Action Area

During the breeding season, Monarch butterflies are found throughout North Dakota in areas with a high number of nectar sources. Areas with a higher density of native prairie wildflowers would be most likely to support Monarch butterflies (Dyke et al. 2015). The acres of Monarch butterfly range in the action areas are summarized in **Table II**, below.

**Table 11**  
**Monarch Butterfly Range in the Action Areas**

<b>Action Area</b>	<b>Range (Acres)<sup>1</sup></b>	<b>Percentage of Action Area</b>
BLM Surface	58,500	100
Fluid Minerals	489,300	100
Coal	4,071,600	100
Other Minerals <sup>2</sup>	362,600	100

Source: BLM GIS 2023

<sup>1</sup> Range as reported by the USFWS IpaC system

<sup>2</sup> Includes mineral materials and locatable minerals

### 3.7.5 Threats

Many influences operate on the North American Monarch butterfly populations. The primary drivers affecting the health of the two North American migratory populations are changes in breeding, migratory, and overwintering habitat (due to conversion of grasslands to agriculture, urban development, widespread use of herbicides, logging/thinning at overwintering sites, unsuitable management of overwintering groves, and drought); continued exposure to insecticides; and the effects of climate change. The SSA gives detailed information on each of the threats (USFWS 2020b, pp. 34–43).

### 3.7.6 Critical Habitat

Critical habitat has not been designated or proposed for this candidate species.

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# Chapter 4. Effects Analysis

## 4.1 INTRODUCTION TO THE EFFECTS ANALYSIS

### 4.1.1 Analysis Methods and Assumptions

The Proposed RMP/EIS is a programmatic, planning-level document; site-specific proposals, projects, or authorized uses are not part of the proposed action. The scope of the effects analyses for listed species and critical habitats is commensurate with the level of detail in the proposed action and the availability or quality of data necessary to assess effects. Where data are limited, professional judgment was used to project or estimate effects.

This analysis focuses on the effects of the BLM program area allocations, as well as the associated BLM design features, BMPs, and BLM mineral leasing stipulations and allocations. Program area allocations, as well as the design features, BMPs, and mineral leasing stipulations, would not directly affect listed species or critical habitats. As such, impacts are analyzed in the context of potential indirect effects and cumulative impacts that may occur at the site-specific project level.

Although some data on known locations and habitats in the action area are available, they are not complete or comprehensive. Known and potential species and habitat locations were considered in the analysis; however, the potential for species to occur outside these areas was also considered. Effects were quantified when possible. In the absence of quantitative data, best professional judgment was used.

The BLM used GIS data (BLM GIS 2021, 2023) to calculate acreages. Calculations depend on the quality and availability of data. Calculations in the Proposed RMP/EIS and associated BA are rounded to the nearest 100 acres or 0.1 mile, when values are above 100 acres. For values below 100 acres, calculations are rounded to the nearest 10 acres.

Given the scale of the action area, the compatibility constraints between data sets, and the lack of data for some resources, all calculations are approximate and serve for comparison and analysis only. Likewise, figures used throughout the document are provided for illustrative purposes and are subject to the limitations of the GIS software applications used to develop the figures.

The analysis is based on the following assumptions:

- The Proposed RMP/EIS is a programmatic document; it does not include project-level actions. As a result, the proposed action would not result in direct effects on the listed species or critical habitats analyzed in this BA. Management goals, objectives, actions, and allocations may result in implementation-level activities with the potential to affect listed species and critical habitats. These would be indirect effects of the proposed action.
- All proponents of implementation- or project-level activities and authorized uses that could affect listed species or critical habitat will be required to undergo ESA Section 7 consultation with the USFWS. The activities will need to be mitigated to ensure that threatened or endangered species would not be jeopardized on a project-specific basis or at a cumulative level. Implementation- or project-level activities and authorized uses would be further assessed on an appropriate spatial and temporal scale. Additional field inventories would likely be needed to determine whether any such species could be present in the action area.

- No decision would be approved in the Proposed RMP/EIS or authorized on BLM-administered lands that would jeopardize the continued existence of species that are listed, proposed, or candidates for listing as threatened or endangered.

#### **4.1.2 Interrelated and Interdependent Actions and Effects**

Interrelated actions are those that are part of the proposed action and that depend on the proposed action for their justification. Interdependent actions have no independent use, apart from the proposed action.

The BLM has the discretionary authority to authorize actions on public lands (50 CFR 402.02). As defined by the Federal Land Policy and Management Act of 1976 (43 USC 1701 et seq.), “public lands” are those federally owned lands and any interest in lands (for example, federally owned mineral estate) that are administered by the BLM. Within the action area, there are varied and intermingled land surface ownerships and overlapping mineral ownerships. Therefore, the administrative jurisdictions for land use planning and for managing the land surface and minerals are also varied, intermingled, and overlapping. As a result, the Proposed RMP would not include planning and management decisions for lands or minerals that are privately owned or owned by the State of North Dakota or local governments. Providing direction for the surface or minerals management of these lands is not within the BLM’s jurisdiction.

However, since the ESA requires analysis of interrelated and interdependent actions in which there is discretionary federal involvement or control, actions that the BLM authorizes, such as easements, leases, or permits, may interdependently affect listed species on nonfederal lands. If a species protected under the ESA is suspected of occurring on nonfederal lands, and it may be affected by an action on the nonfederal lands, and that action would not occur but for the granting of an action on the federal lands (for example, a mineral lease or ROW), then consultation under the ESA must be conducted for both the federal and nonfederal lands. Potential impacts may come about primarily from minerals management activities occurring on non-BLM-administered land over federal mineral estate (split-estate lands; see **Section 2.1**). Such management is the primary focus of the NDFO’s minerals management activities in the planning area. The BLM has the jurisdiction to disallow the action if it is likely to contribute to jeopardizing a listed species on private lands.

#### **4.1.3 Cumulative Effects**

The implementing regulations for Section 7 of the ESA define cumulative effects to include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the action area. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to Section 7 of the ESA. Cumulative effects are described for each species analyzed in detail.

### **4.2 EFFECTS COMMON TO ALL LISTED SPECIES AND CRITICAL HABITATS**

As described in **Chapter 2**, the action area includes 58,500 acres of BLM-administered surface lands. The subsurface federal mineral estate in North Dakota includes over 4 million acres of coal, 489,300 acres of fluid minerals, and 362,600 acres of other minerals.

Because the Proposed RMP is a programmatic-level planning document, implementation- or project-level actions or authorized uses are not included in the proposed action; however, implementation- or project-level actions would be authorized and carried out in a step-down process, in accordance with the goals,

objectives, and actions under the proposed action. In the absence of protective measures, surface disturbance associated with step-down implementation- or project-level actions or authorized uses can commonly result in the potential for adverse effects on listed species and critical habitats.

**Table 2-1** in the Draft RMP/EIS identifies these potential sources of disturbance from the BLM's proposed action and the acres where that disturbance could occur. The acres that occur within species-specific habitats are described in the individual species' analysis sections below. Potential effects on listed wildlife and plant species from these activities are described below. The extent and duration of effects would depend on the authorized land use, local conditions, and protection measures or stipulations implemented at the project level. Implementation-level activities would be subject to additional NEPA and ESA analyses to evaluate site-specific effects.

#### **4.2.1 Vegetation and Fuels Management**

Vegetation and weed treatments may be applied for wildfire or fuels management and livestock forage improvement, to improve ecosystem health, to benefit specific plant or wildlife species, or for some combination of these reasons for multiple benefits. Implementing treatments could cause temporary, localized adverse effects, followed by long-term improvement in habitat values as the desired vegetation develops. Treatments could also disturb listed wildlife species in or near the treatment area due to the use of equipment, noise, and human presence. Over the long term, treatments would improve habitat conditions and support species recovery. They would do this by restoring and maintaining fire regimes and land health, thereby protecting existing plant and wildlife habitats by reducing the threat of catastrophic wildfire. Such management would further improve habitat by changing plant communities, such as reducing dense vegetation and standing biomass, and modifying vegetation distribution, structure, and understory (Reich et al. 2001).

The potential for adverse effects on federally listed plant and wildlife species from chemical treatments would be substantially reduced or avoided by implementing the conservation measures contained in the Biological Assessments for Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (BLM 2007) and the 2016 Final Programmatic EIS for Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on BLM Lands in 17 Western States (BLM 2016). These include establishing chemical treatment buffer zones and specific formulation and application restrictions to protect listed species. These measures would reduce—to a discountable level—the potential for unintentional application to listed wildlife and plant species via drift, spill, or direct application.

The proposed action would include goals and direction to use vegetation management to conserve and recover habitat for threatened and endangered species. Direction to maintain or improve specialized habitats and restore lands to build connectivity habitat would generally benefit federally listed species by maintaining or improving the availability of habitat features, such as food and cover. Similarly, direction to maintain or improve the health, complexity, and spatial extent of riparian areas, wetlands, and aquatic ecosystems would benefit species associated with riparian habitats, such as pallid sturgeon and piping plover, by improving habitat conditions. These effects are likely localized and dispersed, given the limited acreage of riparian areas, wetlands, and aquatic habitats within the BLM surface action area (e.g., 1,900 acres of riparian and wetland vegetation and 11 miles of fish-bearing streams, see Chapter 3 of the Draft RMP/EIS for further details).

#### 4.2.2 Lands and Realty (ROW and Land Tenure Management)

ROW exclusion areas would prevent effects on federally listed species in certain areas by prohibiting ROW development. ROW avoidance areas would reduce the likelihood of impacts; this is because ROWs could be developed within these areas, but they would be sited away from sensitive resources, such as ESA-listed species' habitats. Further, in some instances, management for ROW avoidance may be more beneficial than ROW exclusion, which can push infrastructure to surrounding lands and potentially cause greater impacts on species and their habitats. While additional areas would be managed as ROW avoidance and exclusion, relevant to listed species, the BLM would manage the following areas as ROW exclusion areas: tallgrass prairie, and the following as ROW avoidance areas; riparian areas and wetlands; woody draws; within 0.5 miles of piping plover habitat; within 0.62 miles of occupied Dakota skipper habitat; within 0.5 miles of the water's edge of identified pallid sturgeon habitat; and special status plant locations. Managing these areas as ROW exclusion and avoidance would reduce impacts on federally listed and candidate species that rely on these habitat types for survival, including Monarch butterflies, northern long-eared bats, and Dakota skippers. Managing land within 0.50 miles of the Little Missouri River as ROW avoidance would reduce potential disturbance to and degradation of important stopover habitats for federally listed migratory bird species, including piping plovers, rufa red knots, and whooping cranes.

Impacts from wind energy ROWs are not expected under any alternative. This is because the fragmented nature of the landownership pattern makes such development unlikely, despite North Dakota's high potential for wind energy. Therefore, although wind development is a threat to some federally listed species, such as northern long-eared bats (USFWS 2022a) and whooping cranes (CWS and USFWS 2007), the proposed action is not expected to contribute to this threat. If wind energy development were to occur, adhering to BMPs and Design Features, such as US Fish and Wildlife Service Land-Based Wind Energy Guidelines (see **Appendix D** from the Draft RMP/EIS), would reduce the potential for these effects.

Where road and ROW construction occur, they could cause soil compaction and vegetation loss, which could reduce habitat quality for federally listed species. ROWs are often linear and may stretch for miles; as such, they may also cause habitat fragmentation. Habitat fragmentation and degradation may cause changes in federally listed wildlife movement patterns and prevent individuals from successfully foraging, finding cover from predators, or reproducing. Habitat effects may also include noxious weed and invasive plant spread, which may lead to a reduction in native vegetation, thereby reducing preferred native plants that wildlife rely on for food, cover, and, in the case of invertebrates, nectar and host plants (Ouren et al. 2007; Parris and Schneider 2009). ROWs may increase predation by providing perches and nesting opportunities for predatory birds (DeGregorio et al. 2014; APLIC 2006). In addition, use of some ROWs could increase dust, which could cover existing vegetation and impair plant photosynthesis and respiration. Resulting impacts could include lowered plant vigor and growth rate and altered or disrupted pollination (Ouren et al. 2007).

Other potential effects could include an increased likelihood for injury or mortality and noise or visual disturbance that could lead to habitat avoidance. Habitat avoidance could prevent wildlife species from successfully foraging, finding cover from predators, or reproducing. This could result in individuals being more susceptible to starvation or malnutrition, predation, or population declines. Effects would change over time. In the short term, construction activities would cause noise, surface disturbance, and human presence. Over the long term, there would remain the continued potential for collisions with vehicles or infrastructure, as well as road avoidance by wildlife and habitat fragmentation. Additionally, dirt roads

increase the level of fugitive dust, which could result in impacts on pollinators. Adhering to BMPs and Design Features, such as Avian Protection on Power Lines (see **Appendix D** from the Draft RMP/EIS), would reduce the potential for these effects.

#### 4.2.3 Minerals

Surface disturbance from fluid mineral development is limited to 1,625 acres of federal mineral estate through 2040 (less than 1 percent of federal mineral estate); of these, 72 acres of disturbance could be on BLM-administered surface (less than 1 percent of BLM-administered surface). Disturbance would be concentrated in the high- and medium-potential areas. The reasonably foreseeable surface disturbance associated with mineral materials is similarly small; it is expected to be no more than 40 acres annually (BLM 2022c). Therefore, impacts on federally listed species and critical habitats from mineral materials disposal and fluid mineral development would be relatively small and localized. Similarly, while much of the federal mineral estate is available for locatable and NEL mineral development, such development is not reasonably foreseeable (BLM 2022a).

The types of impacts described below would not occur in the 213,100 acres of low potential that would be closed to fluid mineral leasing; 1,037,800 acres that would be unacceptable for coal development (all areas outside of a 4-mile buffer from existing coal mine permits would be unacceptable for further consideration for coal leasing, along with several other areas); 66,000 acres closed to NEL mineral development; and 196,800 acres closed to mineral materials sales.

The types of impacts from coal and mineral exploration and development activities, such as road construction and use, facility construction, well pad and pipeline construction, and excavation, include surface disturbance. These could degrade, remove, or fragment wildlife habitat. Noise and human presence increase the potential for displacement of individuals to nearby habitats, causing increased competition for resources in those areas. Vehicles on-site during construction and operation may cause injury to or mortality of federally listed wildlife species, causing localized population declines. Impacts would be greater in the short-term during construction due to the higher level of noise, surface disturbance, and human presence during this time. Impacts would also be greater during sensitive breeding or wintering periods. However, over the long term, impacts would continue at a lower level during operation. This would be due to noise and human presence.

Land use changes and surface-disturbing activities, such as from road construction and use, facility construction, and excavation, could affect federally listed species associated with riparian and aquatic habitats through habitat alterations. This would come about from removing riparian vegetation and altering the hydrology and sediment regimes that can change channel form and sediment inputs (Dauwalter et al. 2008). Increasing sediment and turbidity in aquatic environments could result in lower dissolved oxygen, a higher temperature, stress to fish and other aquatic species, habitat alteration and loss, and decreased population growth. Construction of infrastructure, such as roads, well pads, pipelines, culverts, and bridges, would result in localized permanent loss or alteration of aquatic habitats due to the placement of fill. In addition, fill placement within waterbodies would adversely affect habitat in the long term by removing the fill footprint's capacity to contribute nutrients or organic matter to the waterbody, and by altering the hydrology in the immediate area.

Activities that affect stream channels, stream banks, or in-stream flow could also affect federally listed fish species (pallid sturgeon), creating unsuitable conditions for some species (Bonner and Wilde 2000;



Matthews et al. 2004). Mineral exploration and development activities may also increase water use, as described in the oil and gas reasonably foreseeable development scenario (BLM 2022a). Depending on the water source and quantity used, water depletions could cause an alteration or loss of riparian and aquatic habitats by increasing water temperatures, altering food supplies, and causing carrying capacity loss. Important microhabitats, such as spawning bars and pools, can be lost or altered (Matthews et al. 2004).

During mineral exploration and development, wastewaters are most often injected back into deepwater aquifers through designated disposal wells; however, there is a potential for accidental releases and spills, which could result in water quality alterations, specifically increased concentrations of salts, nutrients, and total dissolved solids (Farag and Harper 2013). Such changes may disrupt the ion balance and can result in toxic impacts on aquatic organisms, including pallid sturgeon.

To reduce potential effects from fluid minerals management on federally listed species, surface occupancy or use would be subject to the following special operating constraint (CSU 12-12): The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. The BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid a BLM-approved activity that will contribute to a need to list such a species or their habitat. The BLM may require modifications to or disapprove a proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. The BLM will not approve any ground-disturbing activity that may affect any such species or requirements of the ESA, as amended (16 USC et seq.); these ESA requirements include completion of any required procedure for conference or consultation (**Appendix D** from the Draft RMP/EIS).

#### **4.2.4 Recreation, Including the SRMA and BCAs**

Managing 2,000 acres as the Schnell Ranch East and West SRMA and 12,400 acres as BCAs would provide areas for public recreation, while continuing to restrict resource uses, such as off-road vehicle use and mineral leasing and development. In general, activities allowed in BCAs would cause lower-intensity effects on federally listed species and critical habitats, whereas activities permitted in developed recreation areas, such as increased motorized access and developed campgrounds, would cause relatively higher levels of impacts due to increased use levels. Visitor use facility development or maintenance associated with SRMA and BCA management may affect listed species through localized vegetation removal, noise, and human presence; however, vegetation cover generally would be maintained, and effects would be minor, temporary, and localized.

Concentrated or increased recreational use could affect federally listed species through disturbance and displacement, attracting predator populations through trash introduction, and disrupting reproduction during sensitive breeding periods. Human presence and motorized or nonmotorized use of trails can affect wildlife by causing habitat avoidance or through direct injury or mortality. Noise associated with recreational uses may cause habitat avoidance, potentially reducing the ability of individual wildlife to use habitats needed for foraging, cover, and reproduction. This could make individuals more susceptible to starvation or malnutrition, predation, or reduced reproductive success and population declines.

Hebblewhite and Merrill (2008) conducted a meta-analysis of over 160 studies and found an average 0.60-mile avoidance response from human disturbance, with the greatest avoidance in summer. Further,

recreation may cause direct injury or mortality to individual wildlife through accidental human trampling by feet or bikes or intentional harm.

Most recreation on BLM-administered lands is dispersed recreation that includes walking and vehicle use (limited to existing roads and trails). This type of recreation, particularly from motorized vehicles, can affect federally listed species and critical habitats through minor amounts of vegetation loss, soil compaction, soil erosion, and invasive species spread. It could also affect riparian and aquatic habitats from erosion and sedimentation (Eubanks 2004).

#### **4.2.5 Travel and Trails**

Comprehensive trails and travel management would cause impacts similar to those described above for recreation. Areas that are closed to OHV use would provide protection for federally listed species because no OHV travel could occur at any time of the year. Areas that are limited to designated routes yearlong or limited seasonally would reduce effects on habitat by limiting surface disturbance, soil compaction, and erosion to existing routes and to certain times of year when habitats may be less sensitive. Past and current use along designated routes is likely to continue causing noxious and invasive weed spread and habitat avoidance due to noise and human presence. Once discovered, the BLM would mitigate impacts to the extent practicable and feasible through such measures as closures or use restrictions.

#### **4.2.6 Livestock Grazing**

Overall, the BLM's management of livestock grazing would aim to achieve or trend toward achieving Dakota Standards 1, 2, and 5, which would improve ecosystem function, vegetation diversity, and soil stability, thereby supporting healthy wildlife habitats. In general, the more acres that are available for livestock grazing, the higher the percentage of allowable utilization; the higher the animal unit months available for permitted use, the greater the acreage that would be subject to impacts. Effects on federally listed species' habitats from livestock grazing would depend on the current year's conditions, habitat type relative to the grazing season, grazing management across years (rest-rotation and deferred), the stocking rate, and the length of livestock grazing.

Potential effects on federally listed species' habitat include the loss of vegetation cover, which may increase susceptibility to predation; the loss of the forage and prey base, which may lead to starvation, malnutrition, or habitat displacement; and habitat degradation through the introduction of noxious weeds and invasive plants, which may lead to a reduction in native vegetation. This would reduce preferred native plants used for food and the cover that native vegetation provides. There is also the potential for increased competition with some wildlife species for forage, and potentially reduced cover and nesting habitat for other species. Further, federally listed wildlife may be displaced from their habitats, which could increase competition for resources in adjacent habitats, affecting survival or reproductive success for some individuals.

#### **4.2.7 Special Designations, Including the ACEC and National Scenic and Historic Trails**

In general, specially designated areas, such as ACECs and national scenic and historic trails, are managed in ways to restrict surface-disturbing activities. These specially designated areas would prevent or reduce the impacts on wildlife, such as habitat removal, fragmentation, and human disturbance, which are described above for recreation.

### 4.3 NORTHERN LONG-EARED BAT

#### 4.3.1 Effects of the Proposed RMP Revision

##### **Vegetation**

As described under *Effects Common to All Listed Species and Critical Habitats*, vegetation and weed treatments could cause temporary, localized adverse effects on northern long-eared bats, followed by long-term improvement in habitat values as the desired vegetation develops. There are 11,200 acres of northern long-eared bat range overlapping BLM-administered surface (see **Table 5**, Northern Long-Eared Bat Range in the Action Areas; BLM GIS 2023), where vegetation management could potentially occur.

In the short term, removal of trees in bat habitat during any time of year could result in a loss of suitable roosting or foraging habitat, longer flights between suitable roosting and foraging habitats due to habitat fragmentation, fragmentation of maternity colony networks, and direct injury or mortality during active season tree removal (USFWS 2022a). Bats could be directly affected by forest habitat loss by removal of occupied roost trees or loss of roosting and foraging habitat. While roosting bats can sometimes flee during tree removal, removal of occupied roosts (during spring through fall) likely would result in direct injury or mortality to some bats (USFWS 2022a). However, surveying for roosting bats prior to tree removal within the northern long-eared bat's range would reduce the potential for this effect (CM-Northern long-eared bat-1).

Achieving objectives to maintain, enhance, or restore forest and woodland community health, composition, and diversity to a desired mosaic would improve bat habitat over the long term by providing habitat characteristics for roosting bats, such as space and thermal cover. Forest management that results in heterogeneous (including forest type, age, and structural characteristics) habitat could benefit tree-roosting bat species (USFWS 2022a). For example, creation of small canopy openings could increase solar exposure to roosts, leading to warmer conditions that result in more rapid development of pups (USFWS 2022a).

Riparian restoration treatments could initially cause disturbance to foraging bats and alteration of foraging habitat. Over the long term, they would maintain or improve the health, complexity, and spatial extent of riparian, wetland, and aquatic ecosystems by increasing native plant cover and species diversity, stabilizing soils, and reducing erosion and sediment delivery into waterways. This would improve foraging habitat conditions for bats and could lead to an increase in prey availability.

##### **Lands and realty (ROW and land tenure management)**

Although the proposed action does not include specific management to protect northern long-eared bat habitat from ROW development, management of ROW exclusion and avoidance areas for other resources would provide incidental protection for the species. Areas that overlap northern long-eared bat habitat include ROW exclusion for tallgrass prairie, Doaks Butte, the Mud Buttes ACEC, the Schnell Ranch SRMA, and greater sage-grouse PHMA and ROW avoidance for many resources, such as woody draws, riparian areas and wetlands, other special status wildlife, and the Little Missouri River. Management of these areas would result in 100 acres of northern long-eared bat range managed as ROW exclusion areas and 10,900 acres of northern long-eared bat range managed as ROW avoidance areas (**Table 12**). As discussed under *Effects Common to All Listed Species and Critical Habitats*, managing areas as ROW exclusion and avoidance areas would avoid or reduce impacts on northern long-eared bats by prohibiting ROW development.

**Table 12**  
**ROW Management in Northern Long-Eared Bat Habitat**

	<b>Range (Acres)</b>	<b>% Range</b>
ROW Exclusion	100	1
ROW Avoidance	10,900	97
Open	200	2
Total	11,200	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

The continuation of ROWs, such as transmission lines and pipelines, on 200 acres of northern long-eared bat range would have the potential to affect bats by fragmenting habitat. Impacts could be avoided if such technologies as boring pipelines and burying transmission lines are used. Wind energy development is not a likely foreseeable action, due to the already fragmented nature of the action area. However, if development of wind farms were to occur in northern long-eared bat range, it would have the potential to cause significant mortality (USFWS 2022a). If wind energy development does occur on BLM-administered lands during the life of the Proposed RMP/EIS, the BLM would employ operational strategies (for example, feathering turbine blades when bats are most likely to be active) to reduce the severity of the impacts described in USFWS 2022a (CM-Northern long-eared bat-2). Adhering to BMPs and Design Features, such as US Fish and Wildlife Service Land-Based Wind Energy Guidelines (see **Appendix D** from the Draft RMP/EIS), would further reduce the potential for these effects.

### **Minerals**

Effects on northern long-eared bats could occur as described under *Effects Common to All Listed Species and Critical Habitats*; these effects include disturbance and habitat loss and fragmentation. Where development occurs in northern long-eared bat roosting habitat, displacement from optimal roosts can lead directly to increased energy expenditure, while the loss of central or important roosts can result in colony fragmentation (USFWS 2022a). Removal of roosting or foraging habitat could result in longer travel distances between sites used for roosting and foraging. The increased energetic cost of longer commuting distances could result in maternity colony disruption, and it could affect reproductive success (USFWS 2022a). The loss or modification of winter roosts can result in impacts on individuals or at the population level (USFWS 2022a).

Although the proposed action does not include specific management to protect northern long-eared bat habitat from mineral development, management that includes closures and major (NSO) and moderate (CSU and TL) lease stipulations for fluid minerals, areas unacceptable to coal leasing, and closures to NEL minerals, locatable minerals, and mineral materials for other resources would provide incidental protection for the species. Areas that overlap northern long-eared bat habitat include closures to fluid mineral leasing for source water protection areas and low oil and gas potential areas; NSO for many resources, such as riparian areas and wetlands, waterbodies and streams, the Missouri River, and other special status species; closed to NEL minerals for resources such as other special status species, the Schnell Ranch SRMA, and BCAs, proposed for locatable mineral withdrawal in the Mud Buttes ACEC, and closed to mineral materials for numerous resources including riparian areas and wetlands, the Mud Buttes ACEC, the Schnell Ranch SRMA, tallgrass prairie, and other special status species. Management of these areas would result in 27,800 acres of northern long-eared bat range managed as NSO, which would reduce these effects by prohibiting surface occupancy and associated development. Managing only areas within 4

miles of existing coal mine permits as acceptable for coal leasing would result in 57,600 acres of northern long-eared bat range as unacceptable to coal development. Managing 57,600 acres, 12,500 acres, and 25,300 acres, of northern long-eared bat range as unacceptable for coal development, closed to NEL minerals management, and closed to mineral materials management, respectively, would also reduce effects associated with managing for these types of minerals, including disturbance and habitat loss or alteration.

NSO 11-70 would reduce the disturbances from fluid mineral development described under *Effects Common to All Listed Species and Critical Habitats* by prohibiting surface occupancy on or near areas that could provide foraging and roosting habitat for northern long-eared bats, including perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas. Incidental protection could also occur from the NSO stipulation that would prohibit fluid mineral development and associated surface disturbance within 0.50 miles of the ordinary high-water mark for the Missouri River, Lake Sakakawea, and Lake Oahe. Additionally, a CSU stipulation in woody draws and riparian areas and wetlands would require approval of a plan to maintain or improve the functionality of these areas prior to surface occupancy and use. This would help protect the unique biological and hydrological features and potential bat foraging habitat in these areas by reducing impacts from fluid mineral exploration and development, including from indirect effects produced within the adjacent ground.

**Table 13 to Table 17** summarize the acres of northern long-eared bat range by fluid mineral allocations, minerals management, locatable minerals management, and mineral materials management.

*Fluid Leasable Minerals, including Standard Terms and Conditions*

**Table 13**  
**Fluid Mineral Leasing Allocations in Northern Long-Eared Bat Habitat**

Allocation	Range (Acres)	% Range
Closed	15,600	28
NSO	27,800	50
CSU	35,300	63
TL	31,000	56
Open, Subject to Standard Terms and Conditions	800	1
Total Range Acres in Action Area	55,600	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies and overlap among stipulations, numbers do not always sum to the total acreage for the action area.

*Solid Leasable Minerals, including Coal and Nonenergy Solid Minerals*

**Table 14**  
**Coal Allocations in Northern Long-Eared Bat Habitat**

Allocation <sup>1</sup>	Range (Acres)	% Range
Acceptable for coal development	2,100	<1
Unacceptable for coal development	57,600	19
Total Range Acres in Action Area	297,500	100

Source: BLM GIS 2023

<sup>1</sup> Acres acceptable and unacceptable for coal development are within a subset of the coal action area encompassing coal potential only.

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

**Table 15**  
**NEL Minerals Management in Northern Long-Eared Bat Habitat**

	<b>Range (Acres)</b>	<b>% Habitat Type</b>
Open	25,000	66
Closed	12,500	33
Total Acres	37,500	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

#### *Locatable Minerals*

**Table 16**  
**Locatable Minerals Management in Northern Long-Eared Bat Habitat**

	<b>Range (Acres)</b>	<b>% Habitat Type</b>
Open	37,500	100
Not Open	0	0
Total Acres	37,500	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

#### *Mineral Materials*

**Table 17**  
**Mineral Materials Management in Northern Long-Eared Bat Habitat**

	<b>Range (Acres)</b>	<b>% Habitat Type</b>
Open	12,100	32
Closed	25,300	67
Total Acres	37,500	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

#### **Recreation, including the SRMA and BCAs**

As shown in **Table 18**, 4,500 acres of BCAs would overlap northern long-eared bat range. The Schnell Ranch SRMA would not overlap northern long-eared bat range.

**Table 18**  
**Recreation Management in Northern Long-Eared Bat Habitat**

<b>Recreation Area</b>	<b>Range (Acres)</b>	<b>% Habitat Type</b>
SRMA	0	0
BCA	4,500	40
Total Acres	11,200	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

Effects on northern long-eared bats associated with concentrated recreation could occur as described under *Effects Common to All Listed Species and Critical Habitats*. These types of effects include the potential for disturbance and habitat alterations, such as vegetation loss and soil compaction, primarily of foraging habitat due to recreation near riparian areas and wetlands. This is because effects from high-intensity use are especially evident in areas of higher recreation preference, such as wetlands, meadows, and streams. Management approaches that direct recreation to specific areas and avoid dispersed recreation can result in more predictable, localized, and manageable impacts.

Recreation that increases human presence in caves, mines, or other hibernacula can contribute to the spread of white-nose syndrome, the foremost stressor to northern long-eared bats (USFWS 2022a). Because no hibernacula have been identified for this species in the state, the potential for this effect would be low.

### **Travel and trails**

Although the proposed action does not include specific management to protect northern long-eared bat habitat from OHV use, management of areas as limited to OHV use would provide incidental protection for the species. As shown in **Table 19**, managing 11,200 acres of northern long-eared bat range as limited to OHV use would reduce the potential for the effects from travel and trails described under *Effects Common to All Listed Species and Critical Habitats*.

**Table 19**  
**Travel Management in Northern Long-Eared Bat Habitat**

<b>Travel Management</b>	<b>Range (Acres)</b>	<b>% Habitat Type</b>
OHV Limited	11,200	100
OHV Closed	0	0
<b>Total Acres</b>	<b>11,200</b>	<b>100</b>

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

Transportation management would cause impacts similar to those described above for recreation. Closing areas to off-road motorized vehicle travel would limit vegetation loss and sediment compaction. This would help to maintain the roosting and foraging habitat quality and quantity and limit the potential for disturbance. It would also limit the potential for increased human presence in potential hibernacula. Limiting travel to existing or designated routes would reduce new effects on northern long-eared bats; past and current uses have already impacted these areas.

### **Livestock Grazing**

The types of effects on northern long-eared bats and habitat from livestock grazing are described under *Effects Common to All Listed Species and Critical Habitats*. As shown in **Table 20**, these types of effects could occur on the 11,200 acres of northern long-eared bat range that would be available to grazing. Management to control grazing levels and meet rangeland health standards would reduce the potential for these effects. Limiting forage utilization to 50 percent and including the ability to adjust grazing management, including timing of grazing, to improve rangeland health in accordance with thresholds and responses specified in adaptive management would benefit northern long-eared bat habitat by reducing

the likelihood for vegetation removal, degradation, or fragmentation, which would cause a departure from land health standards.

**Table 20**  
**Grazing Management in Northern Long-Eared Bat Habitat**

Grazing Management	Range (Acres)	% Habitat Type
Open <sup>1</sup>	11,200	100
Closed	0	0
Total Acres	11,200	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

<sup>1</sup> Acres include the Schnell Ranch SRMA, which is available for livestock grazing, but unavailable for standard term grazing.

### **Special Designations (Mud Buttes ACEC)**

Although there is no overlap with northern long-eared bat range in the surface action area, the Mud Buttes ACEC would protect an area of badlands and associated erosion tubes, which can provide roost and potential hibernacula for the species. Management would also require that any activity beyond casual use be conducted under an approved plan of operations. A plan of operations would require a site-specific analysis under NEPA; therefore, the impacts on special status species would be revisited at that time.

### **4.3.2 Cumulative Effects**

Cumulative effects on northern long-eared bats in the action area are anticipated to primarily include the following:

- Habitat loss (for example, tree removal and wetland loss) can occur from a variety of sources (such as grazing, urban development, minerals exploration development, energy production and transmission, and transportation projects). These activities are increasing across much of the species' range (USFWS 2022a).
- Increased recreation and human encroachment into northern long-eared bat winter range can increase the spread of white-nose syndrome.
- Habitat management, stewardship, and science activities to protect potential hibernacula (for example, caves) and maintain and enhance wetlands may increase roosting and foraging habitat.
- Implementation of the North Dakota State Wildlife Action Plan, which guides the process of preserving the state's fish and wildlife resources, may help protect bat habitat.
- Climate changes effects and the associated changes in precipitation could dry out wetlands and reduce foraging habitat. Climate change could also potentially accelerate the spread of diseases, such as white-nose syndrome (USFWS 2022a).

### **4.3.3 Determination of Effects and Rationale**

The proposed action includes numerous actions to indirectly reduce impacts on northern long-eared bat and its habitats (such as riparian areas and woody draws) associated with authorized uses, including partial management of northern long-eared bat range in the action area as ROW avoidance and exclusion areas; closed to fluid mineral leasing; under NSO stipulation; unacceptable to coal development; closed to NEL



minerals management and mineral materials management; and limited to OHV travel. Further, grazing management could be altered and management within the Mud Buttes ACEC would reduce the likelihood of impacts from authorized and casual uses. Finally, the addition of proposed conservation measures for northern long-eared bats (see **Section 2.2** above), which would require surveys for roosting bats prior to tree removal and implementation of strategies to reduce effects from wind energy development, would further ensure adverse effects on northern long-eared bats are avoided, reduced, or minimized to a level that **may affect, but is not likely to adversely affect** northern long-eared bats.

#### **4.4 PIPING PLOVER**

##### **4.4.1 Effects of the Proposed RMP Revision**

In addition to the effects described under *Effects Common to All Listed Species and Critical Habitats*, BLM-authorized activities under the proposed action could affect piping plovers through fluid mineral leasing and motorized access on BLM-administered land. Changes in land uses could potentially affect water quality; in turn, this could affect piping plover prey availability and habitat quality. However, proposed RMP revisions under the proposed action would include specific management for piping plover habitat and would indirectly protect piping plover habitat in the action area through protection of waters, fisheries, and special status species.

##### **Vegetation**

Vegetation management could potentially occur in the 19,900 acres of piping plover range and 700 acres of critical habitat overlapping BLM-administered surface (see **Table 6**, Piping Plover Range and Critical Habitat in the Action Areas; BLM GIS 2023).

The proposed action includes management to maintain or improve the health, complexity, and spatial extent of riparian, wetland, and aquatic ecosystems. It would implement active or passive restoration actions, or both, to accelerate progress toward potential natural conditions, where needed, to sequester contaminants, especially from upstream sources. Such management would have beneficial impacts on piping plovers and critical habitat by helping maintain or improve habitat conditions, such as sediment composition, water quality, water availability, floodwater retention, and drought resilience. These effects are likely localized and dispersed, given the limited acreage of riparian areas, wetlands, and aquatic habitats within the BLM surface action area.

Habitat improvement and restoration projects that modify riparian vegetation, such as livestock grazing, fire, mowing, haying, and chemical treatments, could initially cause localized and temporary habitat alterations due to surface disturbance and vegetation removal. These would temporarily increase the likelihood for soil erosion, bank instability, and sediment delivery to nearby waterways. Projects that require in-stream construction could also temporarily disturb nesting individuals.

Over the long term, restoration treatments would maintain or improve the health, complexity, and spatial extent of riparian, wetland, and aquatic ecosystems by increasing native plant cover and species diversity, stabilizing soils, and reducing erosion and sediment delivery into waterways that provide habitat for fish and other aquatic species. Conservation Measure CM-Piping plover-3 (**Section 2.2.2**) would further improve habitat by including treatments that reduce encroachment of woody vegetation onto sandbars. This would ultimately improve habitat quality for piping plovers and their prey base in localized areas on BLM-administered lands in the action area.

### Lands and Realty

Although the BLM would manage areas within 0.5 miles of piping plover habitat as ROW avoidance, management of other resources as ROW exclusion would overlap with piping plover range and critical habitats as well. These include management for tallgrass prairie as ROW exclusion. Managing 300 acres of piping plover range and 200 acres of piping plover critical habitat as ROW exclusion areas and 18,700 acres of piping plover range and 500 acres of piping plover critical habitat as ROW avoidance areas (**Table 21**) would reduce the potential for effects from lands and realty, such as disturbance and habitat alterations, as described under *Effects Common to All Listed Species and Critical Habitats*. The BLM would manage riparian areas and wetlands and land within 0.50 miles of the Little Missouri River as ROW avoidance. Because these areas could serve as potential nesting habitat for piping plovers, prohibiting or avoiding ROW development in these areas would also reduce potential effects, such as disturbance to nesting birds and habitat alterations that could lead to the loss of nest site characteristics (sandy or gravelly beaches and sandbars or alkaline wetlands; USFWS 2020a).

**Table 21**  
**ROW Management in Piping Plover Habitat**

	<b>Range (Acres)</b>	<b>% Habitat Type</b>	<b>Critical Habitat (Acres)</b>	<b>% Habitat Type</b>
Open	900	5	0	0
ROW Avoidance	18,700	93	500	71
ROW Exclusion	300	2	200	29
Total	19,900	100	700	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

The continuation of ROWs on 900 acres of piping plover habitat would have the potential to impact piping plovers because power lines can cause habitat fragmentation and collisions with power lines or other infrastructure. Although wind energy development is not a likely foreseeable action, due to the already fragmented nature of the action area, if development of wind farms were to occur in piping plover habitat migration corridors, it could cause significant mortality due to collisions with wind turbines or new power lines. Adhering to BMPs and Design Features, such as US Fish and Wildlife Service Land-Based Wind Energy Guidelines and Avian Protection on Power Lines (see **Appendix D** from the Draft RMP/EIS), would further reduce the potential for effects associated with ROWs.

### Minerals

*Fluid Leasable Minerals, including Standard Terms and Conditions*

**Table 22** to **Table 26** show the acres of piping plover range and critical habitat on BLM-administered lands that would be open or closed to fluid mineral leasing, NEL minerals management, locatable mineral entry, and mineral materials disposal and acceptable or unacceptable to coal leasing. Areas open or acceptable (coal only) to these uses could affect piping plovers through the effects described for mineral exploration and development under *Effects Common to All Listed Species and Critical Habitats*, above, including disturbance and alteration of nest sites. Areas closed or unacceptable (coal only) to mineral development would have the greatest likelihood to maintain suitable habitat conditions for piping plovers by prohibiting any type of development within these areas. These areas would likely maintain the highest habitat quality for nesting piping plovers and maintain the primary constituent elements of critical habitat,

including prairie alkali lakes and wetlands, rivers, and reservoirs with sandy to gravelly, sparsely vegetated beaches (USFWS 2002). Closing areas to minerals would also help protect water quality and as a result, increase the availability of forage species, such as crustaceans and mollusks. Maintaining nesting and foraging habitat characteristics would help improve reproductive success and contribute to the recovery of the species. Under the proposed action, the BLM would manage areas within 0.5 miles of piping plover habitat as closed to NEL minerals and mineral material disposal, though incidental protections would also be provided to piping plovers and their critical habitat through closures managed to protect other resources, such as tallgrass prairie and other special status species.

**Table 22**  
**Fluid Mineral Leasing Allocations in Piping Plover Range**

Allocation	Range (Acres)	% Range	Critical Habitat (Acres)	% Critical Habitat
Closed	149,600	48	1,800	33
NSO	58,900	19	1,000	18
CSU	127,600	41	1,000	18
TL	126,000	40	800	15
Open, Subject to Standard Terms and Conditions	10,200	3	1,000	18
Total Range Acres in Action Area	313,200	100	5,500	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

*Solid Leasable Minerals, including Coal and Nonenergy Solid Minerals*

**Table 23**  
**Coal Allocations in Piping Plover Range and Critical Habitat**

Allocation <sup>1</sup>	Range (Acres)	% Range	Critical Habitat	% Critical Habitat
Acceptable for coal development	58,600	2	0	0
Unacceptable for coal development	445,600	15	700	100
Total Range Acres in Action Area	2,884,400	100	700	100

Source: BLM GIS 2023

<sup>1</sup> Acres acceptable and unacceptable for coal development are within a subset of the coal action area encompassing coal potential only.

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

**Table 24**  
**NEL Minerals Management in Piping Plover Range and Critical Habitat**

Allocation	Range (Acres)	% Habitat Type	Critical Habitat (Acres)	% Habitat Type
Open	242,500	95	0	0
Closed	13,600	5	2,600	100
Total	256,100	100	2,600	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

*Locatable Minerals*

**Table 25**  
**Locatable Minerals Management in Piping Plover Range and Critical Habitat**

Allocation	Range (Acres)	% Habitat Type	Critical Habitat (Acres)	% Habitat Type
Open	256,100	100	2,600	100
Not Open	0	0	0	0
Total	256,100	100	2,600	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

*Mineral Materials*

**Table 26**  
**Mineral Materials Management in Piping Plover Range and Critical Habitat**

Allocation	Range (Acres)	% Habitat Type	Critical Habitat (Acres)	% Habitat Type
Open	126,800	50	30	<1
Closed	129,300	50	2,600	>99
Total	256,100	100	2,600	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

**Table 22** also shows the acres of piping plover range on BLM-administered lands that would be subject to NSO, CSU, and TL stipulations. Areas managed with NSO, CSU, and TL stipulations would prevent or limit surface disturbance and the associated impacts in certain areas and at certain times. In areas that are open to fluid mineral leasing, NSO stipulations would provide the greatest protection for piping plovers by prohibiting surface-disturbing activities in these areas. NSO 11-156 would prohibit surface use and occupancy in and within 0.25 miles of piping plover habitat and a CSU would also be applied within 0.5 miles of piping plover habitat. Additional incidental protections would be applied due to closures for source water protection areas and low oil and gas potential areas; and NSO stipulations for many resources, such as riparian areas and wetlands, waterbodies, streams, the Missouri River, and other special status species.

For instance, NSO 11-70 would prevent the disturbances from fluid mineral development described under *Effects Common to All Listed Species and Critical Habitats* by prohibiting surface occupancy on or near aquatic and riparian habitats that may serve as nesting habitat for piping plovers, including perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas. Incidental protection could also occur from the NSO stipulation that would prohibit fluid mineral development and associated surface disturbance within 0.50 miles of the ordinary high-water mark for the Missouri River, Lake Sakakawea, and Lake Oahe. Additionally, a CSU stipulation in riparian areas and wetlands would require approval of a plan to maintain or improve the functionality of these areas prior to surface occupancy and use. This would help protect the unique biological and hydrological features associated with riparian areas and wetlands, and potential nesting habitat, by reducing impacts from fluid mineral exploration and development in these areas, including from indirect effects produced within the adjacent ground.

### **Recreation, including the SRMA and BCAs**

Piping plover range would overlap 12,400 acres of BCAs and 0 acres of the SRMA (**Table 27**). Effects on piping plovers and critical habitat associated with concentrated recreation could occur as described under *Effects Common to All Listed Species and Critical Habitats*. These types of effects include the potential for disturbance and habitat alterations, such as vegetation loss and soil compaction, primarily due to recreation near riparian areas and wetlands. Effects from high-intensity use are especially evident in areas of higher recreation preference, such as wetlands, meadows, and streams. Disturbance of nesting birds could cause nest avoidance or abandonment, which could reduce reproductive success. Management approaches that direct recreation to specific areas and avoid dispersed recreation can result in more predictable, localized, and manageable impacts.

**Table 27**  
**Recreation Management in Piping Plover Range and Critical Habitat**

<b>Recreation Area</b>	<b>Range (Acres)</b>	<b>% Habitat Type</b>	<b>Critical Habitat (Acres)</b>	<b>% Habitat Type</b>
SRMA	0	0	0	0
BCAs	12,400	4	0	0
Total	19,900	100	0	0

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

### **Travel and Trails**

Transportation management would cause impacts similar to those described above for recreation. While no piping plover range or critical habitat would be closed to OHV use, since most of the action area would be managed as limited to OHV, these areas would overlap with piping plover range and critical habitat. Managing 19,900 acres of piping plover range and 700 acres of piping plover critical habitat as limited OHV areas (**Table 28**) would reduce the potential for effects from travel and trails, as described under *Effects Common to All Listed Species and Critical Habitats*; past and current uses have already impacted these areas.

**Table 28**  
**Travel Management in Piping Plover Range and Critical Habitat**

<b>Travel Management</b>	<b>Range (Acres)</b>	<b>% Habitat Type</b>	<b>Critical Habitat (Acres)</b>	<b>% Habitat Type</b>
OHV Limited	19,900	100	700	100
OHV Closed	0	0	0	0
Total	19,900	100	700	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

### **Livestock Grazing**

The types of effects on piping plovers and critical habitat from livestock grazing are described under *Effects Common to All Listed Species and Critical Habitats*. These types of effects could occur on the 19,900 acres of piping plover range and 700 acres of critical habitat that would be available to grazing (**Table 29**). Management to control grazing levels and meet rangeland health standards would reduce the potential for

these effects. Limiting forage utilization to 50 percent and including the ability to adjust grazing management, including timing of grazing, to improve rangeland health in accordance with thresholds and responses specified in adaptive management would benefit piping plover habitat by reducing the likelihood for vegetation removal, degradation, or fragmentation that would cause a departure from land health standards.

**Table 29**  
**Grazing Management in Piping Plover Range and Critical Habitat**

<b>Grazing Management</b>	<b>Range (Acres)</b>	<b>% Habitat Type</b>	<b>Critical Habitat (Acres)</b>	<b>% Habitat Type</b>
Open	19,900	100	700	100
Closed	0	0	0	0
Total	19,900	100	700	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

### ***Special Designations (Mud Buttes ACEC)***

Management of the Mud Buttes ACEC would not overlap with any piping plover range or critical habitat; as such, management of the ACEC would not affect piping plover or its critical habitat.

#### **4.4.2 Cumulative Effects**

Cumulative effects on piping plovers in the action area are anticipated to primarily include the following:

- Human development on nonfederal lands, which can lead to habitat loss, fragmentation, and alteration
- Minerals exploration development, including development and use of ancillary roads, pipelines, and other facilities
- Habitat alterations from livestock grazing and recreation
- Habitat management, stewardship, and science activities to maintain and enhance rivers and wetlands
- Implementation of the North Dakota State Wildlife Action Plan, which guides the process of preserving the state's fish and wildlife resources
- Climate changes effects and the associated changes in river flows and sandbar nesting habitat, as described in the species' recovery plan, comprehensive conservation strategy, and 5-year review (USFWS 2012b, 2015b, 2020a)

#### **4.4.3 Determination of Effects and Rationale**

The proposed action includes numerous actions to directly and indirectly reduce impacts on piping plover and its habitats (such as riparian areas and rivers) associated with authorized uses, including partial management of piping plover range and critical habitat in the action area as ROW avoidance areas; closed to fluid mineral leasing and under NSO stipulation; unacceptable for coal development; closed to NEL minerals management and mineral materials management; and limited to OHV travel. Further, grazing management could be altered, which would reduce the likelihood of impacts from authorized uses. Finally, the addition of proposed conservation measures for piping plovers (see **Section 2.2** above), which would

prohibit cross-country travel and livestock grazing in critical habitat and would include vegetation treatments that reduce encroachment of woody vegetation onto sandbars, would further ensure adverse effects on piping plovers are avoided, reduced, or minimized to a level that ***may affect, but not likely to adversely affect*** piping plovers.

## **4.5 RUFA RED KNOT**

### **4.5.1 Effects of the Proposed RMP Revision**

As described in **Section 3.3**, rufa red knots occur in North Dakota during the spring and fall migration periods in mid-May and mid-September to October. They use lakes, rivers, and wetlands as stopover habitat, but observations are rare in the state. No consistently used stopover sites are known (Dyke et al. 2015). However, observations of red knots are difficult, and red knots may utilize other undocumented waters and wetlands in the action area for migratory stopovers.

Because red knot habitat characteristics are similar to those used by piping plovers, the effects from the proposed action would be similar to those described for piping plovers in **Section 4.2**. However, because the red knot is a rare, seasonal migrant that does not nest in the state, the potential for effects would be considerably lower, and disturbance to nesting individuals would not occur.

The main effect would be the potential for disturbance to migrating individuals and alteration of foraging habitat. As described in **Section 4.2**, activities such as mineral development, livestock grazing, and recreation can cause disturbances, which may interfere with foraging. Activities may also alter habitat characteristics (for example, by removing vegetation, compacting soils, and causing erosion into waterways). Such changes could potentially alter forage availability, which is important for migrating birds.

On BLM surface, split estate, and on fee/fee/fed lands when in accordance with PIM 2018-014, the BLM would require surveys for the presence of BLM sensitive species before authorizing surface-disturbing activities. The BLM would authorize activities only if protective measures could mitigate adverse effects on species and their habitat (**Appendix D** from the Draft RMP/EIS). Surveys would also be required for migratory birds for any potentially surface or noise disturbing activities (CM-Migratory birds-I, **Section 2.2.2**). Surface occupancy would be prohibited on or near aquatic and riparian habitats that may serve as stopover habitat for rufa red knots, including perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas (NSO 11-70). Incidental protection could also occur from the NSO stipulation that would prohibit fluid mineral development and associated surface disturbance within 0.50 miles of the ordinary high-water mark for the Missouri River, Lake Sakakawea, and Lake Oahe. Implementation-level design features would further protect stopover habitat for rufa red knots, including stipulations for wetlands and riparian areas (DF-14) and special status species and habitat (DF-20) (**Appendix D** from the Draft RMP/EIS).

### **4.5.2 Cumulative Effects**

Cumulative effects on rufa red knots would be similar to those described for piping plovers in **Section 4.4**. However, because the rufa red knot is a rare, seasonal migrant that does not nest in the state, the potential for cumulative effects would be considerably lower.

### **4.5.3 Determination of Effects and Rationale**

Since piping plover and rufa red knot habitats are very similar, restrictions to authorized and casual uses as described above for piping plovers in **Section 4.3.3** would reduce the likelihood of impacts to potential

rufa red knot habitat. In addition, implementation of conservation measures for piping plovers and migratory birds would further ensure adverse effects on rufa red knots are avoided, reduced, or minimized to a level that **may affect, but not likely to adversely affect** rufa red knots.

## **4.6 WHOOPING CRANE**

### **4.6.1 Effects of the Proposed RMP Revision**

As described in **Section 3.4**, whooping cranes stop over in North Dakota during spring and fall migration in April to mid-May and September to early November. Key stopover sites may be located in suitable habitat throughout the migration corridor, which runs through most of the western and central part of the state (Dyke et al. 2015). The Missouri River in North Dakota is a frequently used stopover area (CWS and USFWS 2007).

Because whooping crane stopover areas (primarily wetlands and riverine habitats) overlap habitats used by piping plovers, the effects from the proposed action would be similar to those described for piping plovers in **Section 4.2**. However, because whooping cranes are seasonal migrants that do not nest in the state, the potential for effects would be considerably lower, and disturbance to nesting individuals would not occur.

The main effect of the proposed action would be the potential for disturbance to migrating individuals and alteration of foraging and roosting habitat. As described in **Section 4.2**, activities such as mineral development, livestock grazing, and recreation can cause disturbances, which may interfere with foraging and roosting. Disturbance to whooping cranes limits their ability to obtain food resources; thus, disturbance affects whooping cranes' fitness (USFWS 2012c). Activities may also alter habitat characteristics (for example, by removing vegetation, compacting soils, and causing erosion into waterways). Such changes could potentially alter forage availability, which is important for migrating birds. Where development associated with mineral development occurs in the whooping crane migration corridor, it would have the potential to affect the species by fragmenting migration habitat. This could reduce the total amount of habitat available to the species, which tends to avoid roads and buildings (USFWS 2012c).

On BLM surface, split estate, and on fee/fee/fed lands when in accordance with PIM 2018-014, the BLM would require surveys for the presence of BLM sensitive species before authorizing surface-disturbing and -disrupting activities. The BLM would authorize activities only if protective measures can mitigate adverse effects on species and their habitat (**Appendix D** from the Draft RMP/EIS). Surveys would also be required for migratory birds for any potentially surface or noise disturbing activities (CM-Migratory birds-I, **Section 2.2.2**). Surface occupancy would be prohibited on or near aquatic and riparian habitats that may serve as stopover habitat for whooping cranes, including perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas (NSO 11-70). Incidental protection could also occur from the NSO stipulation that would prohibit fluid mineral development and associated surface disturbance within 0.50 miles of the ordinary high-water mark for the Missouri River, Lake Sakakawea, and Lake Oahe. Implementation-level design features would further protect stopover habitat for whooping cranes, including stipulations for wetlands and riparian areas (DF-14) and special status species and habitat (DF-20) (**Appendix D** from the Draft RMP/EIS).

Management of 1,000 acres of whooping crane habitat as open to ROW development would potentially affect whooping cranes. This is because power lines can cause habitat fragmentation, and collisions with



power lines are a substantial cause of whooping crane mortality in migration (USFWS 2012c). Wind energy development is not a likely foreseeable action, due to the already fragmented nature of the action area. However, if development of wind farms were to occur in the whooping crane migration corridor, it would have the potential to cause significant mortality, either directly by wind turbines or from colliding with new power lines associated with wind farm development (USFWS 2012c). Adhering to BMPs and Design Features, such as US Fish and Wildlife Service Land-Based Wind Energy Guidelines and Avian Protection on Power Lines (see **Appendix D** from the Draft RMP/EIS), would further reduce the potential for effects associated with ROWs.

#### **4.6.2 Cumulative Effects**

Cumulative effects on whooping cranes in the action area are anticipated to primarily include the following:

- Habitat loss and fragmentation from conversion of lands for agriculture and development. Federal and state policies, such as farm subsidies, often help to promote development, which results in habitat loss for whooping cranes. Additionally, whooping cranes use migration habitat opportunistically, and they frequently use private lands that have no protections. The frequent lack of traditional-use areas in migration makes management for the species extremely difficult without being able to predict exactly what areas whooping cranes will use. The species must have a multitude of available stopover sites to stop at on short notice as darkness or wind shifts make conditions unfavorable for migration (USFWS 2012c).
- Minerals exploration and development, including development and use of ancillary roads, pipelines, and other facilities, are expected to cause habitat loss and avoidance.
- Habitat degradation from livestock grazing is expected to cause habitat loss and avoidance.
- Recreational opportunities, including at state parks, wildlife management areas, and other destinations, is expected to cause habitat loss and avoidance.
- Implementation of the North Dakota State Wildlife Action Plan, which guides the process of preserving the state's fish and wildlife resources.
- The current legal framework, including the ESA, Migratory Bird Treaty Act, NEPA, and Species at Risk Act in Canada, can provide for adequate protection and conservation of the whooping crane and its habitat. However, implementation of these acts to address all the issues facing whooping cranes is difficult and can often only be applied on a project-by-project basis. This is especially difficult with the ESA when there is no federal nexus for the project activity. Habitat used by whooping cranes everywhere, except in its nesting range, continues to be lost or degraded bit by bit (USFWS 2012c).
- Climate changes effects and the associated changes in rainfall, water availability, and wetland habitat availability could affect whooping cranes. Rising temperatures could increase evaporation and dry up wetlands that whooping cranes use throughout the year. If the warmer temperatures are not counterbalanced by increased precipitation, the species would struggle facing increased drought-like conditions (USFWS 2012c).

#### **4.6.3 Determination of Effects and Rationale**

Since piping plover and whooping crane habitats are very similar, restrictions to authorized and casual uses as described above for piping plovers in **Section 4.3.3** would reduce the likelihood of impacts to potential whooping crane habitat. In addition, implementation of conservation measures for piping plovers

and migratory birds would further ensure adverse effects on whooping cranes are avoided, reduced, or minimized to a level that **may affect but is not likely to adversely affect** whooping cranes.

## **4.7 PALLID STURGEON**

### **4.7.1 Effects of the Proposed RMP Revision**

#### ***Vegetation***

Vegetation management could potentially occur on the 170 acres of pallid sturgeon range overlapping BLM-administered surface (see **Table 9**, Pallid Sturgeon Range in the Action Areas; BLM GIS 2023). The proposed action includes management to maintain or improve the health, complexity, and spatial extent of riparian, wetland, and aquatic ecosystems. The BLM would implement active or passive restoration actions, or both, to accelerate progress toward potential natural conditions to sequester contaminants, especially from upstream sources. Such management would have beneficial impacts on pallid sturgeon and their habitat by helping improve habitat conditions, such as natural surface water flow regimes, water quality, water availability, floodwater retention, and drought resilience. Additional management direction to enhance or restore unsatisfactory or declining fish and aquatic habitat could result in implementation of projects that improve pallid sturgeon habitat.

Habitat improvement and restoration projects that modify riparian vegetation, such as livestock grazing, fire, mowing, haying, and chemical treatments, could initially cause localized and temporary habitat alterations due to surface disturbance and vegetation removal. These would temporarily increase the likelihood for soil erosion, bank instability, and sediment delivery to nearby waterways. Projects that require in-stream construction would also cause temporary sedimentation, and these projects could injure or kill individuals.

Over the long term, restoration treatments would maintain or improve the health, complexity, and spatial extent of riparian, wetland, and aquatic ecosystems by increasing native plant cover and species diversity, stabilizing soils, and reducing erosion and sediment delivery into waterways that provide habitat for fish and other aquatic species. This would ultimately increase the amount of habitat for pallid sturgeon and other native aquatic species. It also would potentially allow for future reoccupation of waterways in the action area by pallid sturgeon. These effects are likely localized and dispersed, given the limited acreage of pallid sturgeon range within the BLM surface action area (1,400 acres, see Chapter 3 in the Draft RMP/EIS).

#### ***Lands and Realty (ROW and Land Tenure Management)***

The BLM would manage areas within 0.5 miles of the ordinary high-water mark of identified pallid sturgeon habitat as ROW avoidance, resulting in 170 acres of pallid sturgeon range managed as ROW avoidance. ROW exclusion areas do not overlap with any pallid sturgeon range (**Table 30**). Management for ROW avoidance would reduce the potential for effects from lands and realty, as described under *Effects Common to All Listed Species and Critical Habitats*. Allowed ROWs would be subject to design features that maintain the functionality of identified pallid sturgeon habitat and minimize spawning disturbance. These would help protect pallid sturgeon habitat from loss and degradation, and potentially allow for future reoccupation of the action area waterways by this species.

Riparian areas and wetlands and land within 0.50 miles of the Little Missouri River would be managed as ROW avoidance. Application of special stipulations or design features associated with ROW avoidance areas would also reduce potential downstream effects on pallid sturgeon, such as water quality alterations.

**Table 30**  
**ROW Management in Pallid Sturgeon Habitat**

	<b>Range (Acres)</b>	<b>% Range</b>
ROW Exclusion	0	0
ROW Avoidance	170	100
Open	0	0
Total	170	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

### Minerals

**Table 31** through **Table 35** show the acres of pallid sturgeon range on BLM-administered lands that would be open or closed to fluid mineral leasing, NEL minerals management, locatable mineral entry, and mineral materials disposal and acceptable or unacceptable to coal leasing. Areas open or acceptable (coal only) to these uses could affect pallid sturgeon through the effects described for mineral exploration and development under *Effects Common to All Listed Species and Critical Habitats*, above, including water quality degradation. Areas closed or unacceptable (coal only) to mineral development would have the greatest likelihood to maintain suitable habitat conditions for pallid sturgeon by prohibiting any type of development within these areas. These areas would likely maintain the highest water quality for spawning, migratory, and juvenile-rearing habitat for fish. These areas also would maintain fish presence and productivity during the spawn. Indirect effects, such as sedimentation into waterways, could occur from mineral development nearby.

**Table 31**  
**Fluid Mineral Leasing Allocations in Pallid Sturgeon Habitat**

<b>Allocation</b>	<b>Range (Acres)</b>	<b>% Range</b>
Closed	0	0
NSO	170	100
CSU	170	100
TL	20	12
Open, Subject to Standard Terms and Conditions	0	0
Total Range Acres in Action Area	170	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

*Solid Leasable Minerals, including Coal and Nonenergy Solid Minerals*

**Table 32**  
**Coal Allocations in Pallid Sturgeon Habitat**

<b>Allocation<sup>1</sup></b>	<b>Range (Acres)</b>	<b>% Range</b>
Acceptable for coal development	0	0
Unacceptable for coal development	5	<1
Total Range Acres in Action Area	770	100

Source: BLM GIS 2023

<sup>1</sup> Acres acceptable and unacceptable for coal development are within a subset of the coal action area encompassing coal potential only.

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

**Table 33**  
**NEL Minerals Management in Pallid Sturgeon Range Habitat**

Allocation	Range (Acres)	% Habitat Type
Open	20	18
Closed	90	82
Total	110	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

#### *Locatable Minerals*

**Table 34**  
**Locatable Minerals Management in Pallid Sturgeon Range Habitat**

Allocation	Range (Acres)	% Habitat Type
Open	110	100
Not Open	0	0
Total	110	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

#### *Mineral Materials*

**Table 35**  
**Mineral Materials Management in Pallid Sturgeon Range Habitat**

Allocation	Range (Acres)	% Habitat Type
Open	0	0
Closed	110	100
Total	110	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

Mineral leasing operations can affect water quality in the Missouri River, which could have effects on pallid sturgeon habitat requirements. Under the proposed action, revisions to the RMP include measures to address effects on special status species, including fish, and water quantity and quality. In addition, specific stipulations discussed in **Appendix E**, from the Draft RMP/EIS, would ensure adverse effects on pallid sturgeon and fish habitat are reduced, avoided, or minimized at project-level implementation, as described below.

**Table 31** shows the acres of pallid sturgeon range on BLM-administered lands that would be subject to NSO, CSU, and TL stipulations. Areas managed with NSO, CSU, and TL stipulations would prevent or limit surface disturbance and the associated impacts in certain areas and at certain times. In areas that are open to fluid mineral leasing, NSO stipulations would provide the greatest protection of pallid sturgeon and their

habitat by prohibiting surface-disturbing activities in these areas. A NSO stipulation prohibiting surface occupancy and use within 0.50 miles of the water's edge of identified pallid sturgeon habitat would protect pallid sturgeon habitat from loss and alteration, and potentially allow for future reoccupation of waterways in the action area by this species.

Additionally, NSO 11-70 would prevent the effects from fluid mineral development in perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas. Incidental protection could also occur from the NSO stipulation that would prohibit fluid mineral development and the associated surface disturbance within 0.50 miles of the ordinary high-water mark for the Missouri River, Lake Sakakawea, and Lake Oahe. A CSU stipulation in riparian areas and wetlands would require approval of a plan to maintain or improve the functionality of these areas prior to surface occupancy and use. This would help protect the unique biological and hydrological features associated with riparian areas and wetlands by reducing impacts from fluid mineral exploration and development in these areas, including from indirect effects produced within the adjacent ground. These protections could indirectly protect pallid sturgeon habitat where the protections overlap pallid sturgeon range and also outside the range by reducing potential downstream effects (for example, sedimentation).

While there is no specific management protecting pallid sturgeon habitat from mineral materials disposal, incidental protections for other resources, such as riparian areas and wetlands, BCAs, and national historic trails, would overlap with some identified pallid sturgeon habitat and provide protections through closures to mineral materials disposal. This would help protect pallid sturgeon and habitat from the mineral exploration and development impacts described under *Effects Common to All Listed Species and Critical Habitats*.

The BLM would open 110 acres of pallid sturgeon range to locatable mineral entry. The effects described above for mineral exploration and development could occur in these open areas. Surface-disturbing activities, such as locatable development, within 0.50 miles of the ordinary high-water mark of identified pallid sturgeon streams would be subject to design features that would maintain the functionality of pallid sturgeon habitat and thereby reduce effects on the species. Effects would also be unlikely because development is not reasonably foreseeable.

Coal management would have limited effects on pallid sturgeon since identified pallid sturgeon habitat would be unsuitable for coal leasing under Coal Screen 2 and due to the limited overlap of coal potential with pallid sturgeon range. Identified pallid sturgeon habitat would be unsuitable for coal leasing under Coal Screen 2. However, some Coal Screen 2 criteria have an exception that, if met, could make habitat suitable for consideration for coal leasing. Therefore, the analysis considers these criteria as acceptable. Those areas identified as unacceptable were determined using the coal screening process outlined in 43 CFR 3420 et seq., which removes lands that would conflict with resources of high value from further consideration for coal leasing. The screening process is further described in **Chapter 2** and Draft RMP/EIS **Appendix F**.

Coal development would not occur in the 5 acres of pallid sturgeon habitat identified as unacceptable for coal development, and pallid sturgeon inhabiting these areas would not be directly impacted, as described under *Effects Common to All Listed Species and Critical Habitats*. However, indirect effects, such as habitat degradation from sedimentation, could occur if development occurs nearby. Aquatic habitats acceptable to coal development, but outside the three coal-producing counties, would not be likely to experience impacts from coal development due to the low development potential (BLM 2022b).

While there is no specific management protecting pallid sturgeon habitat from NEL minerals leasing, incidental protections for other resources, including for other special status species and BCAs, would overlap with some identified pallid sturgeon habitat and provide protections through closures. Impacts on pallid sturgeon from NEL minerals leasing would be similar to those described under *Effects Common to All Listed Species and Critical Habitats* for mineral exploration and development. These impacts could occur in open areas, if future demand for NEL minerals occurs. Impacts would not occur in those areas closed to leasing.

#### **Recreation, including the SRMA and BCAs**

Neither the Schnell Ranch SRMA nor the BCAs would overlap pallid sturgeon range. As a result, effects associated with higher intensity uses, such as developed campgrounds, would not occur.

Most recreation on BLM-administered lands is dispersed recreation that includes walking and vehicle use (limited to existing roads and trails). This type of recreation, particularly from motorized vehicles, causes minor amounts of vegetation loss, soil compaction, soil erosion, and invasive species spread. These could incidentally impact pallid sturgeon by altering the habitat from erosion and sedimentation (Eubanks 2004).

Other recreational activities, such as fishing and waterfowl hunting, would increase the human presence in aquatic habitat, which could cause disturbance or habitat alterations, as described above. Fishing can lead to the spread of nonnative, invasive species, such as common carp (*Cyprinus carpio*), silver carp (*Hypophthalmichthys molitrix*), and zebra mussels (*Dreissena polymorpha*) (NDGFD 2018). Some of these have been identified as a threat to pallid sturgeon (USFWS 2014a). Fishing also can contribute to degradation of riparian and aquatic habitat from human presence in these areas. BMPs described in **Appendix D**, from the Draft RMP/EIS, would help reduce the effects.

#### **Travel and Trails**

Areas managed as limited to OHV use would overlap 170 acres of pallid sturgeon range; such management would reduce the potential for effects from travel and trails, as described under *Effects Common to All Listed Species and Critical Habitats*. Transportation management would cause impacts similar to those described above for recreation. Closing areas to off-road motorized vehicle travel would limit vegetation loss and sediment delivery into waterways. This would help maintain the aquatic habitat quality and quantity and limit the potential for injury or mortality due to trampling. Limiting travel to existing or designated routes would reduce new effects on pallid sturgeon; past and current uses have already impacted these areas.

#### **Livestock Grazing**

Under the proposed action, 170 acres of pallid sturgeon range would be available to grazing. Potential effects on pallid sturgeon from livestock grazing could occur as a result of water quality alterations, which can impact pallid sturgeon during many life stages (USFWS 2014a). These alterations could come about from stream bank trampling that causes excess nutrients and sediment to enter the water. These alterations also could elevate in-stream temperatures due to reduced vegetation cover. This could lead to a loss of wetland and riparian vegetation and backwater pools, which provide nursery habitat for fish (Belsky et al. 1999).

In addition, management to control grazing levels and meet rangeland health standards would reduce the potential for these effects. Limiting forage utilization to 50 percent and including the ability to adjust grazing

management, including timing of grazing, to improve rangeland health in accordance with thresholds and responses specified in adaptive management would benefit pallid sturgeon by reducing the likelihood for vegetation removal, degradation, or fragmentation, which would cause a departure from land health standards. Given the limited extent of pallid sturgeon range that would be subject to potential impacts, it is likely that impacts would be discountable.

#### ***Special Designations (Mud Buttes ACEC)***

Management of the Mud Buttes ACEC would not overlap with any pallid sturgeon range; as such, management of the ACEC would not affect pallid sturgeon.

#### **4.7.2 Cumulative Effects**

Cumulative effects on pallid sturgeon in the action area are anticipated to primarily include the following:

- Human development on nonfederal lands, poaching, and misidentification by anglers can adversely affect pallid sturgeon in the region.
- Population estimates for pallid sturgeon within some inter-reservoir reaches of the Missouri River indicate the extant wild populations are declining or extirpated. To prevent further extirpation, a conservation propagation program has been established. However, if supplementation efforts were to cease, the species would once again face local extirpation within several reaches.
- Within the Missouri River basin, where channelization and dams have fragmented habitats and altered natural riverine processes, and no evidence for pallid sturgeon recruitment exists, efforts are being implemented to restore ecological function. An example is the Pallid Sturgeon Conservation Augmentation Program to prevent local extirpation. Restoration efforts include, but are not limited to, creating side channel habitats, restoring connectivity to backwater areas, notching dikes, providing fish passage, and manipulating flows through the dams. In addition to habitat restoration efforts and the Pallid Sturgeon Conservation Augmentation Program, a basin-wide pallid sturgeon population monitoring program has been established to track changes in the species' abundance and status (USFWS 2014a).
- Reservoir operations on tributaries within the Fort Benton to Fort Peck Reservoir reach have been modified from past practices. Releases from Tiber Dam were modified to occasionally accommodate a high-flow discharge period and to benefit downstream fisheries. A response by pallid sturgeon was not detected; however, present numbers of pallid sturgeon in this reach may be too low to detect a response (USFWS 2014a). Augmentation and monitoring efforts continue to support and evaluate the pallid sturgeon population within this reach.
- Within the range of pallid sturgeon, predicted effects of climate change are shifts in runoff patterns. Discharge peaks are anticipated to occur earlier and potentially be larger. Late-season river flows may be reduced, and water temperatures may rise. These changes to the water cycle are anticipated to affect water use, which may alter existing reservoir operations. Broadly, these potential effects on pallid sturgeon could be altered spawning behavior (that is, movement and timing), reduced survival of early life stages, and reduced late-season habitat suitability due to reduced flows and presumably warmer temperatures (USFWS 2014a). Another predicted outcome is increased or prolonged periods of drought. Increased water demand, coupled with reduced late-season flows, could significantly affect in-channel habitats; this, in turn, may affect other species that are food items for pallid sturgeon.

These effects would likely occur first, or be most pronounced, in the more northern portion of the pallid sturgeon range, such that in the action area. Higher, northern latitudes appear to have relatively higher predicted warming trends. However, reduced annual runoff predicted in the Missouri River basin may be offset by the anticipated increased runoff in the upper Mississippi River, resulting in minimal effects within the middle and lower Mississippi River basins (USFWS 2014a). It is difficult to evaluate long-term effects from climate change because there have been many human-caused influences across the species' range. However, part of the RMP's revision includes goals, objectives, and actions that incorporate new technologies to address climate change. Although it is not within the BLM's capabilities to control all adverse effects of climate change on species, RMP revisions that address climate change, along with collaboration with other landowners to support resilient watersheds, would work to reduce these effects for all species, including pallid sturgeon.

#### **4.7.3 Determination of Effects and Rationale**

The proposed action includes numerous actions to directly and indirectly reduce impacts on pallid sturgeon and its habitat associated with authorized uses, including management of areas within 0.5 miles of identified pallid sturgeon streams with an NSO stipulation and partial management of pallid sturgeon habitat in the action area as ROW avoidance areas; unacceptable for coal development; closed to NEL minerals management and mineral materials management; and limited to OHV travel. Further, grazing management could be altered, which would reduce the likelihood of impacts from authorized uses. Together, these measures would ensure adverse effects on pallid sturgeon are avoided, reduced, or minimized to a level that **may affect, but not likely to adversely affect** pallid sturgeon.

### **4.8 DAKOTA SKIPPER**

#### **4.8.1 Effects of the Proposed RMP Revision**

Assumptions used in this analysis are as follows:

- The historical and current range of Dakota skippers (see Figure 3.1, Historical Distribution of Dakota Skipper, in USFWS 2018b) does not overlap the range of GRSG in the action area (see Proposed RMP/EIS Map 2-1 in Appendix A; the map shows the GRSG habitat). As a result, proposed management for GRSG would not affect Dakota skippers.
- Conservative management proposals for other sensitive wildlife and plant species and sensitive habitat areas may infer protections on Dakota skipper habitat. This would be particularly true for sensitive species and habitats that overlap native mixed-grass prairie habitat. Where applicable, these situations are analyzed below.
- The historical and current range of Dakota skippers (see Figure 3.1, Historical Distribution of Dakota Skipper, in USFWS 2018b) does not overlap the proposed ACEC in the action area (see Proposed RMP/EIS Map 2-44 in Appendix A; this map shows the proposed Mud Butte ACEC). As a result, proposed management for the ACEC would not affect Dakota skippers.

#### **Vegetation**

Vegetation management would potentially affect Dakota skippers' range and critical habitat on BLM-administered surface and on some split estate lands within the fluid mineral action area, since this is where BLM management of vegetation would occur. Vegetation management could potentially occur in the 4,120



acres of potentially suitable habitat overlapping the BLM surface action area and 48,300 acres overlapping the fluid mineral action area (see **Table 10**, Dakota Skipper Range and Critical Habitat; BLM GIS 2023).

Overall, the BLM would manage vegetation with multiple goals, including to maintain and restore healthy, productive, and diverse populations of native plant and animal species; to maintain, restore, or enhance vegetation health, connectivity, resiliency, and diversity; and to promote special status species. This would help maintain suitable habitat in the long term, where the habitat occurs on BLM-administered surface or split estate lands. For example, the BLM would manage native prairie to maintain and enhance this habitat. Haying would be allowed only as a land treatment to benefit other resources; also, it would include design features that benefit pollinators.

To recover the species, its remaining habitats must be managed with grazing, fire, or haying to maintain the diversity of native prairie plant species on which Dakota skippers rely. Unless implemented appropriately, however, these practices could also result in levels of mortality or adverse effects on reproduction that are too high to ensure the persistence of local populations (USFWS 2016c). To ensure BLM vegetation management activities in Dakota skipper habitat are beneficial to the species and its habitat, the BLM would follow all applicable recommended conservation measures in the Dakota Skipper Conservation Guidelines (USFWS 2016c), including when planning prescribed fire, haying, livestock grazing (effects from grazing are described in further detail below under *Livestock grazing*), and invasive plant management on BLM-administered lands in Dakota skipper habitat and critical habitat (CM-Dakota skipper-I, see **Section 2.2.2**).

Carrying out vegetation management in Dakota skipper habitat is expected to contribute to the recovery of the species, but some adverse effects would likely result. Negative effects would be minimized through implementation of the conservation measures for Dakota skipper in **Section 1.8**, which includes careful planning and coordination with the USFWS prior to management. In some situations, adverse effects would result from actions that are necessary for the long-term survival of the species. Management of the species' native prairie habitats relies on periodic disturbance that often includes an unavoidable amount of mortality. Nevertheless, given inclusion of appropriate conservation measures and the general and species-specific issuance criteria for permitting these types of actions, vegetation management would provide for long-term beneficial effects on Dakota skippers.

Multiple factors require careful planning to implement habitat management activities to conserve remaining Dakota skipper populations. The litter-dwelling habits of Dakota skipper larvae, the single annual flight period, and habitat fragmentation all reduce the species' resiliency to the effects of intense management practices. During the vast majority of their annual life cycle, Dakota skippers are larvae that occur at the bases of their larval food plants, as described in **Section 3.6**. Fire is likely to kill some portion of larvae in the burned area; under certain conditions (depending on fuel loads, soil temperatures, weather, and other factors), mortality may be high (Dana 1991). Postfire recovery in the burned area may take years, depending on the proportion of the local population that was killed and the effect of immigration from nearby unburned areas. Immigration may only be effective if a stable or growing population of Dakota skippers is left unburned near the burned area (less than 0.6 miles away; USFWS 2017).

Adhering to the applicable USFWS conservation guidelines (USFWS 2016c) would minimize effects and result in long-term benefit. These include dividing the area into at least three burn units, only burning one of the units each year, allowing at least 3 years to elapse without fire in each unit (that is, minimum 4-year

rotations) before reburning, conducting “patchy” burn patterns, maintaining an accurate fire history for the site, and other measures (USFWS 2016c).

If adherence to the USFWS conservation guidelines for prescribed burning is not feasible, the BLM would not apply prescribed fire for vegetation management. In these cases, haying or livestock grazing (effects from grazing are described in further detail below *Livestock grazing*) could be used to achieve similar management objectives, and the BLM would adhere to USFWS conservation guidelines for these management activities.

Haying (mowing) would be delayed until at least after the flight period is completed. Haying would be conducted as late in the season as practical, to minimize removing or destroying Dakota skipper eggs and to avoid removing nectar sources or killing adults during the flight period. The BLM would coordinate with the USFWS to determine when the flight period has ended on a given site, because the flight period shifts slightly each year in response to annual weather patterns. The ideal time to mow may be after Dakota skipper larvae have become dormant in preparation for winter; the senescence of native warm-season grasses may be a good indication that Dakota skippers have entered diapause (USFWS 2016c). Haying would leave at least 8 inches of stubble to provide habitat for overwintering larvae. As with burning, hayed areas would be rested every few years.

Herbicide use for invasive plant management could affect Dakota skipper or its nectar plants. The USFWS conservation guidelines recommend avoiding broadcast applications of pesticides or herbicides that may be harmful to the species or its habitat (USFWS 2016c). Further, conservation measures in the Biological Assessments for Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (BLM 2007) and the 2016 Final Programmatic EIS for Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on BLM Lands in 17 Western States (BLM 2016) would be followed, which include measures to avoid spray drift, following recommended buffer zones, prohibiting broadcast spray in occupied habitats and areas adjacent to occupied habitats, and avoiding the use of certain herbicides.

### ***Lands and Realty***

**Table 36**, below, summarizes the acres of Dakota skipper range and critical habitat in the action area on BLM-administered lands that would be under each allocation for lands and realty.

**Table 36**  
**Lands and Realty Allocations on Dakota Skipper Modeled Habitat**

<b>Allocation</b>	<b>Potentially Suitable (Acres)</b>	<b>Percent of Habitat</b>	<b>Potentially Unsuitable (Acres)</b>	<b>Percent of Habitat</b>
ROW exclusion	500	12	2,200	7
ROW avoidance	3,000	73	31,000	92
ROW open	600	15	500	1
Total	4,100	100	33,700	0

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

Areas within 0.62 miles of occupied Dakota skipper habitat on BLM-administered lands would be managed as ROW avoidance. Additionally, special status plant locations, riparian areas and wetlands, and sensitive

soil areas (such as wetland soils), among other areas, would be managed as ROW avoidance. Tallgrass prairie would be managed as ROW exclusion. Together, these ROW avoidance and exclusion areas are expected to encompass most habitat for Dakota skippers on BLM-administered surface in the action area. As a result, the potential for effects on Dakota skippers and its critical habitat from ROW development, such as injury or mortality during ground-disturbing ROW construction and maintenance, loss of larval or nectaring plants, and invasive plant encroachment, would be limited.

As described in *Effects Common to All Listed Species and Critical Habitats*, ROWs may be allowed in ROW avoidance areas; however, special stipulations or design features on ROW activities would minimize the potential for effects in these areas. However, the potential for effects on adults dispersing between suitable habitat patches that are within 0.62 miles of each other would remain. For example, roadways associated with ROWs that contain native prairie habitat may facilitate dispersal of grassland butterflies (Ries and Debinski 2001). However, dispersing butterflies may be subject to injury or mortality from activities often associated with ROW maintenance, including roadside mowing and herbicide application (USFWS 2016c). To minimize the potential for these detrimental effects, the BLM would require that authorized maintenance activities on ROWs within 0.62 miles of occupied Dakota skipper habitat would adhere to the USFWS conservation guidelines, including for mowing (hay) and weed and invasive species control (CM-Dakota skipper-I, see **Section 2.2.2**).

While the BLM has not identified special status species habitat for retention, per BLM Manual 6840, Special Status Species Management, the BLM is directed to retain habitats essential for the conservation of any listed species and may only dispose of lands providing habitat for listed species following consultation with USFWS. This would include all BLM-administered surface containing Dakota skipper habitat and critical habitat. Retaining these areas in BLM ownership would avoid the potential that habitat would be sold or otherwise disposed of, which could, in turn, increase the potential for habitat loss or degradation from development or other uses. Conversely, the BLM would prioritize acquisition of lands that would enhance special status species management. If the BLM were to acquire additional surface lands containing Dakota skipper habitat or critical habitat, the BLM would manage these lands for the conservation and recovery of the species, including subjecting the lands to the conservation measures for Dakota skippers analyzed herein.

### Minerals

**Table 37**, below, summarizes the acres of Dakota skipper range and critical habitat in the action area on BLM-administered lands that would be under each allocation for fluid minerals.

**Table 37**  
**Fluid Minerals Allocations on Dakota Skipper Modeled Habitat**

Allocation	Potentially Suitable – Fluid Minerals Subsurface Action Area (Acres)	Percent of Habitat	Potentially Unsuitable – Fluid Minerals Subsurface Action Area (Acres)	Percent of Habitat
Closed to fluid mineral leasing	23,900	49	189,100	46
Open subject to NSO stipulations	6,700	14	99,400	24

<b>Allocation</b>	<b>Potentially Suitable – Fluid Minerals Subsurface Action Area (Acres)</b>	<b>Percent of Habitat</b>	<b>Potentially Unsuitable – Fluid Minerals Subsurface Action Area (Acres)</b>	<b>Percent of Habitat</b>
Open subject to CSU stipulations	21,200	44	178,200	44
Open subject to TL stipulations	17,400	36	154,700	38
Open subject to standard terms and conditions	1,400	3	13,700	3
<b>Total</b>	<b>48,300</b>	<b>100</b>	<b>409,000</b>	<b>100</b>

Source: BLM GIS 2023

Note: Due to GIS inaccuracies and overlap among stipulations, numbers do not always sum to the total acreage for the action area.

Closures for source water protection areas and low oil and gas potential areas would occur in Dakota skipper range and would provide incidental protections. Additionally, areas within 500 meters of occupied Dakota skipper habitat would be managed as open to fluid mineral leasing subject to NSO stipulations and areas within 0.62 miles of occupied Dakota skipper habitat, including critical habitat, on BLM-administered lands and on the fluid mineral subsurface action area would be managed as open to fluid mineral leasing subject to CSU stipulations. Together, these are expected to encompass all habitat for Dakota skippers on BLM-administered surface and on the fluid mineral subsurface action area. As a result, the potential for effects on Dakota skippers and their critical habitat from fluid minerals development, such as injury or mortality during ground-disturbing exploration or production, loss of larval or nectaring plants, and invasive plant encroachment, would be expected to be reduced through development of a plan approved by the BLM to minimize disturbance. Further, since areas within 500 meters of occupied Dakota skipper habitat would also be managed as open with NSO stipulations and areas within 0.62 miles of occupied Dakota skipper habitat would be managed as open with CSU stipulations, effects from fluid mineral actions on adults dispersing between suitable habitat patches, as described under *Lands and realty*, above, would similarly be avoided.

**Table 38**, below, summarizes the acres of Dakota skipper range and critical habitat in the action area on BLM-administered lands that would be under each allocation for coal.

**Table 38**  
**Coal Allocations on Dakota Skipper Modeled Habitat**

<b>Allocation<sup>1</sup></b>	<b>Potentially Suitable – Coal Action Area (Acres)</b>	<b>Percent of Habitat</b>	<b>Potentially Unsuitable – Coal Action Area (Acres)</b>	<b>Percent of Habitat</b>
Unacceptable for coal development	90,000	14	860,000	27
Acceptable for coal development	20,200	3	38,400	1
<b>Total range in action area</b>	<b>652,400</b>	<b>100</b>	<b>3,143,900</b>	<b>100</b>

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

<sup>1</sup> Acres acceptable and unacceptable for coal development are within a subset of the coal action area encompassing coal potential only.

Habitat for Dakota skippers, including critical habitat, on BLM-administered lands and in the coal action area would generally be managed as unacceptable for coal. This is because only areas within a 4-mile buffer of existing coal mine permits would be open to coal leasing and federally designated critical habitat, habitat for species of high interest to the state (including tallgrass prairie, riparian areas, and wetlands), 100-year floodplain areas, and alluvial valley floors are all considered unsuitable for coal development under Coal Screen 2 (see North Dakota RMP/EIS Appendix F, Table F-1). Together, these areas are expected to encompass most of the Dakota skipper range in areas with coal potential in the action area.

The stipulation for habitats for species of high importance would not exclude coal mining from these areas; rather, it would stipulate that mining would need to reclaim disturbed essential habitat to equal or better conditions than at the time of disturbance (Draft RMP/EIS Appendix E contains reclamation standards). As a result, native prairie habitat for Dakota skippers could be considered to be open to coal mining under the proposed action, so long as post-mining reclamation was stipulated. If implemented, coal mining would destroy, remove, degrade, and fragment habitat. As described in **Section 3.6**, habitat loss is the greatest threat to Dakota skippers; this is because the species depends on undisturbed (that is, remnant and untilled), high-quality native prairie habitat. Coal mining would also subject Dakota skipper populations and individuals to numerous other detrimental effects, including reduced dispersal ability, increased isolation and reduced genetic diversity, physical injury or mortality from crushing, physical injury or mortality from vehicle or equipment strike, disturbance and disruption during the adult flight period, and increased potential for exposure to contaminants.

The stipulation would require that any approved coal mining reclaim disturbed areas after mining to equal or better conditions than at the time of disturbance. However, successful restoration of Dakota skipper habitat has not been demonstrated to date, and there is no evidence to support a presumption that destroyed Dakota skipper habitat could be restored through planting or other means (USFWS 2016c). Given this, the successful reclamation under this stipulation is unlikely to be possible. As a result, the BLM would not approve coal mining in tallgrass prairie habitat for Dakota skippers, including within 0.62 miles from these areas (CM-Dakota skipper-2, see **Section 2.2.2**).

**Table 39**, below, summarizes the acres of Dakota skipper range and critical habitat in the action area that would be under each allocation for other minerals (including mineral materials disposal, locatable minerals, and nonenergy solid leasable minerals).

**Table 39**  
**Other Minerals Allocations on Dakota Skipper Modeled Habitat**

<b>Allocation</b>	<b>Potentially Suitable – Other Minerals Subsurface Action Area (Acres)</b>	<b>Percent of Habitat</b>	<b>Potentially Unsuitable – Other Minerals Subsurface Action Area (Acres)</b>	<b>Percent of Habitat</b>
Open to mineral materials disposal	20,400	52	138,300	47
Closed to mineral materials disposal	19,000	48	154,800	53
Open to locatable minerals	39,400	100	292,100	99
Recommended for withdrawal	0	0	1,000	<1

<b>Allocation</b>	<b>Potentially Suitable – Other Minerals Subsurface Action Area (Acres)</b>	<b>Percent of Habitat</b>	<b>Potentially Unsuitable – Other Minerals Subsurface Action Area (Acres)</b>	<b>Percent of Habitat</b>
Open to NEL minerals	35,900	91	251,600	86
Closed to NEL minerals	3,500	9	41,500	14
Total Modeled Habitat in Action Area	39,400	100	293,100	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

Occupied habitat for Dakota skippers, and areas within 0.62 miles, would be managed as closed to mineral materials disposal and NEL leasing. Additionally, tallgrass prairie and areas to protect other resources, such as BCAs, and management for other special status species, would be managed as closed to mineral materials disposal and NEL leasing. Together, these are expected to encompass all habitat for Dakota skippers on the BLM-administered surface and subsurface action areas for these minerals. As a result, the potential for effects on Dakota skippers and their critical habitat from mineral materials disposal and NEL leasing would not be expected to occur. Further, since areas within 0.62 miles of occupied Dakota skipper habitat would also be closed to these mineral activities, effects on adults dispersing between suitable habitat patches would similarly be avoided.

There is no reasonably foreseeable locatable mineral development. However, there has been past interest in uranium mining in the NDFO's administrative boundaries. Rare earth minerals are also present, with some interest in development (see RMP Appendix I, Assumptions for Minerals Analysis). Therefore, the potential for future locatable minerals development is not discountable. No areas would be managed as closed to locatable minerals, so in theory, these activities could be proposed in habitat for Dakota skippers, including their critical habitat. Because the Proposed RMP is a planning-level document, impacts of subsequent program-level or site-specific actions carried out under the framework of the Proposed RMP, including any future locatable mineral actions, will be subject to step-down, project-specific NEPA analysis and ESA consultation, as described in **Section I.I**. Project-specific design features and conservation measures would be applied, as applicable.

#### ***Recreation, including the SRMA and BCAs***

Recreation management would potentially affect Dakota skipper modeled habitat on BLM-administered surface, since this is where recreation management would occur (it would not occur in areas where the BLM administers subsurface minerals). There are 4,100 acres of potentially suitable and 33,700 acres of potentially unsuitable habitat overlapping BLM-administered surface (see **Table 10**, Dakota Skipper Modeled Habitat Suitability in the Action Areas; BLM GIS 2023).

Encouraging and facilitating public recreational use of BLM-administered surface lands could increase recreational use of these areas. For example, the BLM would install signage to identify public access, and develop recreational facilities such as campgrounds, where demand existed.

Most recreation on BLM-administered lands is dispersed recreation that includes walking and vehicle use (limited to existing roads and trails). This type of recreation, particularly from motorized vehicles, causes minor amounts of habitat disturbance along roads and trails, including vegetation loss, soil compaction,

soil erosion, and increased potential for invasive plant spread. Vehicles may also crush eggs or larvae if they operated off existing routes. Vehicles also may strike adults during the flight season, leading to injury or mortality.

Recreation would also increase human presence in habitat areas. This would have no disturbance-related effects on egg or larval stages, though it could result in trampling of eggs or larval stages if visitors left trails and walked in undisturbed habitat areas. Human presence could disturb individuals during the flight stage, causing individuals to move from resting or nectaring areas or change flight paths. Continued disturbance can lead to habitat avoidance.

Management approaches that direct recreation to specific areas, like the SRMA and BCAs, and avoid dispersed recreation can result in more predictable, localized, and manageable impacts. Vehicle use would not be allowed in the SRMA (except for an existing campground road), while vehicles would be limited to existing routes in the BCAs.

### **Travel and Trails**

Comprehensive trails and travel management would potentially affect Dakota skipper range and critical habitat on BLM-administered surface, since this is where such management would occur (it would not occur in areas where the BLM administers subsurface minerals). Although the proposed action does not include specific management to protect Dakota skippers from OHV use, management of areas as limited to OHV use for other resources would provide incidental protection for the entire species range on BLM-administered lands (see **Table 10**, Dakota Skipper Modeled Habitat Suitability in the Action Areas; BLM GIS 2023). **Table 40**, below, summarizes the acres of range and critical habitat under travel allocations.

**Table 40**  
**Travel Allocations on Dakota Skipper Modeled Habitat**

<b>Allocation</b>	<b>Potentially Suitable – Surface Action Area (Acres)</b>	<b>Percent of Habitat</b>	<b>Potentially Unsuitable – Surface Action Area (Acres)</b>	<b>Percent of Habitat</b>
Closed	300	7	2,600	8
Limited	3,800	93	31,000	92
Open	0	0	0	0
Total	4,100	100	33,700	100

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

During the vast majority of their annual life cycle, Dakota skippers are larvae that occur at the bases of their larval food plants, as described in **Section 3.6**. As a result, Dakota skippers may be at increased risk of injury or mortality from crushing by vehicles driven off existing routes in suitable native prairie habitat. Under the proposed action, all Dakota skipper habitat on BLM-administered surface lands would be limited to cross-country travel, with limited exceptions that would require local field manager approval. Habitat for listed species, including Dakota skipper, would be considered at that time to reduce the likelihood of impacts. Impacts would be further reduced through implementation of CM-Dakota skipper-3 (see **Section 2.2.2**), which would prohibit cross-country travel in Dakota skipper designated critical habitat and known occupied native prairie habitats.

### Livestock Grazing

Livestock grazing would potentially affect Dakota skipper range and critical habitat on BLM-administered surface, since this is where such management would occur (it would not occur in areas where the BLM administers subsurface minerals). There are 4,100 acres of potentially suitable habitat and 33,700 acres of potentially unsuitable habitat overlapping BLM-administered surface (see **Table 10**, Dakota Skipper Modeled Habitat Suitability in the Action Areas; BLM GIS 2023). **Table 41**, below, summarizes the acres of range and critical habitat under livestock grazing allocations.

**Table 41**  
**Livestock Grazing Allocations on Dakota Skipper Modeled Habitat**

<b>Allocation</b>	<b>Potentially Suitable – Surface Action Area (Acres)</b>	<b>Percent of Habitat</b>	<b>Potentially Unsuitable – Surface Action Area (Acres)</b>	<b>Percent of Habitat</b>
Available for livestock grazing	4,100	100	33,700	100
Unavailable for livestock grazing	0	0	0	0
<b>Total</b>	<b>4,100</b>	<b>100</b>	<b>33,700</b>	<b>100</b>

Source: BLM GIS 2023

Note: Due to GIS inaccuracies, numbers do not always sum to the total acreage for the action area.

Livestock grazing can be an effective tool to manage Dakota skipper habitat. It may maintain or help to restore Dakota skipper habitat with less mortality than may be caused by fire. Livestock grazing may be used in combination with fire management (for example, to reduce fuel loads before a prescribed burn; USFWS 2017).

The USFWS has stated that it may be imprudent to describe generally the effects of grazing on Dakota skipper populations. The USFWS describes its conservation guidelines (USFWS 2016c) for grazing in Dakota skipper habitats as admittedly vague, and defers to site-specific information and planning. Beyond a certain level, the USFWS states that grazing is likely to adversely affect Dakota skipper populations in proportion to grazing's intensity; this is due to a reduction in nectar resources and other factors. For example, overgrazing may result in an increased coverage of invasive species and a reduced density of nectar plants and larval food plants (Smart et al. 2011; Rigney 2013). Overgrazing also may cause the loss of eggs or injury or mortality of larvae due to concentrated trampling.

To ensure livestock grazing on Dakota skipper habitat is carried out in a manner that benefits the species and its long-term recovery, the BLM would plan and implement grazing in accordance with the USFWS (2016c) conservation guidelines and rangeland health standards. Conservation measure CM-Dakota skipper-4 would also be implemented to develop livestock grazing regimes that avoid adverse effects on the species' habitats (see **Section 2.2.2**). These measures would ensure a grazing regime that incorporates best practices for Dakota skipper habitat conservation.

### Special Designations, including NHTs

Designated critical habitat for Dakota skippers would not be affected by national historic trail (NHT) management. The nearest critical habitat units to the existing and proposed NHTs include critical habitat units south of the Missouri River in Williams County; these NHTs are about 2 miles from the river.



Management allocations associated with the Lewis and Clark NHT (which is the Missouri River in this vicinity) extend 0.5 miles from the river high-water mark.

Managing the Lewis and Clark and North Country NHTs would infer some conservative land management allocations (primarily to preserve the visual setting) over Dakota skipper habitat, where the trails overlap native prairie habitat in the range of Dakota skippers. Approximately 0 miles of the Lewis and Clark NHT and 0 miles of the North Country NHT overlap the species' range (BLM GIS 2023). The allocations would extend 0.5 miles in each direction from the trail. These would include NSO stipulations for fluid mineral leasing, closure to mineral materials disposal, and no surface disturbance associated with nonenergy solid mineral leasing. Effects from these allocations would be as described in *Minerals*, above. NHT management would not preclude most vegetation, livestock grazing, or recreation decisions; the effects of these are described in the sections above.

#### 4.8.2 Cumulative Effects

Cumulative effects on Dakota skippers in the action area are anticipated to primarily include the following:

- Minerals exploration and development, including development and use of ancillary roads, pipelines, and other facilities
- Livestock grazing
- Habitat management, stewardship, and science activities to maintain and enhance native prairie vegetation communities, including on prairie preserves
- Recreational opportunities, including at state parks, wildlife management areas, and other destinations
- Implementation of the North Dakota State Wildlife Action Plan, which guides the process of preserving the state's fish and wildlife resources
- Climate changes effects and the associated changes in growing season length and precipitation patterns, as described in the Dakota skipper SSA (USFWS 2018b, pp. 51–52)

#### 4.8.3 Determination of Effects and Rationale

Managing native prairie to maintain and enhance this habitat would conserve or improve habitat in the long term. Incorporating and following all applicable recommended conservation measures in the Dakota Skipper Conservation Guidelines (USFWS 2016c) for vegetation treatments would ensure that treatments benefit the species. The proposed action includes numerous other actions to directly and indirectly reduce impacts on Dakota skipper and its habitat associated with authorized uses, including management as closed to fluid mineral leasing and subject to NSO and CSU stipulations for fluid mineral leasing. These habitats also would generally be unavailable for other types of mineral development. The NSO would apply to areas within 500 meters of occupied habitat and the CSU would apply to areas within 0.62 miles of occupied habitat; both stipulations would serve to conserve dispersal habitat. Additional protections would occur in areas that are closed or limited to OHV use and managed as ROW avoidance or exclusion. Overall, the proposed action **may affect, but is not likely to adversely affect** Dakota skippers, and **may affect, but is not likely to adversely modify** designated critical habitat for Dakota skippers.

#### 4.9 MONARCH BUTTERFLY

As described in **Section 3.7**, Monarch butterflies are widely distributed through the action area during the breeding season, in areas with larval host plants (milkweeds) and nectar sources provided by native wildflowers (Dyke et al. 2015; USFWS 2020b). Monarch butterfly habitat is likely widespread in the BLM action areas, including the surface and subsurface action areas.

The proposed action could affect Monarch butterflies either directly (for example, injury or mortality to eggs, larva, or adults) or indirectly. Indirect effects would come about from habitat removal or degradation that result in decreases or losses of larval plants, nectar plants, or both. Proposed BLM management that would potentially have these effects is discussed below.

Vegetation management on BLM-administered surface would be done to maintain and restore healthy, productive, and diverse populations of native plant and animal species; to maintain, restore, or enhance vegetation health, connectivity, resiliency, and diversity; and to promote special status species. For example, the BLM would ensure that habitat restoration actions include milkweed species to enhance Monarch butterflies' habitat (see **Appendix D** from the Draft RMP/EIS). This would help maintain high-quality habitat containing larval and nectar plants in the long term. For example, the BLM would manage prairie to maintain and enhance this habitat. Haying would be allowed only as a land treatment to benefit other resources, and it would include design features that benefit pollinators.

Carrying out vegetation management is expected to benefit the species and its habitat in the longer term, but some adverse effects would likely result from vegetation treatments. For example, haying, mowing, or prescribed fire during the Monarch butterfly breeding season could harm eggs and larva on milkweed plants and remove blooming nectar sources for adult butterflies. The BLM could minimize negative effects by following applicable recommended conservations measures in the Nationwide Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands (Cardno 2020; see Chapter 6 for conservation measures), including when planning vegetation management activities on BLM-administered lands. These measures could include haying or mowing, prescribed fire, and invasive woody plant removal outside the breeding season, when Monarch butterflies are not likely to be present in the treatment areas; maintaining idle lands with larval and nectar plants in between vegetation management cycles; and other measures.

Lands and realty management on BLM-administered lands, particularly ROW authorizations, may affect Monarch butterflies and their habitat. Authorizing ROWs would result in ROW construction and maintenance, which remove, convert, or degrade habitat. Often, ROW maintenance involves mowing or herbicide application to maintain clearance areas. Access roads would increase the potential for invasive plant establishment and spread, and the need for herbicide applications.

Managing ROW exclusion areas would avoid effects in these areas. Areas managed as ROW exclusion would include tallgrass prairie and other sensitive resource areas; many of these provide suitable habitat areas for Monarch butterflies. Managing ROW avoidance areas would reduce the potential for effects but would not avoid effects. ROWs could be allowed in these areas; however, additional restrictions on ROW activities would minimize the potential for effects on sensitive species and resources. To minimize the potential for these detrimental effects, the BLM would require that authorized construction and maintenance activities on ROWs adhere to applicable recommended conservations measures in the Nationwide Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation

Lands (Cardno 2020), including for disturbed area seeding, vegetation clearing, and herbicide application in ROWs.

Similar to ROW management, management for minerals on the BLM surface and subsurface action areas may affect Monarch butterflies due to habitat loss, increased potential for invasive plant introduction and spread, and vegetation maintenance, including periodic mowing and herbicide application. Fluid mineral stipulations would avoid (NSO stipulations) or reduce (CSU stipulations) the potential for effects, where applicable. For example, an NSO stipulation would apply in areas within 500 meters around occupied Dakota skipper habitat, a CSU stipulation would apply in areas within 0.62 miles around occupied Dakota skipper habitat, and an NSO stipulation would apply to tallgrass prairies and areas within 0.25 miles of sensitive plants or populations; many of these areas provide suitable habitat for Monarch butterflies.

Similarly, areas managed as unacceptable for coal, closed to mineral materials disposal, withdrawn from locatable mineral entry, and closed to nonenergy solid mineral leasing would avoid the potential for effects from mineral management. The analysis for Dakota skippers (see **Section 4.8**) describes these areas and effects on Dakota skipper habitat and critical habitat; effects would be similar for Monarch butterflies; however, the effects would be more widespread because suitable habitat for Monarch butterflies in the action area is more widespread than it is for Dakota skipper.

Where BLM surface and subsurface action areas management allows for mineral development, the BLM would require that authorized leasing and development activities adhere to the applicable recommended conservations measures in the Nationwide Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands (Cardno 2020), including for disturbed area seeding, vegetation clearing, and herbicide application.

BLM management decisions for recreation and travel and trails may affect the quality of Monarch butterfly habitat, as well as the potential for direct effects, on BLM-administered surface where management would occur. For example, encouraging and facilitating public recreational use of BLM-administered surface lands could increase recreational use of these areas. Recreation from motorized vehicles and motorized road and trail use cause minor amounts of habitat disturbance along roads and trails. This includes vegetation loss, soil compaction, soil erosion, and increased potential for invasive plant spread. Vehicles may also crush eggs or larvae if they are operated off existing routes. Vehicles also may strike adults during the flight season, leading to injury or mortality. Recreation would also increase human presence in habitat areas, which could result in trampling of eggs or larval stages and disturb individuals during the flight stage.

Similar to the effects described for Dakota skippers (see **Section 4.8**), livestock grazing can be an effective tool to manage Monarch butterfly habitat. Beyond a certain level, it is likely that livestock grazing would adversely affect Monarch butterflies in proportion to grazing's intensity. This is due to a reduction in nectar resources, the potential for trampling eggs and larvae, and increased invasive species cover. To ensure livestock grazing is carried out in a manner that benefits the species, the BLM should plan and implement grazing in accordance with recommended conservation measures (Cardno 2020). Also, following the USFWS (2016c) conservation guidelines for grazing in Dakota skipper habitat would likely provide complimentary protections where Monarch butterfly habitat overlaps Dakota skipper habitat.

Managing special designation areas would likely conserve habitat for Monarch butterflies in the long term, where designations provide for conservative land management allocations (for example, to preserve WSR values and NHT visual settings). This would come about because these allocations would generally prevent

habitat loss or conversion. However, management would not preclude most types of vegetation, livestock grazing, or recreational decisions. The effects of such management would be as described in the sections above.

Overall, the proposed action will not jeopardize the continued existence of Monarch butterflies.

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# Appendix A

## USFWS IPaC List

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# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

## Location

Minnesota, Montana, North Dakota, and South Dakota



## Local offices

Montana Ecological Services Field Office

☎ (406) 449-5225

📅 (406) 449-5339



585 Shephard Way, Suite 1  
Helena, MT 59601-6287

#### North Dakota Ecological Services Field Office

☎ (701) 250-4481

📠 (701) 355-8513

3425 Miriam Avenue  
Bismarck, ND 58501-7926

#### Minnesota-Wisconsin Ecological Services Field Office

☎ (952) 858-0793

📠 (952) 646-2873

3815 American Blvd East  
Bloomington, MN 55425-1659

#### South Dakota Ecological Services Field Office

☎ (605) 224-8693

📠 (605) 224-1416

420 South Garfield Avenue, Suite 400  
Pierre, SD 57501-5408

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#) also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

## Mammals

NAME	STATUS
<p><b>Gray Wolf</b> <i>Canis lupus</i></p> <p>There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/4488">https://ecos.fws.gov/ecp/species/4488</a></p>	Threatened
<p><b>Northern Long-eared Bat</b> <i>Myotis septentrionalis</i></p> <p>Wherever found</p> <p>No critical habitat has been designated for this species.</p> <p><a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a></p>	Endangered
<p><b>Tricolored Bat</b> <i>Perimyotis subflavus</i></p> <p>Wherever found</p> <p>No critical habitat has been designated for this species.</p> <p><a href="https://ecos.fws.gov/ecp/species/10515">https://ecos.fws.gov/ecp/species/10515</a></p>	Proposed Endangered

## Birds

NAME	STATUS
<p><b>Piping Plover</b> <i>Charadrius melodus</i></p> <p>There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/6039">https://ecos.fws.gov/ecp/species/6039</a></p>	Threatened
<p><b>Rufa Red Knot</b> <i>Calidris canutus rufa</i></p> <p>Wherever found</p> <p>There is <b>proposed</b> critical habitat for this species.</p> <p><a href="https://ecos.fws.gov/ecp/species/1864">https://ecos.fws.gov/ecp/species/1864</a></p>	Threatened
<p><b>Whooping Crane</b> <i>Grus americana</i></p> <p>There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/758">https://ecos.fws.gov/ecp/species/758</a></p>	Endangered

## Fishes

NAME	STATUS
<b>Pallid Sturgeon</b> <i>Scaphirhynchus albus</i> Wherever found No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/7162">https://ecos.fws.gov/ecp/species/7162</a>	Endangered

## Insects

NAME	STATUS
<b>Dakota Skipper</b> <i>Hesperia dacotae</i> Wherever found There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat. <a href="https://ecos.fws.gov/ecp/species/1028">https://ecos.fws.gov/ecp/species/1028</a>	Threatened
<b>Monarch Butterfly</b> <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

## Flowering Plants

NAME	STATUS
<b>Western Prairie Fringed Orchid</b> <i>Platanthera praeclara</i> Wherever found No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/1669">https://ecos.fws.gov/ecp/species/1669</a>	Threatened

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
<b>Dakota Skipper</b> <i>Hesperia dacotae</i> <a href="https://ecos.fws.gov/ecp/species/1028#crithab">https://ecos.fws.gov/ecp/species/1028#crithab</a>	Final
<b>Piping Plover</b> <i>Charadrius melodus</i> <a href="https://ecos.fws.gov/ecp/species/6039#crithab">https://ecos.fws.gov/ecp/species/6039#crithab</a>	Final

## Poweshiek Skipperling *Oarisma poweshiek*

Final

For information on why this critical habitat appears for your project, even though Poweshiek Skipperling is not on the list of potentially affected species at this location, contact the local field office.

<https://ecos.fws.gov/ecp/species/9161#crithab>

## Bald & Golden Eagles

There are no documented cases of eagles being present at this location. However, if you believe eagles may be using your site, please reach out to the local Fish and Wildlife Service office.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds  
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds  
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC  
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

Bald and Golden Eagle information is not available at this time

**What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?**

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply). To see a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#)

**What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?**



The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle [Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#)

### What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the [Eagle Act](#) should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

Migratory bird information is not available at this time

**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle [Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#)

**What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

**How do I know if a bird is breeding, wintering or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

**What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or



minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## Facilities

### Wildlife refuges and fish hatcheries

Refuge and fish hatchery information is not available at this time

## Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

### Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

#### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

### **Data exclusions**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

### **Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

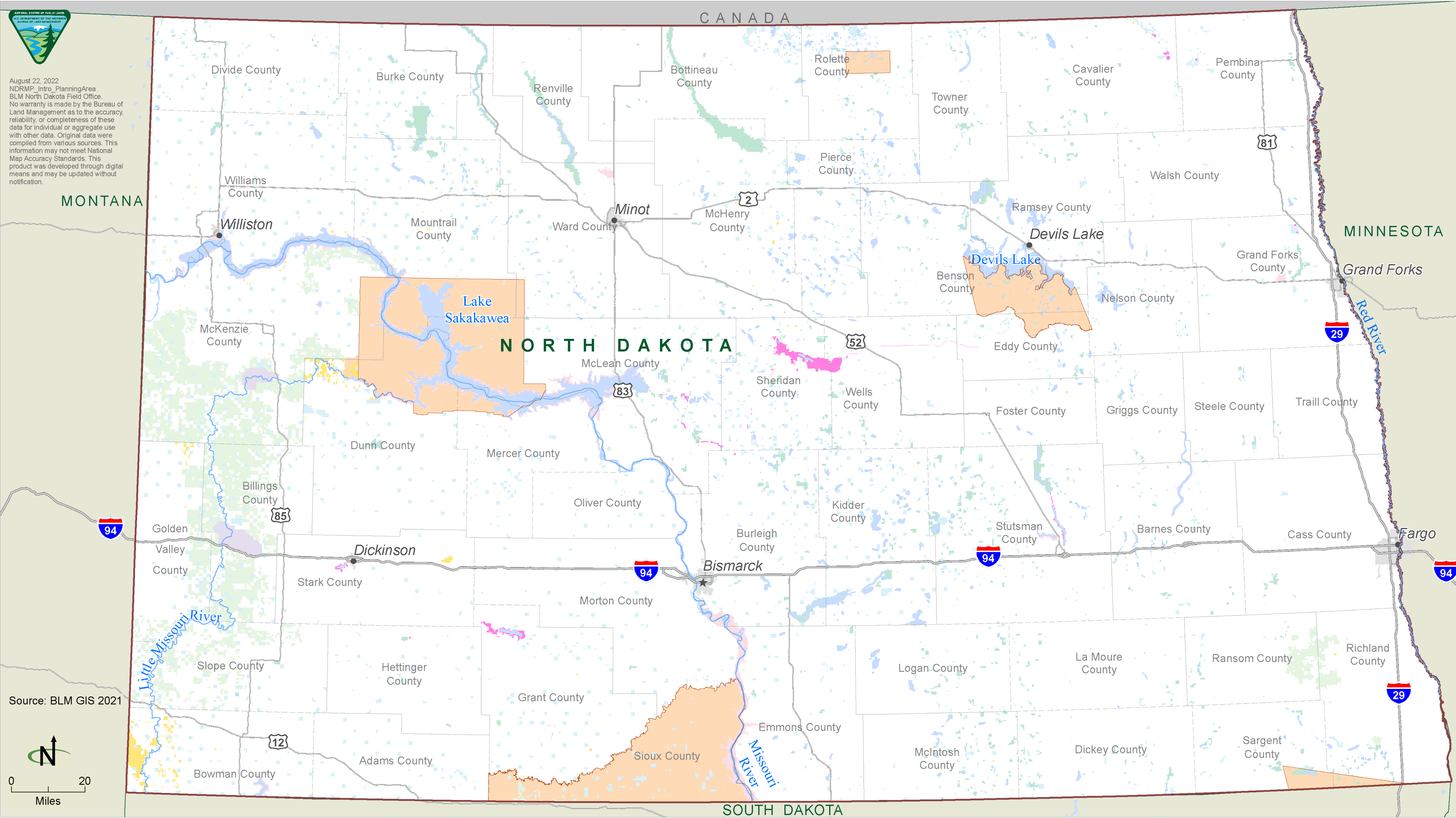
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# Appendix B

## Maps

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**North Dakota Planning Area**

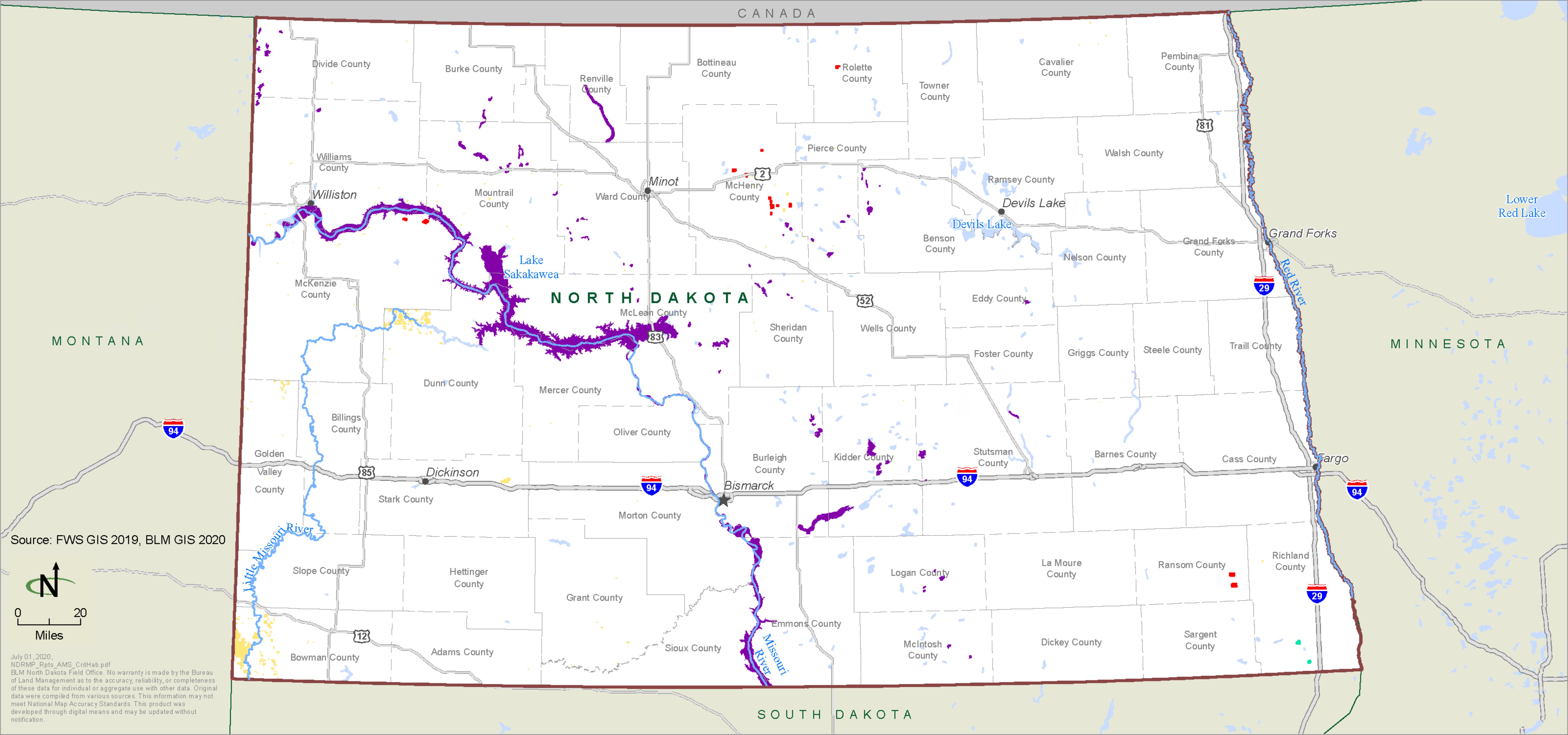
- |                           |                          |                              |                                |
|---------------------------|--------------------------|------------------------------|--------------------------------|
| Bureau of Land Management | US Forest Service        | Water                        | Bureau of Reclamation          |
| Private                   | State                    | US Fish and Wildlife Service | Reservation boundary           |
| Bureau of Indian Affairs  | US Department of Defense | National Park Service        | North Dakota RMP planning area |

The North Dakota RMP/EIS planning area includes the entire state of North Dakota. The planning area refers to all lands within the state regardless of jurisdiction. The BLM, however, will only make management decisions on the portions of the planning area that fall under the BLM's jurisdiction.

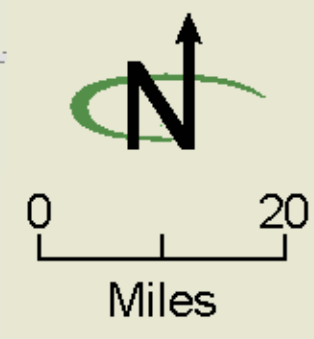




Critical Habitat



Source: FWS GIS 2019, BLM GIS 2020

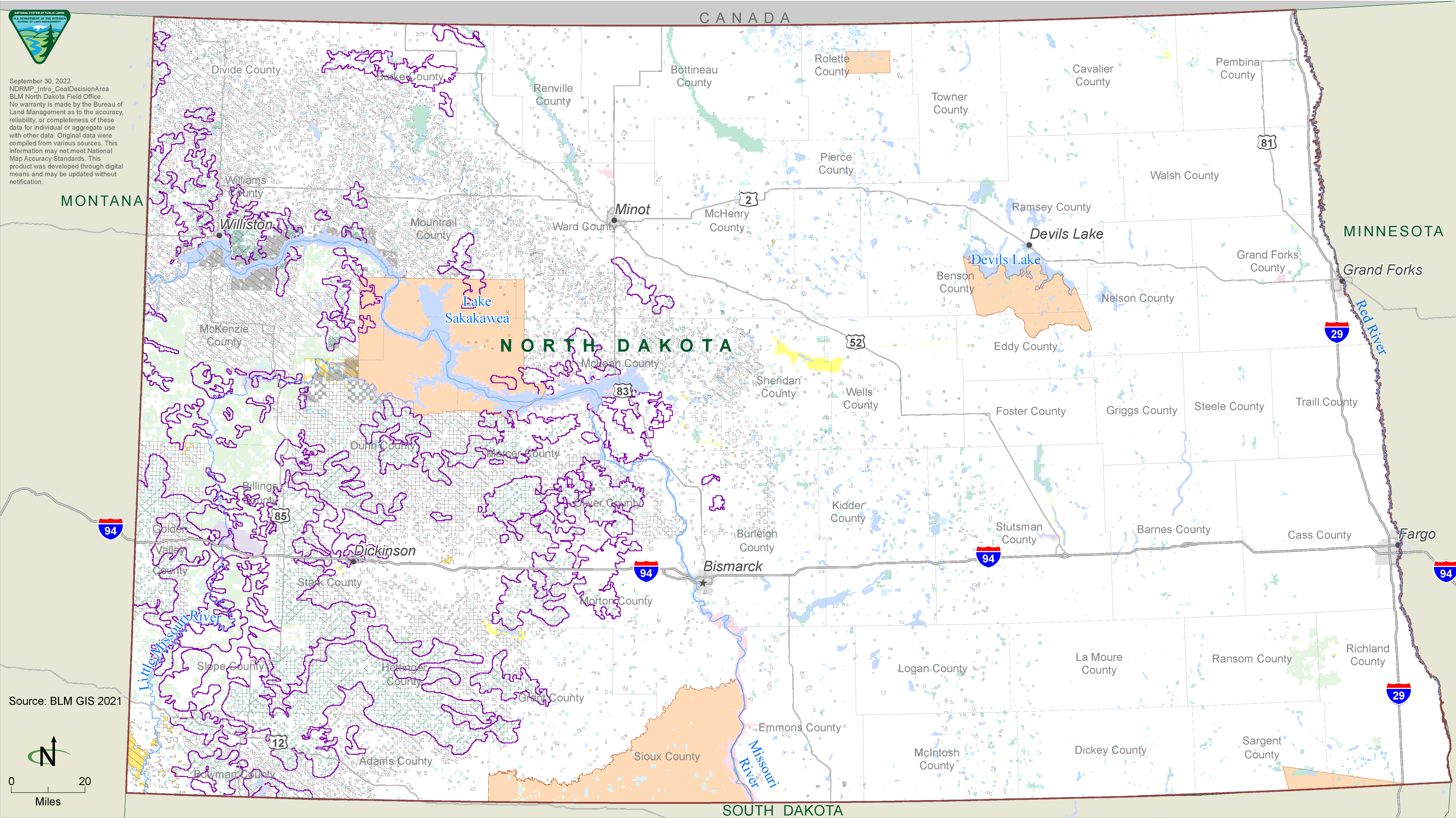


July 01, 2020.  
NDRMP\_Rpts\_AMS\_CritHab.pdf  
BLM North Dakota Field Office. No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

- Dakota skipper
- Piping plover
- Poweshiek skipperling
- Bureau of Land Management (surface decision area)
- North Dakota RMP planning area

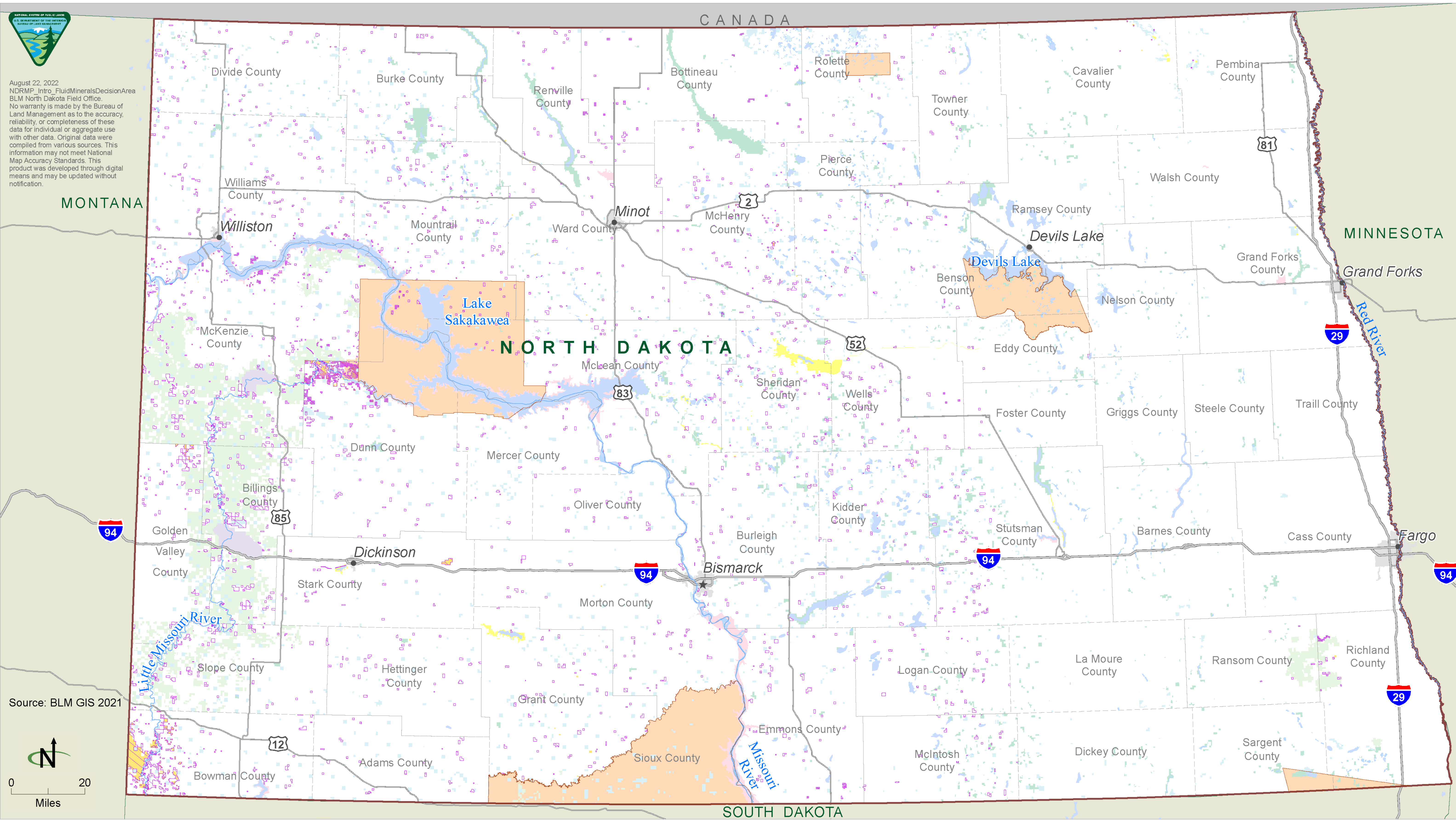






Federal mineral ownership for coal and fluid minerals occurs in the same spatial locations in many places. However, because oil and gas fields are unacceptable to further coal leasing in all alternatives, coal and fluid mineral development are unlikely to occur in the same spatial location.





**BLM Fluid Minerals Subsurface Action Area**

August 22, 2022  
NDRMP\_Intro\_FluidMineralsDecisionArea  
BLM North Dakota Field Office.  
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

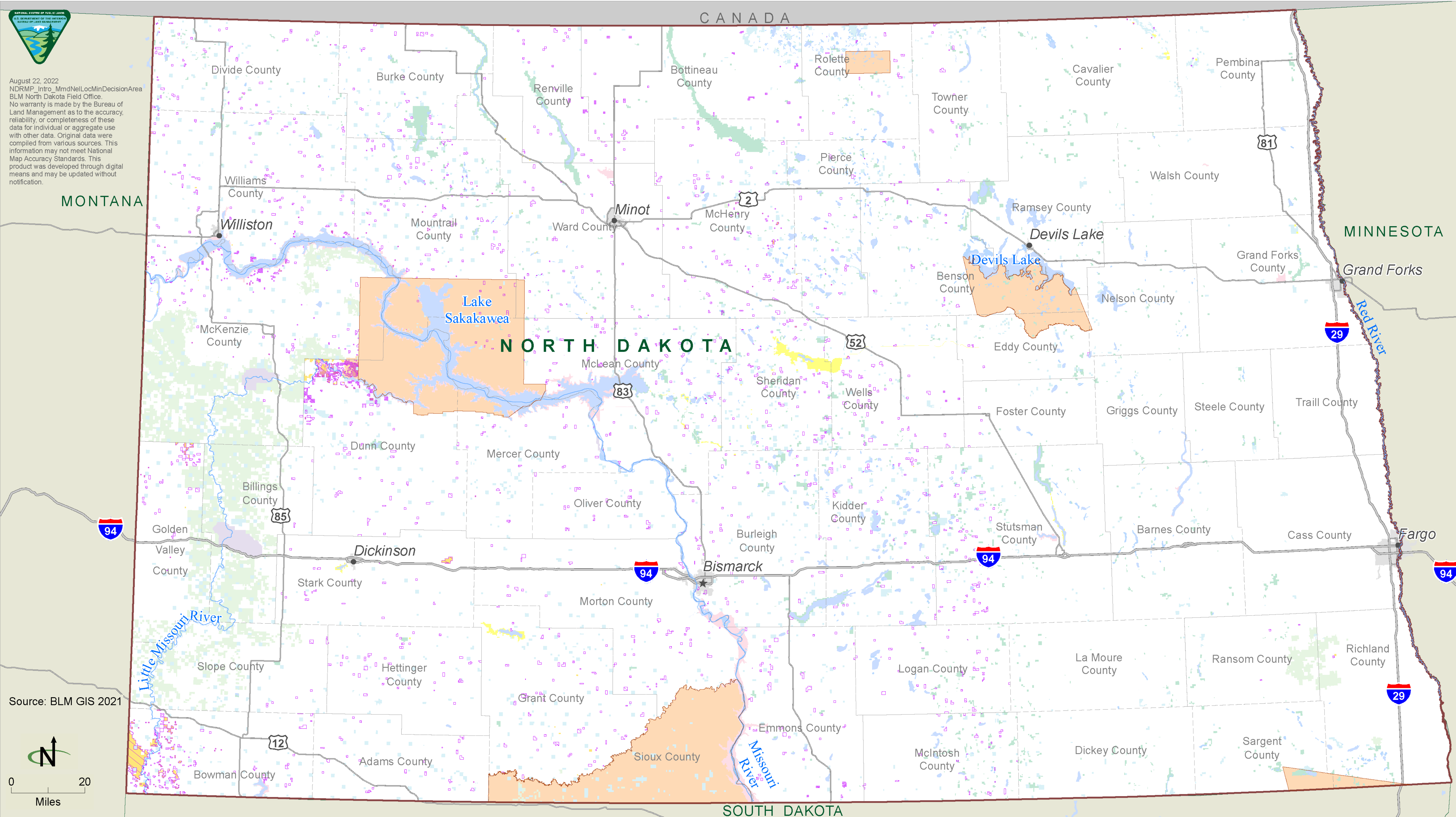
Source: BLM GIS 2021

0 20 Miles

**BLM Fluid Minerals Subsurface Action Area Legend:**

- BLM fluid minerals subsurface decision area
- Bureau of Land Management
- US Forest Service
- Water
- Bureau of Reclamation
- Reservation boundary
- Private
- State
- US Fish and Wildlife Service
- Bureau of Indian Affairs
- US Department of Defense
- National Park Service
- North Dakota RMP planning area





**BLM Mineral Material Disposal, Locatable Minerals, and Nonenergy Solid Leasable Minerals Subsurface Action Areas**

BLM mineral material disposal, locatable minerals, and nonenergy solid leasable minerals subsurface decision areas

BLM of Land Management

Private

Bureau of Indian Affairs

US Forest Service

State

US Department of Defense

Water

US Fish and Wildlife Service

National Park Service

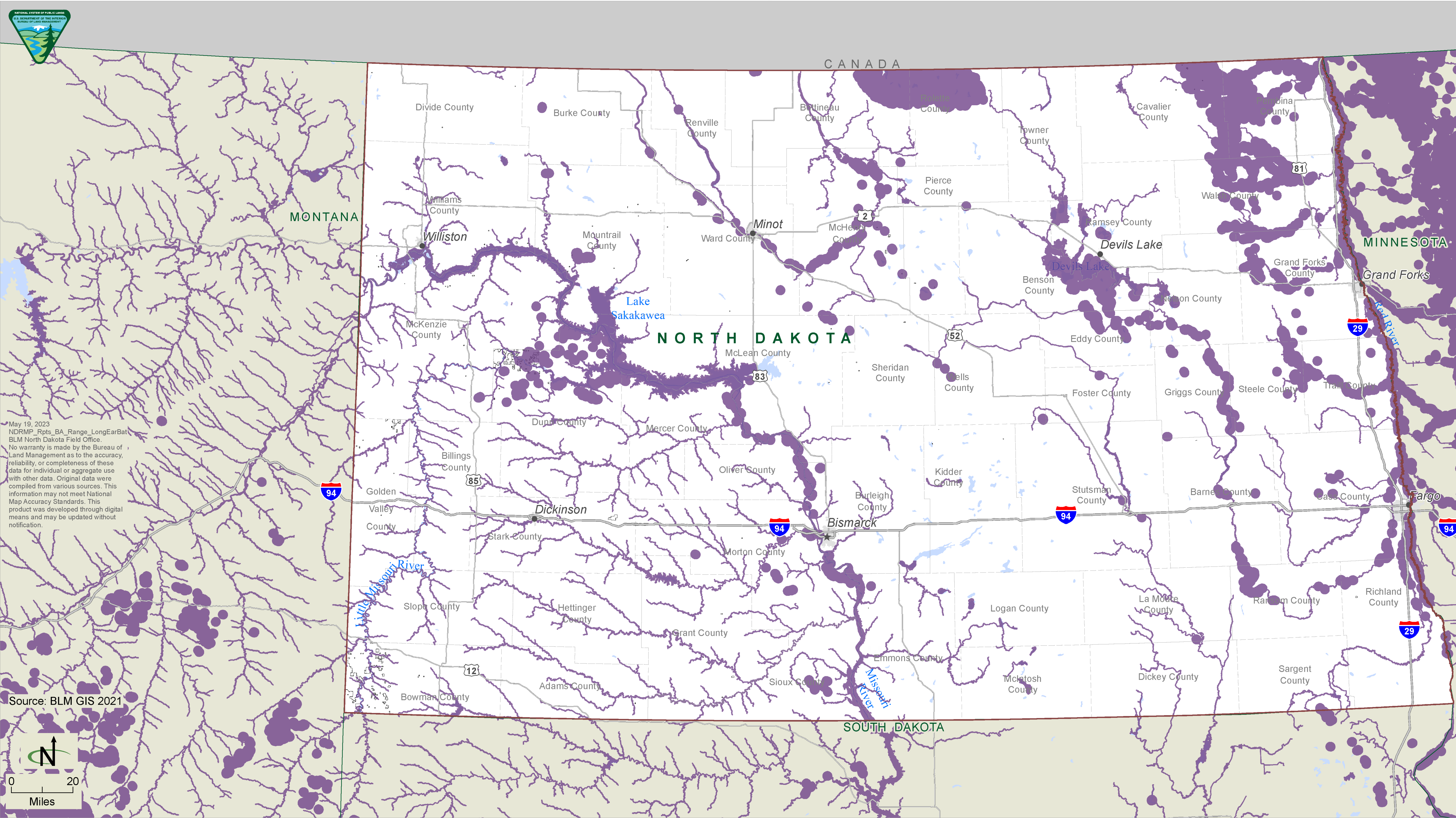
Bureau of Reclamation

Reservation boundary

North Dakota RMP planning area

All parts of this decision area are within the fluid minerals decision area.



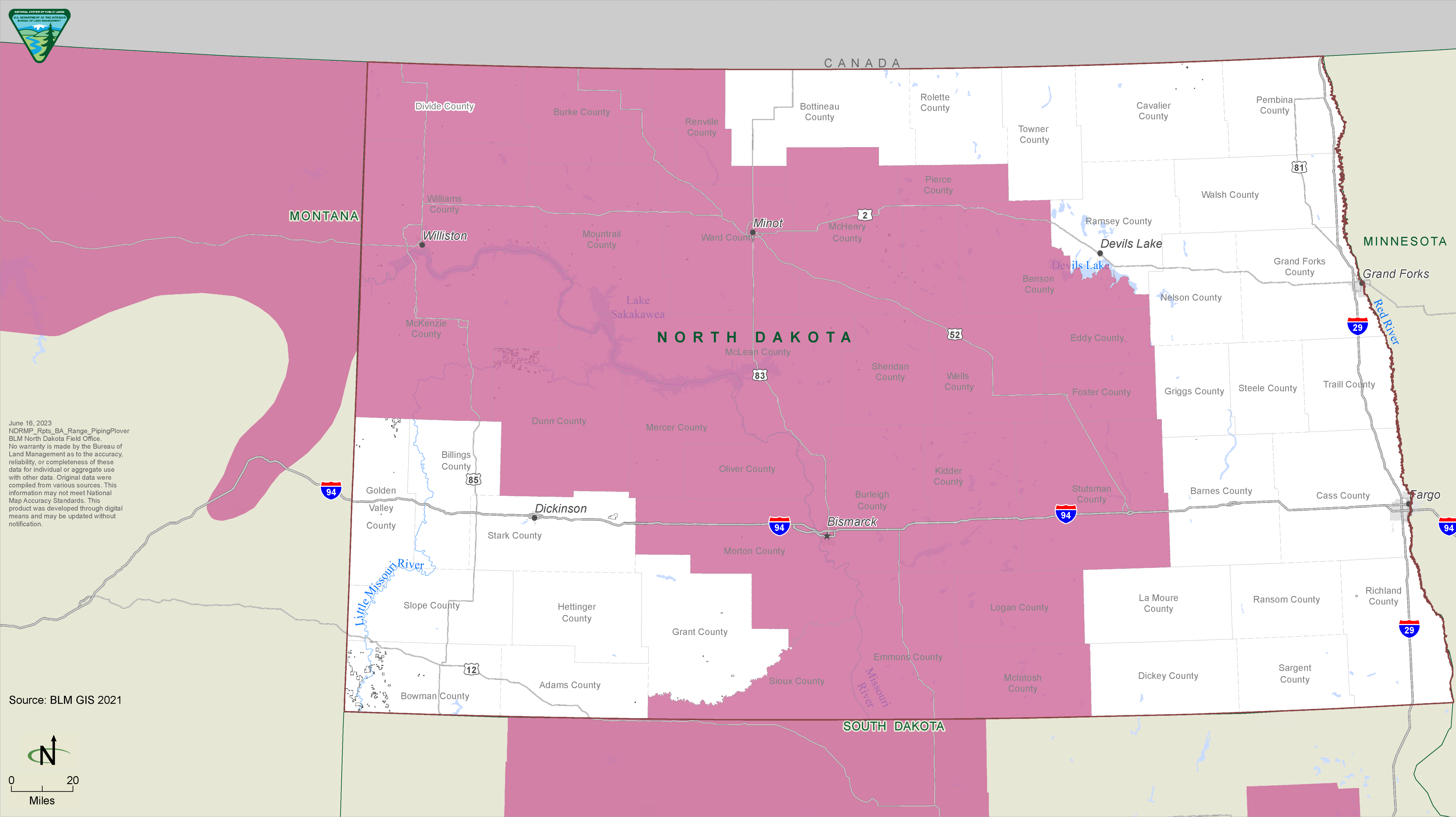


**Species Range**

■ Northern long-eared bat

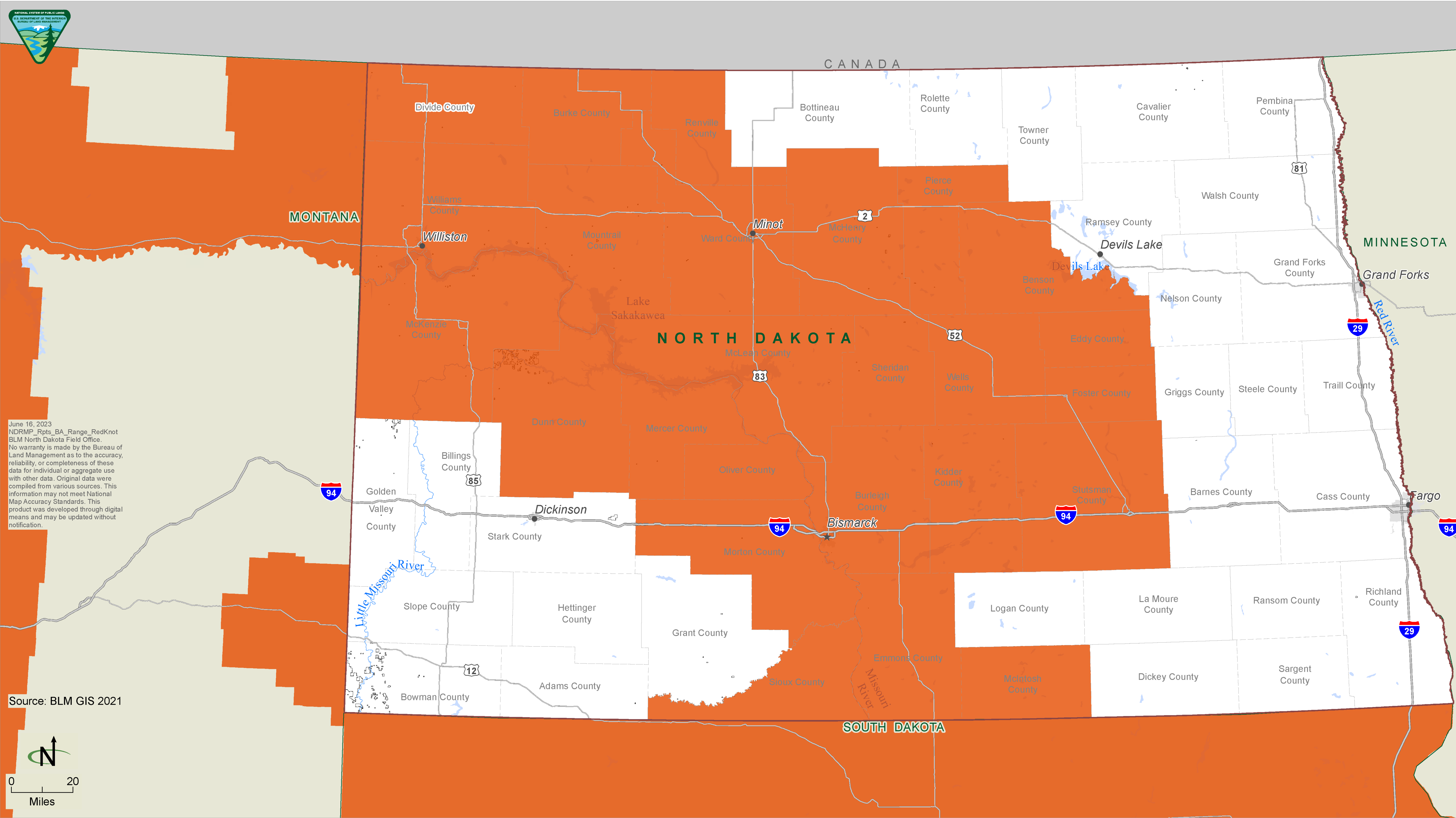
□ North Dakota RMP action area



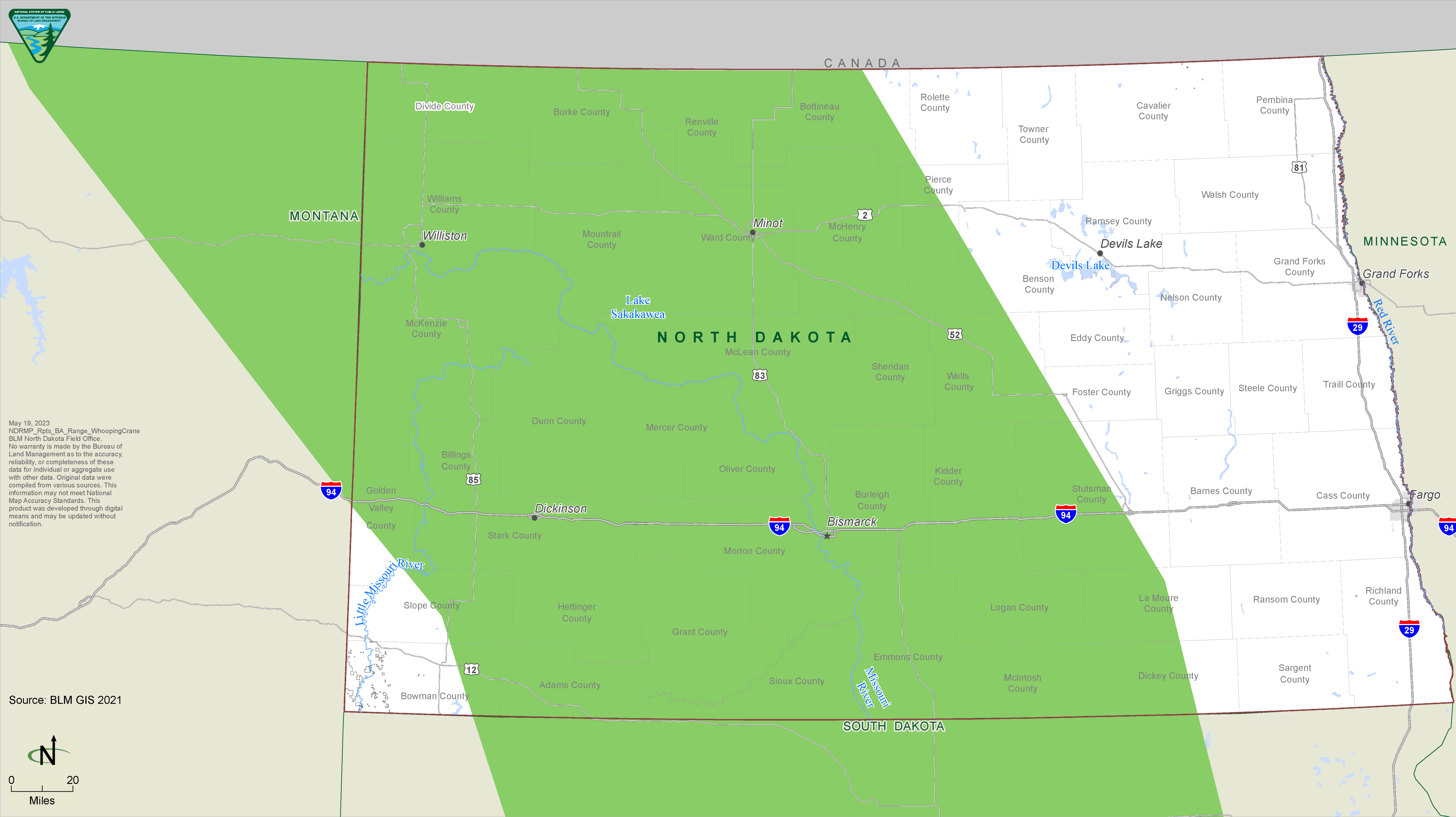


**Species Range**

■ Piping plover    □ North Dakota RMP action area

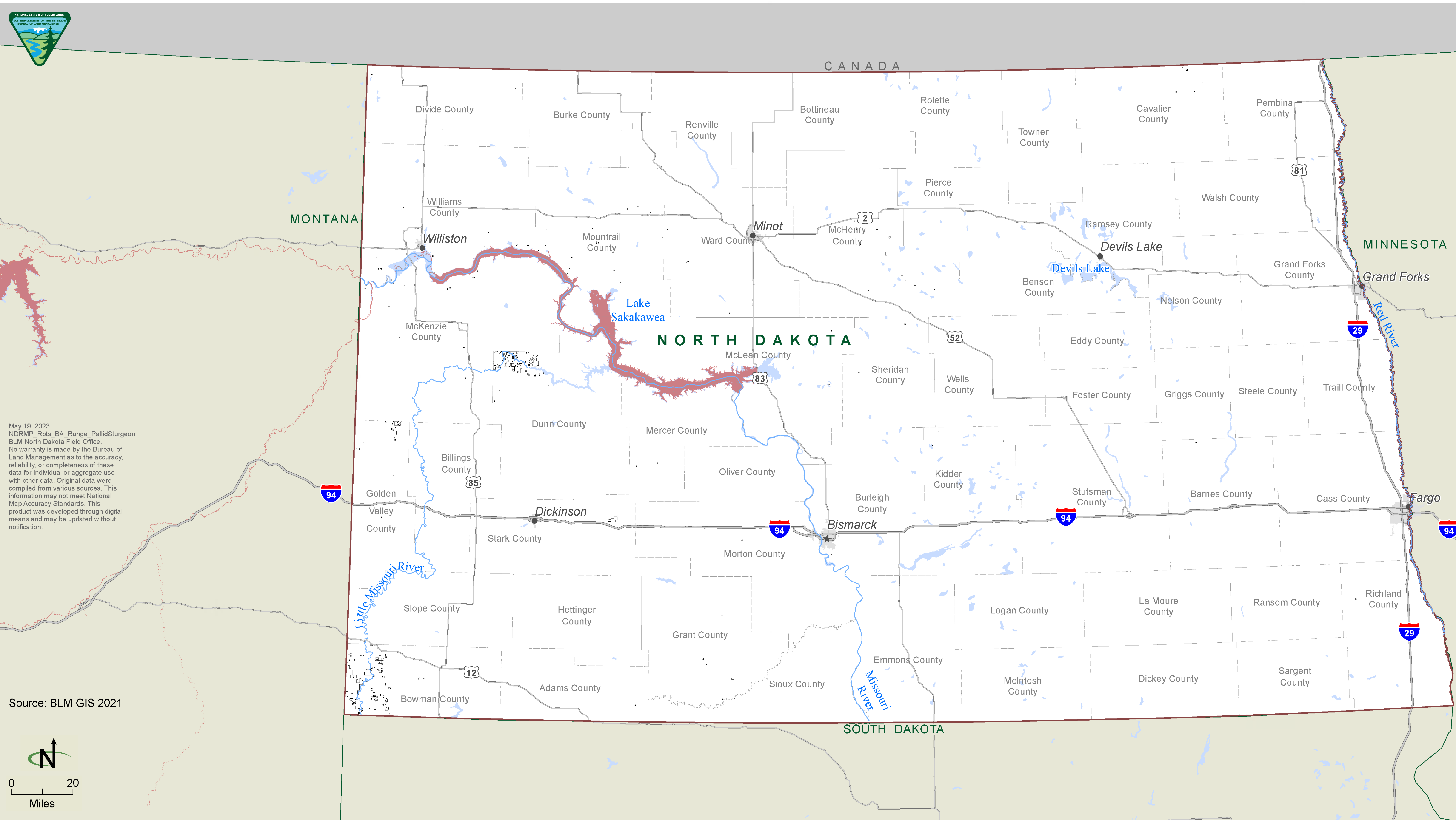







May 19, 2023  
NDRMP\_Rpts\_BA\_Range\_WhoopingCrane  
BLM North Dakota Field Office.  
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Land Management as to the accuracy,  
reliability, or completeness of these  
data for individual or aggregate use  
with other data. Original data were  
compiled from various sources. This  
information may not meet National  
Map Accuracy Standards. This  
product was developed through digital  
means and may be updated without  
notification.

Source: BLM GIS 2021

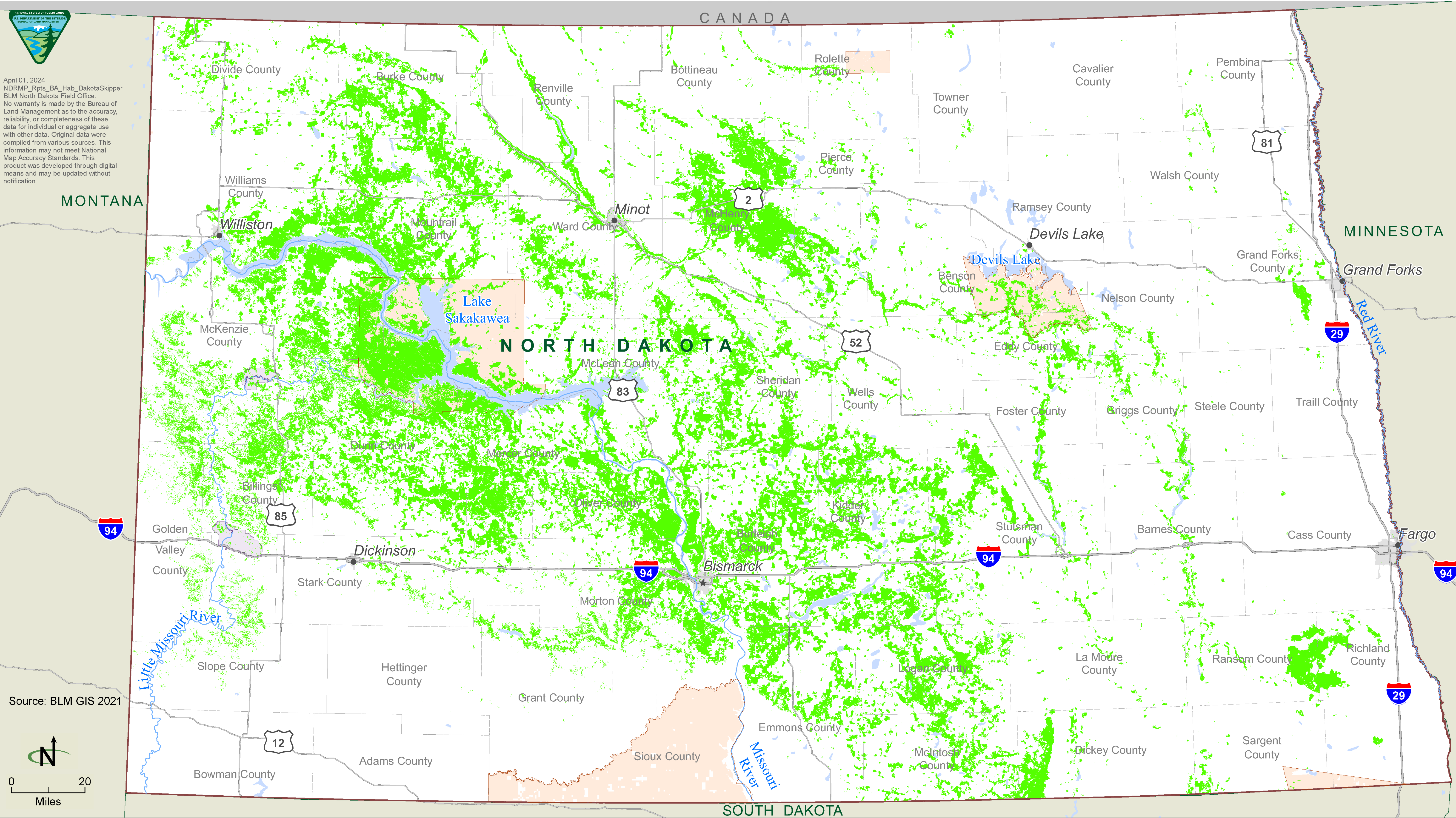


**Species Range**

 Pallid sturgeon  North Dakota RMP action area

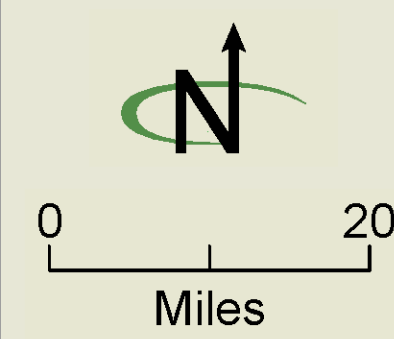
 Pallid sturgeon  North Dakota RMP action area





April 01, 2024  
NDRMP\_Rpts\_BA\_Hab\_DakotaSkipper  
BLM North Dakota Field Office.  
No warranty is made by the Bureau of  
Land Management as to the accuracy,  
reliability, or completeness of these  
data for individual or aggregate use  
with other data. Original data were  
compiled from various sources. This  
information may not meet National  
Map Accuracy Standards. This  
product was developed through digital  
means and may be updated without  
notification.

Source: BLM GIS 2021



### Dakota Skipper Modeled Habitat

- Potentially suitable dakota skipper habitat
- Reservation boundary
- Bureau of Indian Affairs (BIA)
- National Park Service
- North Dakota RMP planning area



## **J.2 UNITED STATES FISH AND WILDLIFE SERVICE LETTER OF CONCURRENCE**



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

North Dakota Ecological Services  
3425 Miriam Avenue  
Bismarck, ND 58501

May 14, 2024

In reply, please refer to:  
Bureau of Land Management North Dakota Field Office  
Resource Management Plan Revision

Mr. Edward Kraft  
Field Manager, North Dakota Field Office  
Bureau of Land Management  
99 23rd Ave. W Suite A  
Dickinson, ND 58601

Dear Mr. Kraft:

Thank you for your April 24, 2024, letter regarding the proposed Bureau of Land Management (BLM) North Dakota Field Office (NDFO) Resource Management Plan (RMP) Revision. The purpose of the Proposed Action is to revise the 1988 RMP in order to make land use plan decisions to guide the management of BLM-administered lands. The U.S. Fish and Wildlife Service (Service) understands that site-specific evaluations will be conducted for activities authorized under the proposed RMP at the time they are proposed, and consultation or conference would occur with the Service for activities that may affect threatened, endangered, proposed, or candidate species, as well as final or proposed critical habitats. The BLM analyzed 12 federally threatened or endangered species and one candidate species, as well as designated critical habitat for three federally threatened or endangered species, that were identified by the BLM and the Service as potentially occurring in the action area. The BLM is requesting Service review and concurrence for the proposed action.

The BLM has requested Service concurrence with the determinations that the Proposed Action “may affect, but is not likely to adversely affect” the endangered whooping crane (*Grus americana*), the endangered pallid sturgeon (*Scaphirhynchus albus*), the endangered northern long-eared bat (*Myotis septentrionalis*), the threatened Dakota skipper (*Hesperia dacotae*), the threatened rufa red knot (*Calidris conutus rufus*) and the threatened piping plover (*Charadrius melodus*). The BLM also requested concurrence with the determinations that the Proposed Action “may affect, but is not likely to adversely affect” Dakota skipper and piping plover critical habitat. In accordance with section 7(c) of the Endangered Species Act (ESA), as amended, 16 U.S.C. 1531 et seq., the Service concurs with your determinations. The Service’s concurrence is based on the biological assessment provided and your delineation of the area likely to be affected by the Proposed Action.

The BLM has determined that there will be "no effect" to the endangered black-footed ferret (*Mustela nigripes*), the endangered gray wolf (*Canis lupus*), the endangered poweshiek skipperling (*Oarisma poweshiek*), the endangered rusty patched bumble bee (*Bombus affinis*), the threatened grizzly bear (*Ursus arctos horribilis*), the threatened western prairie fringed orchid (*Plantanthera praeclara*) and poweshiek skipperling critical habitat. There is no requirement under the implementing regulations of the Act (50 CFR Part 402) for action agencies to receive Service concurrence with "no effect" determinations, therefore the responsibility for "no effect" determinations remains with the federal action agency. We recommend the federal action agency document the "no effect" determinations and retain the documentation in the decisional record for this federal action.

The proposed Project actions should be re-analyzed if any of the following occur:

1. New information reveals effects of the action that may affect listed species in a manner or to an extent not previously considered.
2. The identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation.
3. A new species is listed or critical habitat is designated that may be affected by this Project.

The Service appreciates the opportunity to work with the BLM to ensure the conservation of federal listed species as part of our joint responsibilities under ESA to conserve threatened and endangered species and their habitats. If you have any additional questions or concerns, please contact Seth Jones at (701) 355-8508 or via email at [seth\\_jones@fws.gov](mailto:seth_jones@fws.gov) or contact me at (720) 793-6797 or [luke\\_toso@fws.gov](mailto:luke_toso@fws.gov).

Sincerely,

**LUKE  
TOSO**

Luke Toso

North Dakota Ecological Services Supervisor

Digitally signed by  
LUKE TOSO  
Date: 2024.05.14  
14:22:45 -05'00'

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