INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN

NAVAL RADIO TRANSMISSION FACILITY

LAMOURE, NORTH DAKOTA

February 2021

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Commander, Navy Region Northwest

This Integrated Natural Resources Management Plan is a long-term planning document to guide Naval Radio Transmission Facility LaMoure in the management of natural resources to support its military mission, while protecting and enhancing natural resources for multiple uses, sustainable yield, and biological integrity. The primary purpose of the plan is to ensure natural resources management and military operations are integrated and consistent with legal requirements and stewardship. This plan and the use of the natural resources complies with the legal mandates and, to the extent practicable, is integrated with public ecosystem goals.

The LaMoure Integrated Natural Resources Plan meets requirements of the Sikes Act (16 U.S.C. 670a et seq.) as amended; Department of Defense Instruction 4715.03, *Natural Resource Conservation Program*; DOD Manual 4715.03, *Integrated Natural Resources Management Plan (INRMP) Implementation Manual*; Chief of Naval Operations Instruction (OPNAVINST) 5090.1; and OPNAV M-5090.1, *Environmental Readiness Program Manual.*

Approved by:

S.D. Barnett

S. D. BARNETT
Rear Admiral, U.S. Navy
Commander, Navy Region Northwest

8 APR 21
Date

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Commanding Officer

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24-Mar-21

M. F. DAVIS
Captain, U.S. Navy
Commanding Officer, Naval Station Everett

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U.S. Fish and Wildlife Service (USFWS)

This Integrated Natural Resources Management Plan meets the requirements of the Sikes Act (16 U.S.C. 670(a) *et seq*., as amended) and supports U.S. Fish and Wildlife Service (USFWS) policies, management goals, and objectives. In addition, this document was developed in accordance with the June 2015 USFWS Guidelines for Coordination on Integrated Natural Resources Management Plans and the 2013 Memorandum of Understanding between the Department of Defense and the USFWS and the Association of Fish and Wildlife Agencies for a Cooperative Integrated Natural Resource Management Program on Military Installations.

Approved by:

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DREW BECKER
North Dakota Ecological Services Supervisor
U.S. Fish and Wildlife Service

Date

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North Dakota Game and Fish Department (NDGFD)

This Integrated Natural Resources Management Plan meets the requirements of the Sikes Act (16 U.S.C. 670(a) *et seq.*, as amended); and supports North Dakota Game and Fish Department (NDGFD) policies, management goals, and objectives as described by the 2015 North Dakota State Wildlife Action Plan. In addition, this document was developed in accordance with the 2013 Memorandum of Understanding between the Department of Defense and the USFWS and the Association of Fish and Wildlife Agencies for a Cooperative Integrated Natural Resource Management Program on Military Installations.

Approved by:

Terry Steinwand

TERRY STEINWAND
Director
North Dakota Game and Fish Department

3/12/21
Date

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Natural Resources Staff

This Integrated Natural Resources Management Plan is a long-term planning document to guide Naval Radio Transmission Facility LaMoure in the management of natural resources to support its military mission, while protecting and enhancing natural resources for multiple uses, sustainable yield, and biological integrity. The primary purpose of the plan is to ensure natural resources management and military operations are integrated and consistent with legal requirements and stewardship. This plan and the use of the natural resources complies with the legal mandates and, to the extent practicable, is integrated with public ecosystem goals.

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Approved by:

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The section below will be used to document changes and updates to this INRMP. It is not intended to replace the Review for Operation and Effect but will be included each year as part of the annual review (see *Section 1.6 Review and Revision Process*).

DATE	SECTION/PAGE	CHANGE/MODIFICATION	RATIONALE

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EXECUTIVE SUMMARY

This Integrated Natural Resources Management Plan (INRMP) was developed for Naval Radio Transmission Facility (NRTF) LaMoure, North Dakota. The Naval Computer and Telecommunications Area Master Station (NCTAMS) Atlantic (LANT) Detachment (DET) LaMoure is a critical element of the fixed submarine broadcast system (FSBS), with a mission to manage, operate, and maintain the communications facility and its very low frequency (VLF) broadcast. The approximately 834-acre main site is leased from a private landowner who continues to use portions of the installation outside of the operational area. The Navy owns a 1.6-acre associated site about 20 miles from the main site. Facility and land management of the Navy's leased and owned property associated with NRTF LaMoure falls under the command of Naval Station Everett

This INRMP focuses to the maximum extent practicable on ecosystem-based management and the interrelationships between individual components of natural resources conservation (e.g., migratory bird management, land management) and mission requirements, consistent with Department of Defense Instruction (DODI) 4715.03, *Natural Resources Conservation Program* (2011); DOD Manual (DODM) 4715.03, *INRMP Implementation Manual* (2013); and Chief of Naval Operations (OPNAV) Manual 5090.1, *Environmental Readiness Program Manual* (2019). The primary purpose of this INRMP is to ensure that natural resources management and military operations occurring on the property are integrated and carried out consistent with environmental stewardship laws and regulations, and that there is no net loss to the capability of the installation lands to support the installation's military mission. The military mission of NRTF LaMoure is compatible with the conservation of habitats and species because operations and activities are non-intrusive, consolidated, and surrounded by largely undeveloped land within and beyond the installation boundary.

There are no threatened or endangered species listed under the Endangered Species Act documented at NRTF LaMoure, and no critical habitat has been designated at the installation. The intent of this INRMP is to meet the U.S. Fish and Wildlife Service (USFWS) Special Management Criteria and provide benefits to currently listed or future listed species with the potential to occur at the installation, precluding the need for a critical habitat designation. Significant natural resources documented at the installation include several State Species of Conservation Priority and USFWS Birds of Conservation Concern, year-round resident and migratory birds, and an extensive mosaic of native wetland and grassland habitats. These native habitats are of particular significance, as they represent an increasingly diminishing resource in the most important waterfowl production area on the North American continent.

This INRMP was prepared in cooperation with the USFWS and the North Dakota Game and Fish Department (NDGFD), as required and authorized by the Sikes Act (16 U.S.C. 670a et seq., as amended). This INRMP will be implemented when it is approved by all signatories. It will be reviewed annually for relevance and effectiveness, and updates will be appended to this document. A Review for Operation and Effect will be completed and documented with the signatories at least every five years.

This INRMP is a new plan, which requires an analysis under the National Environmental Policy Act (NEPA). The NEPA analysis, in the form of an Environmental Assessment (EA), was conducted to analyze the effects on the human environment of implementing this INRMP, and documents a decision of whether or not to formally adopt the INRMP. The INRMP and the EA were made available for public review and comment from November 25 to December 28, 2020.

Management Goals and Actions

The management goals identified for the NRTF LaMoure natural resources management program are intended to:

- Help the Commanding Officer manage natural resources effectively;
- Ensure that installation lands remain available and in good condition to support the military mission;
- Ensure compliance with relevant environmental regulations, and
- Provide responsible stewardship of public lands.

Natural Resources at NRTF LaMoure will be managed using ecosystem-based management principles and guidelines to ensure that the natural ecosystems are sustained. Projects and management actions that have been identified for implementation are detailed in this management plan, including the following:

- Implement grassland and wetland habitat management practices that promote ecosystem diversity and functionality;
- Conserve and protect the installation's state and federal species of concern and their associated habitats;
- Review proposed projects as part of the environmental compliance program, which is administered through the Naval Facilities Engineering Command (NAVFAC) Public Works Department, Environmental Division, in order to avoid or minimize effects on natural resources;
- Identify, prepare for, and reduce climate change-related risks to natural resources and military mission at NRTF LaMoure; and
- Promote research and long-term monitoring to assess the status and trends of wildlife populations and native habitats and to inform future management actions.

These management goals and actions incorporate the principles of ecosystem-based management and are consistent with Navy policy on the sustainable, multiple use of natural resources on Navy property. Actions contemplated in this INRMP are subject to the availability of appropriated funds, and no provision herein shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. 1341.

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ACRONYMS AND ABBREVIATIONS

º F	degrees Fahrenheit
BCC	Birds of Conservation Concern
BCR	Bird Conservation Regions
BGEPA	Bald and Golden Eagle Protection Act
BMPs	Best Management Practices
CATEX	Categorical Exclusion
CESU	Cooperative Ecosystem Studies Units
CFR	Code of Federal Regulations
cm	centimeter(s)
CNIC	Commander, Navy Installations Command
CNO	Chief of Naval Operations
CNRNW	Commander, Navy Region Northwest
CWA	Clean Water Act
CWD	Chronic Wasting Disease
DET	Detachment
DEQ	North Dakota Department of Environmental Quality
DOD	United States Department of Defense
DODI	United States Department of Defense Instruction
DON	United States Department of the Navy
EA	Environmental Assessment
EHD	Epizootic Hemorrhagic Disease
EIS	Environmental Impact Statement
EO	Executive Order
EPR	Environmental Program Requirements
ERL	Environmental Readiness Level
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FPPA	Farmland Protection Policy Act
FSBS	Fixed Submarine Broadcast System
GIS	Geographic Information System(s)
GRC	GeoReadiness Center
GRX	GeoReadiness Explorer
HUC	Hydrologic Unit Code
ICO	Installation Commanding Officer
INRMP	Integrated Natural Resources Management Plan
installation	Naval Radio Transmission Facility LaMoure
IPMP	Integrated Pest Management Program
km	kilometer
LANT	Atlantic
LCCs	Landscape Conservation Cooperatives
Legacy Program	Legacy Resource Management Program

MBTA	Migratory Bird Treaty Act
Metrics	Natural Resources Conservation Metrics
MILCON	military construction
MOU	Memorandum of Understanding
NAVFAC	Naval Facilities Engineering Command
Navy	United States Department of the Navy
NCTAMS	Naval Computer and Telecommunications Area Master Station
NDDH	North Dakota Department of Health
NDGFD	North Dakota Game and Fish Department
NEPA	National Environment Policy Act
NMFWA	National Military Fish and Wildlife Association
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRM	Natural Resources Manager
NRTF	Naval Radio Transmission Facility
NSE	Naval Station Everett
NWI	National Wetlands Inventory
NWPs	Nationwide Permits
O&MN	Operations and Maintenance, Navy
OPNAVINST	Chief of Naval Operations Operating Instruction
OPNAV-M 5090.1	Environmental Readiness Program Manual
OSD	Office of the Secretary of Defense
PAO	Public Affairs Office
PIF	Partners in Flight
SCP	Species of Conservation Priority
SERDP	Strategic Environmental Research and Development Program
SPCC	Spill Prevention, Control, and Countermeasure
SWAP	State Wildlife Action Plan
SWPPP	Stormwater Pollution Prevention Plan
U.S.	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VLF	very low frequency

1.0 OVERVIEW

This Integrated Natural Resources Management Plan (INRMP) was developed to provide for effective management and protection of natural resources at Naval Radio Transmission Facility (NRTF) LaMoure. It summarizes the natural resources present on the installation and outlines strategies to manage those resources with an approach that integrates mission support, multipurpose use, ecosystem resiliency, and landscape-level conservation and stewardship. Natural resources are valuable assets of the U.S. Department of the Navy (Navy or DON). They provide the natural infrastructure needed for operations, testing, and training to support military readiness. The INRMP is a requirement of the Sikes Act (16 U.S.C. 670a *et seq*., as amended) and reflects the mutual agreement of the cooperating agencies that are signatories to this document: the U.S. Fish and Wildlife Service (USFWS) and the North Dakota Game and Fish Department (NDGFD).

1.1 PURPOSE AND SCOPE

This INRMP considers lands leased and owned by the Navy within the boundary of NRTF LaMoure (Figure 1-1), which is located in LaMoure County North Dakota and is home to the Naval Computer and Telecommunications Area Master Station (NCTAMS) Atlantic (LANT) Detachment (DET) LaMoure. NRTF LaMoure consists of a main site comprised of four leased parcels totaling approximately 834.39 acres. In addition, NRTF LaMoure includes a separate 1.6-acre parcel, hereinafter referred to as the remote site, which is owned by the U.S. Department of Defense (DOD) and located approximately 20 miles northwest of the main site. Facility and land management of the Navy's leased and owned property associated with NRTF LaMoure falls under the command of Naval Station Everett (NSE). This INRMP serves as a long-term planning document that will inform and assist the NSE Command with the management of natural resources at the installation.

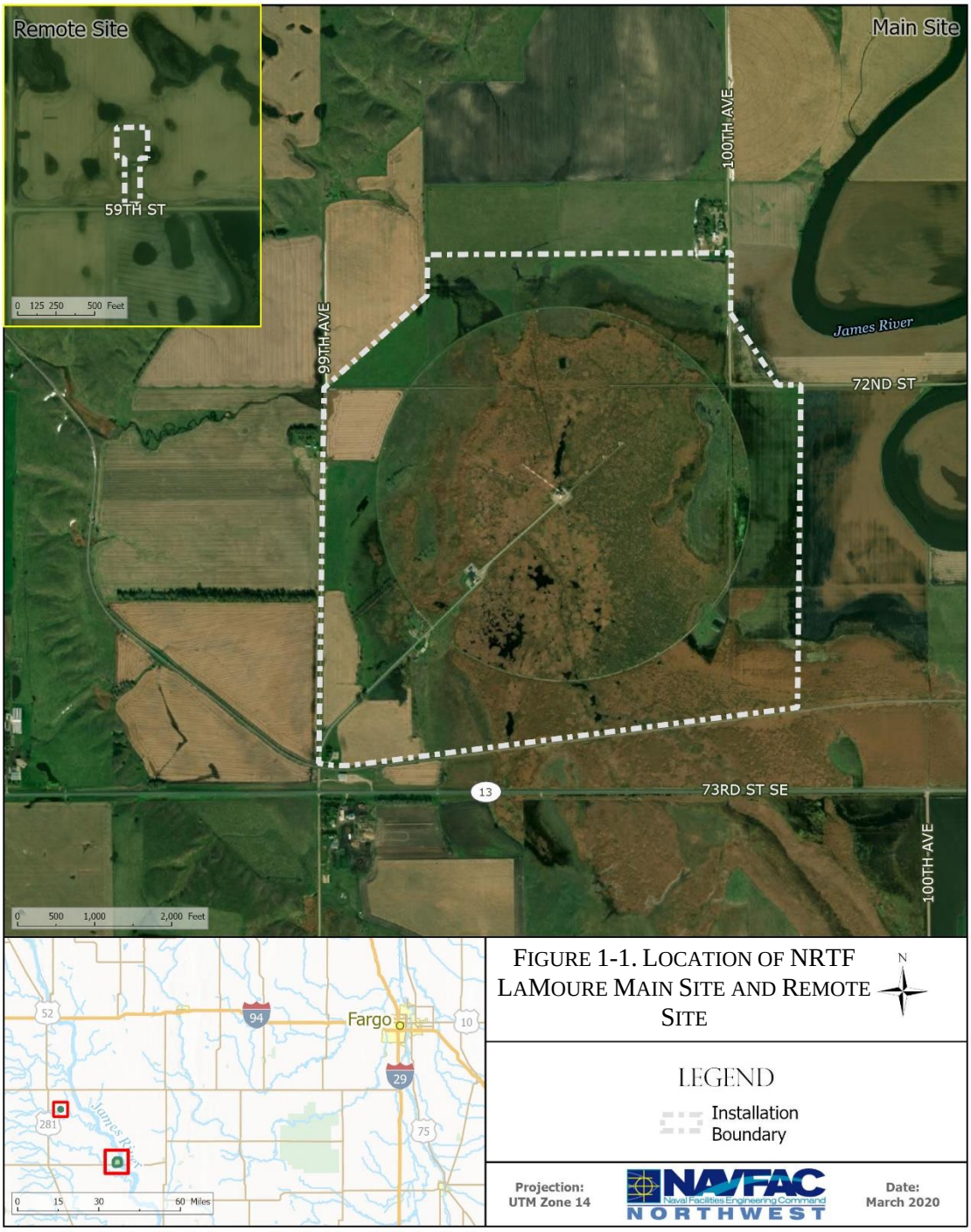
The INRMP is a dynamic, long-term planning document that integrates all aspects of the NRTF LaMoure mission and natural resources management, addressing each specific resource type and land use individually, as well as the larger ecosystem context. Development of the plan follows these principles:

1) A shift from single species to multiple species conservation;

2) Formation of partnerships necessary to consider and manage ecosystems that cross installation boundaries; and

3) Use of the best available scientific information and scientifically sound strategies for adaptive management.

The document outlines conservation efforts and establishes procedures to ensure compliance with related environmental laws and regulations during INRMP implementation. The INRMP does not replace or affect any federal laws or state responsibility and authority for protecting fish and wildlife resources. *Section 4 Program Elements* and *Section 5 INRMP Implementation* of this document describe the specific management goals and objectives. Annual reviews of program implementation will be conducted in coordination with the USFWS and the NDGFD as required


Remote Site
59TH ST
0 125 250 500 Feet
Main Site
100TH AVE
99TH AVE
James River
72ND ST
13
73RD ST SE
100TH AVE
0 500 1,000 2,000 Feet
52
94
Fargo
10
29
281
75
James River
0 15 30 60 Miles
FIGURE 1-1. LOCATION OF NRTF LAMOURE MAIN SITE AND REMOTE SITE
N
LEGEND
Installation Boundary
Projection: UTM Zone 14
NAVFAC Naval Facilities Engineering Command NORTHWEST
Date: March 2020

by the Sikes Act, and will be documented during the annual Natural Resources Conservation Metrics process. The INRMP will undergo a formal Review for Operation and Effect no less often than every five years to update the program elements and implementation plan.

1.2 AUTHORITY

The Sikes Act directs the Secretary of Defense to "carry out a program to provide for the conservation and rehabilitation of natural resources on military installations." The Sikes Act requires each military installation with significant natural resources to develop an INRMP to facilitate this mandate in coordination with USFWS and the appropriate state fish and wildlife agency–NDGFD for NRTF Lamoure. The DOD and Navy have issued guidance documents which detail the DOD's and the Navy's implementing policy guidance for natural resources management, including for the development and maintenance of an installation INRMP. Guidance documents include, but are not limited to, the following:

- DOD Instruction (DODI) 4715.03 *Natural Resources Conservation Program*
- DOD Manual (DODM) 4715.03 *INRMP Implementation Manual*
- Chief of Naval Operations Instruction (OPNAVINST) 5090.1E *Environmental Readiness Program*
- OPNAV Manual (OPNAV-M) 5090.1 *Environmental Readiness Program Manual*

In Chapter 12 of OPNAV-M 5090.1, program responsibilities and standards are set for complying with natural resource protection laws, regulations, and Executive Orders (EOs) to conserve and manage natural resources on Navy installations in the United States (U.S.) and its territories and possessions. Additional policy, regulation, and legislation regarding military land management are listed and described in Appendix A.

1.3 GOALS AND OBJECTIVES

Table 1-1 identifies the goals and objectives for managing the natural resources of NRTF LaMoure developed by the Natural Resources Manager (NRM) at NSE. These goals and objectives are described in detail in *Section 4 Program Elements*.

Table 1-1. Goals and objectives for natural resources management at NRTF LaMoure.

Goals	Objectives
Promote healthy populations of native fish and wildlife species, and protect and enhance their habitats at NRTF LaMoure.	Establish the species baseline at NRTF LaMoure, documenting species presence, seasonality, and approximate abundance, where appropriate. Restore and enhance grassland and wetland habitats within the operational area by removing invasive plant species and increasing diversity and abundance of native grasses, forbs, and emergent wetland vegetation. Coordinate with the local Natural Resources Conservation Service (NRCS) representative to see if they can facilitate agreements with the landowner to protect and enhance grassland and wetland habitat areas of the installation outside of the operational area. Assess improvements that could be made to infrastructure or operations that would address daytime and nighttime collision hazards for bird or bat species. Investigate the extent of bird mortality related to collisions with the tower, downleads, and guy wires. Participate in a long-term regional or national inventory and monitoring programs such as the Breeding Bird Survey or Christmas Bird Count. Increase abundance of host plants and nectar plants for butterfly species of concern.
Support the conservation of migratory birds through habitat conservation and enhancement, and avoid the incidental take of migratory birds during military readiness actions as much as possible, in compliance with the Migratory Bird Treaty Act (MBTA).	
Promote the conservation of threatened and endangered species and species of concern, and protect and enhance their habitats at NRTF LaMoure.	
Avoid or minimize impacts to wetlands and the James River floodplain to the greatest extent practicable, mitigate any unavoidable impacts in accordance with state and federal regulations, and enhance wetland habitats at NRTF LaMoure in order to provide for healthy ecosystem functions, wildlife habitat, and the natural infrastructure needed for the military mission.	Develop a long-term monitoring plan to track changes in wetland boundaries, vegetation communities, and flood regimes over time, as the effects of climate change become more significant. Improve drainage infrastructure affecting the water levels in the wetlands, in order to address road flooding issues while also protecting the quality and functions of the wetlands.

Goals	Objectives
Vegetation management will maintain and enhance landscaped areas at NRTF LaMoure while minimizing the use of energy, water, chemical herbicides, and fertilizers.	Assess annual grounds maintenance needs and current management practices for detrimental effect to species or habitats and opportunities to add ecosystem benefits (such as pollinator-friendly plants in landscaping) without creating an undue burden on staff.
Reduce or eradicate (where practical) noxious weed species and invasive plant and animal species at NRTF LaMoure in order to improve the quality of native vegetation and wildlife communities and habitat.	Remove Russian olive (*Elaeagnus angustifolia*) within the NRTF LaMoure. Conduct baseline surveys within the installation for the presence of noxious weeds and other invasive plants to map the presence, location, and extent of any noxious and invasive plants. Develop a program to eradicate species on the North Dakota Noxious Weed List and other species whose control is required by LaMoure County, and to control or eradicate other invasive plants.
Use targeted sustainable methods including habitat modification, biological, genetic, cultural, mechanical, physical and regulatory controls and, when necessary, the judicious use of the least hazardous pesticides to control pests on NRTF LaMoure.	The NW Region pest management consultant will develop an Integrated Pest Management Program (IPMP) specific to NRTF LaMoure, in coordination with on-site staff.
Promote healthy ecosystems by avoiding and minimizing the effects of erosion and sedimentation.	None at this time
Protect infrastructure and natural and cultural resources, and provide for human safety by maintaining a low risk of wildfire at NRTF LaMoure.	Develop a wildland fire management plan to address potential wildland fire risk and identify appropriate management actions and responses. The plan should also identify actions for post-fire burned area response and rehabilitation. Pursue mutual aid agreements with local fire suppression responders or other federal partners.

Goals	Objectives
Identify, prepare for, and reduce climate change-related risks to natural resources and the military mission at NRTF LaMoure.	Develop a long-term monitoring plan to track the health and extent of grassland habitat over time, as the effects of climate change become more significant. Grasslands sequester carbon, providing an ecosystem service that mitigates climate change. Monitor species baselines for change over time. This could include conducting semi-annual surveys at the installation, or participating in a long-term regional or national inventory and monitoring program such as the Breeding Bird Survey or annual Christmas Bird Count (in the case of bird species). Monitoring should target grassland-dependent species from multiple taxa. Restore and enhance grassland and wetland habitats within the operational area to increase resilience to climate change. This includes reviewing the best available science for ecosystems in the region, removing invasive plant species that are modeled to increase under future climate conditions, and increasing diversity and abundance of native grasses, forbs, and emergent wetland plant species that are likely to thrive under future climate conditions.

The goals, objectives, and associated strategies in this INRMP are directly aligned with the Navy's overarching goals for its Natural Resources programs, outlined in OPNAV M-5090.1E:

- Military Readiness – Ensure no net loss of the capability of installation lands to support the DOD mission.
- Stewardship – Manage natural resources to assure good stewardship of public lands entrusted to the Navy.
- Compliance – Comply with laws and instructions that pertain to the management of the Navy's properties and associated natural resources.

1.4 RESPONSIBILITIES RELATED TO THIS INRMP

SECNAVINST 5090.8B assigns responsibilities within the Department of the Navy for the preparation and implementation of INRMPs, among other programs. OPNAV-M 5090.1 delineates responsibilities within the Navy regarding management of natural resources. The section below highlights INRMP-related responsibilities, as established by CNRNW, pursuant to most recent Navy guidance.

Chief of Naval Operations, Environmental Readiness Division
The Chief of Naval Operations (CNO) serves as the principal leader and overall Navy program manager for the development, revision, and implementation of INRMPs and:

a) Provides policy, guidance, and resources for the development, revision, and implementation of INRMPs and associated National Environmental Policy Act (NEPA) documents.
b) Represents the Navy on issues regarding development and implementation of INRMPs and delegates responsibility in writing.
c) Resolves high-level conflicts associated with development and implementation of INRMPs.
d) Approves all INRMP projects before INRMPs are submitted to regulatory agencies for signature.

Commander, Navy Installations Command

The Commander, Navy Installations Command (CNIC):

a) Ensures that installations under its command develop, revise, and implement INRMPs, if required, and:
    1) Reevaluates the need for an INRMP at all installations that currently do not have an INRMP.
    2) Following the initial evaluation, reevaluates all remaining installations that do not have an INRMP every five years.
b) Ensures that installations comply with DOD, DON, and CNO policy on INRMPs and associated NEPA document preparation, revision, and implementation.
c) Ensures the programming of resources necessary to maintain and implement INRMPs, which involves:
    1) The review and endorsement of projects recommended for INRMP implementation prior to submittal for signature. These projects are identified in Table 5.1.
    2) The evaluation and validation of Environmental Program Requirements (EPR) Web project proposals.
d) Participates in the development and revision of INRMPs, which involves the maintenance of a close liaison with N45, Naval Facilities Engineering Command (NAVFAC) and other budget submitting offices.
e) Provides overall program management oversight for all natural resources program elements.

Regional Commander, Navy Region Northwest

The NRTF LaMoure facility is under Commander, Navy Region Northwest (CNRNW), whose office is located at Naval Base Kitsap, Silverdale, WA. The Regional Commander ensures that the INRMPs are developed, implemented, and fully supported and ensures coordination, consistency, and direct support for INRMP implementation.

The Regional Commander has the following responsibilities:

a) Ensures that installations comply with DOD, DON, and CNO policy on INRMP and associated NEPA document preparation, revision, and implementation.
b) Ensures INRMPs undergo annual informal reviews as well as formal five-year evaluations. Ensures installations complete the annual INRMP metrics review and endorses the results prior to submittal to CNIC via the chain of command.
c) Ensures the programming of resources necessary to maintain and implement INRMPs, which involves the evaluation and validation of EPR-Web project proposals.

d) Establishes positive, productive relationships with local and regional authorities responsible for natural resource conservation for the benefit of subordinate command functions and INRMP development and implementation.

Installation Commanding Officer

The NSE Installation Commanding Officer (ICO) oversees the operations occurring at the facility and is ultimately responsible for facility, security, and land management aspects of the NRTF LaMoure installation. The ICO is responsible to the Regional Commander for the preparation, completion, and implementation of the INRMP and associated NEPA documentation for NRTF LaMoure. The ICO should systematically apply the conservation practices set forth in the plan.

The ICO's role includes:

a) Acts as steward of the natural resources under their jurisdiction and integrates natural resources requirements into the day-to-day decision-making process.
b) Ensures natural resources management and the INRMP comply with all natural resources-related legislation; EOs and Executive Memoranda; as well as DOD and DON directives, instructions, and policies.
c) Involves appropriate tenant, operational, training, or RDT&E commands in the INRMP review process to ensure no net loss of military mission.
d) Designates by letter, one or more NRMs responsible for the management efforts related to the preparation, revision, implementation, and funding for the INRMP (Appendix B).
e) Involves appropriate Navy Judge Advocate General (JAG) or Office of the General Counsel (OGC) Legal Counsel to provide advice and counsel with respect to legal matters related to natural resources management and INRMPs.
f) Endorses INRMPs via signature.
g) Participates in annual natural resources metrics process:
    1) Completes Focus Area #7: Mission Support, which is included in the Navy's Annual Report to Congress
    2) Sends a written report to USFWS and NDGFD no later than 31 January of each year, summarizing INRMP implementation over the past fiscal year and the status of any prior mutually agreed upon goals and updates.
h) Facilitates the implementation of the INRMP:
    1) Provides top-down support of the natural resources program.
    2) Ensures that a process is established for early coordination between the NRMs and key installation staff.
    3) Ensures that natural resources management is integrated with other installation management functions, military operations, security, and RDT&E activities.
i) Ensures funding for the implementation of the INRMP.

Installation Environmental Program Director

The Installation Environmental Program Director (IEPD) at NSE works for the installation ICO to

ensure that NRTF LaMoure is in compliance with all natural resources related legislation; EO and Executive Memoranda; DOD and CNO directives, instructions, and policies. The NRM is a member of the IEPD's staff who is recommended by the IEPD to the installation ICO to be designated the NRM. The IEPD assists in project design, implementation, and in identifying personnel, internal or external to the installation, with expertise to accomplish INRMP projects. The IEPD is one of many signatories to the INRMP and works at a high level to ensure its success.

Natural Resources Manager

The NRM is responsible for natural resources management at NRTF LaMoure. The NRM is designated in writing by the ICO, and a copy of the designation letter is in Appendix B. The NRM is a member of the NSE Public Works Department Environmental Division in Everett and is administratively a NAVFAC employee.

The NRM's primary responsibilities are as follows:

a) Coordinates preparation, revision, and implementation of the INRMP with other personnel on the installation, as necessary, to meet the program goals and objectives.
b) Ensures the INRMP is reviewed, current, and compliant in coordination with the USFWS and NDGFD.
c) Completes the INRMP metrics annually on the Navy Conservation website.
d) Ensures the NSE ICO is informed of natural resource conditions and issues, goals, and objectives of the INRMP, and potential or actual conflicts between mission requirements and natural resource mandates.

Region Program Director for Environmental

The Region Program Director for Environmental (N45) provides a Senior Regional Natural Resources Specialist to ensure execution of natural resources conservation responsibilities in support of the Regional Commander. The specialist reviews and signs INRMPs for technical sufficiency, consistency within the region, and compliance with Navy and DOD policy.

Naval Facilities Engineering Command Northwest

NAVFAC Northwest (NAVFAC NW) provides oversight and support for the development, maintenance, and implementation of CNRNW installation INRMPs. NAVFAC Northwest's natural resources staff, including the installation NRMs, are a compilation of professionally qualified foresters, botanists, fisheries specialists, marine mammal experts, avian specialists, and knowledgeable biologists for invasive species management. These natural resources subject matter experts are available to support and assist the installation's natural resources program and associated consultations pertaining to natural resources legislation.

NAVFAC NW's responsibilities are as follows:

a) Provides technical and contractual support to NSE for the preparation, development, and implementation of INRMPs and associated NEPA documents.
b) Facilitates and coordinates the issuance of INRMP-related NEPA documents.
c) Assists in obtaining Regional Commander endorsement signature of this INRMP.
d) Evaluates and disseminates information to installations concerning new technology, methods, policies, and procedures for use in the development and implementation of

INRMPs or that may impact naval readiness and sustainability at NRTF LaMoure (e.g., proposed listings of threatened and endangered species, proposed critical habitat restrictions, biological opinions, NEPA mitigation measures).

e) Assists with the development of the INRMP Project Implementation Table, EPRweb, and Legacy project proposals.
f) Provides technical and administrative guidance for the development and execution of contracts and cooperative agreements to develop and implement INRMPs.
g) Facilitates the acquisition of INRMP mutual agreement between the Navy, USFWS, and the NDGFD, as necessary.
h) Facilitates conflict resolution between the Navy, USFWS, NDGFD, and other stakeholders, as necessary.
i) Coordinates an ecosystem-based approach between the installation and geographically proximate landholders to include other federal agencies, state agencies, or private entities.
j) Provides technical oversight and resources for forest management and assist in implementing forest habitat management actions.
k) Provides support and resources to installation fish and wildlife program and assist with hunting and fishing fee and permit collections and distributions.
l) Assists with compiling, tracking, and maintaining INRMP metrics on the Navy's Conservation website.

Other NAVFAC Northwest programs include Environmental Planning, Cultural Resources, Environmental Restoration, Facility Planning, and Facilities Engineering and Acquisition Division. Subject matter experts from each of these programs are available to support NSE. They have the following responsibilities, in relation to natural resources management:

a) Provide early awareness to the NRMs of proposed activities and projects at NRTF LaMoure.
b) Ensure their respective program requirements are consistent with the current INRMP.
c) Ensure that appropriate environmental analyses are conducted and protective measures are included in project design prior to on-the-ground activities.

Public Affairs Office

The Public Affairs Office (PAO) for NSE provides a significant link between the INRMP and the on- and off-installation communities. The PAO facilitates communication between offices across the installation, tenant commands, and nearby communities regarding environmental management. Any proposed communications outside the installation should be discussed with the NSE PAO.

Technical Director and Contractor Personnel

The Technical Director of NRTF LaMoure is the sole government representative at the installation, and is responsible for communicating with the NSE ICO and NRM as needed concerning natural resource issues associated with the activities at NRTF LaMoure. In addition, the Technical Director is responsible for coordinating with the NRM on any proposed changes to the activities at the installation.

Contractor personnel who operate the transmitter facility for NCTAMS LANT DET LaMoure are present on site and communicate with the Technical Director. Contractor personnel are tasked with

all aspects of maintaining the facility and its communications system and mission.

1.5 EXTERNAL STAKEHOLDER RESPONSIBILITIES

External stakeholders of NRTF LaMoure natural resources include federal and state natural resources agencies and tribal governments, which are discussed further in the subsections below, as well as local governments, landowners, and civic and conservation groups, which have been engaged through the NEPA process as described in *Section 3.3 NEPA Compliance*.

Commitment of the U.S. Fish and Wildlife Service and the State - The Navy, USFWS, and NDGFD each have mutual agreement signature authority for this INRMP. Cooperative management occurs through the annual INRMP review process, which includes the incorporation of shared technical information, review of natural resources management objectives, and input and updating of proposed INRMP projects. Feedback from the partner agencies is included in the annual INRMP Metrics Data Call. Per the Memorandum of Understanding (MOU) between the DOD, USFWS, and the Association of Fish and Wildlife Agencies (July 29, 2013) a comprehensive, joint review by all parties as to operation and effect will be conducted no less often than every five years, at which point any updates to the INRMP are incorporated.

No element of the Sikes Act is intended to either enlarge or diminish the existing responsibility and authority of the USFWS or the state concerning fish and wildlife responsibilities on military lands. An INRMP reflects a mutual agreement of the parties concerning the conservation, protection, and management of fish and wildlife resources.

1.5.1 U.S. Fish and Wildlife Service

The Sikes Act directs DOD to prepare INRMPs in cooperation with the USFWS and appropriate State wildlife agencies. The goal is to gain mutual agreement with respect to the entire INRMP, but agreement is only required with respect to conservation, protection, and management of fish and wildlife resources. USFWS biologists may be called upon to provide assistance and support to the NRM, if necessary. The USFWS may also support the INRMP by involvement in project implementation through interagency or cooperative agreements.

In addition, cooperative management is facilitated through consultation on a project-by-project basis and through mitigation and monitoring agreements, as described further in *Section 3.2 Natural Resources Consultation Requirements*.

1.5.2 North Dakota Game and Fish Department

The Sikes Act also directs the DOD to prepare INRMPs in cooperation with the appropriate state fish and wildlife office: in this case the NDGFD. The goal is to gain mutual agreement with respect to the entire INRMP, but agreement is only required with respect to conservation, protection, and management of fish and wildlife resources. NDGFD biologists may be called upon to provide assistance and support to the NRM, if necessary. The NDGFD may also support the INRMP by involvement in project implementation through interagency or cooperative agreements.

The NDGFD manages wildlife and habitat under its State Wildlife Action Plan (SWAP), which was completed July 1, 2015 and is a comprehensive plan for conserving North Dakota's fish and

wildlife and the natural habitats on which they depend. One guiding principle of the SWAP planning process is to identify actions needed to conserve wildlife and their habitats before species become too rare and restoration efforts too costly. The NDGFD and the NRM will coordinate to ensure natural resource management at NRTF LaMoure meets the intent of the SWAP in conserving, protecting, and managing fish and wildlife resources.

1.5.3 Tribal Governments

EO 13175, *Consultation and Coordination with Indian Tribal Governments,* reaffirms the Federal government's commitment to tribal sovereignty, self-determination, and self-government. The EO ensures that all Executive departments and agencies consult with Indian tribes and respect tribal sovereignty as they develop policy on issues that impact Indian communities. Pursuant to SECNAVINST 11010.14A, COMNAVREGNWINST 11010.14, and OPNAV-M 5090.1, the Navy consults with federally recognized tribes on a Government-to-Government basis as provided by law on all Navy proposed actions that may have the potential to significantly affect protected tribal resources, tribal rights, or Indian lands within the COMNAVREG NW AOR. The Navy consults on the development of INRMPs where treaty rights, sacred sites, burial sites, or other rights to natural resources may be affected by the INRMP. Four tribes have been identified in the LaMoure area: Lower Sioux Indian Community, Spirit Lake Tribe, Sisseton Wahpeton Oyate Tribe, and Standing Rock Sioux Tribe. Invitations to conduct Government-to-Government consultations are extended to these Tribes when proposed projects have the potential to impact treaty resources. Also, in accordance with Navy policy, these Tribes will be invited to review and comment on the INRMP and annual updates.

1.6 Review and Revision Process

Pursuant to Section 101(b)(2) of the Sikes Act, the Navy, USFWS, and NDGFD shall review this plan as to operation and effect “on a regular basis, but not less often than every five years.” To meet the terms agreed upon by the cooperating parties in the 2013 MOU, the Navy shall provide a means of easily identifying all changes to each update or revision of this INRMP via the review table at the beginning of this plan. NSE will comply with the requirement for both five-year and annual reviews of the NRTF LaMoure INRMP.

1.6.1 Annual INRMP Review and Natural Resources Conservation Metrics

In compliance with DODI 4715.03 and OPNAV-M 5090.1, INRMP Review and Natural Resources Conservation Metrics (Metrics) must be completed annually by each Navy installation with significant natural resources. The Metrics facilitate and document the process for validating that Navy installations are in compliance with the Sikes Act and that each installation or reporting unit is preparing, maintaining, and implementing its INRMP. The Metrics also support ESA expenditure reporting to Congress by the USFWS. Furthermore, the Metrics contribute to information collected for the Defense Environmental Program Annual Report to Congress and the Office of the Secretary of Defense's (OSD) Environmental Management Review.

The annual INRMP review and Metrics for NRTF LaMoure will be performed cooperatively with the USFWS and NDGFD each fall. This evaluation assesses the effectiveness of the INRMP, measures successes, and identifies issues resulting from INRMP implementation, as well as

ensuring regular interagency coordination. Data collected during the Metrics exercise also informs briefings up the DOD and Navy chains of command regarding the status of the Navy's Natural Resources Programs.

The annual Metrics considers seven focus areas:

1) Natural Resources Management (Ecosystem Integrity)
2) Listed Species and Critical Habitat
3) Recreational Use and Access
4) Sikes Act Cooperation (Partnership Effectiveness)
5) Team Adequacy
6) INRMP Implementation
7) INRMP (Natural Resources Program) Support of the Installation Mission

A summary of INRMP changes will be compiled each year from the INRMP review, and the annual Metrics report will be appended to the INRMP as Appendix C. The NRM at NSE will maintain a controlled version of INRMP changes within the installation's electronic and hardcopy file system, so that an INRMP update or a review for operation and effect can be completed, when appropriate.

1.6.2 Review for Operation and Effect

Consistent with the mandate of the Sikes Act, the NRM will review this INRMP for operation and effect cooperatively with USFWS and NDGFD at least once every five years. This review is the statutory responsibility of these agencies and Navy funds may not be used to pay for their participation in this requirement. The focus of the review is to update the INRMP based on additions or revisions compiled during the annual INRMP review, to update the goals and objectives for the program elements (*Section 4 Program Elements*), and update the implementation plan (*Section 5 Implementation Summary*). Mutual agreement on operation and effect will be documented in writing in the form of a new signature page for the INRMP. The new signature page will be updated in the INRMP and uploaded to the Navy's internal Environmental Conservation web site.

1.7 Stewardship, Compliance, and Management Strategy

The Navy is responsible for complying with all appropriate environmental laws and regulations. OPNAV-M 5090.1 identifies these and provides guidance on compliance. NSE has an environmental compliance program that includes NRTF LaMoure, which is administered through the NAVFAC Public Works Department, Environmental Division. This program is described further in *Section 3.1 Supporting Sustainability of the Military Mission and the Natural Environment*.

Further, the Navy has a mandate to implement programs for the conservation of natural resources and enhancement of ecological resiliency of its installations. As a steward of military land, the Navy recognizes that installation lands are part of a diverse, functioning ecosystem. Sustainability ensures the integrity of natural ecosystems over time while meeting the needs of the military

mission. Stewardship goes beyond regulatory compliance. Natural resource stewardship considerations are integrated into the planning phase of projects by requiring environmental review of projects proposed at NRTF LaMoure. The NSE CO, operational personnel, and other installation personnel have an influence on environmental conditions. By working with the NRM, their perspectives can be integrated into management processes at the installation, and into implementation of this INRMP.

Natural Resources at NRTF LaMoure will be managed using ecosystem-based management principles and guidelines to ensure that the natural ecosystems are sustained. This ecosystem focus is best accomplished by using adaptive management techniques.

Ecosystem Management - DOD has had an official policy on ecosystem management since 1994 when the Deputy Under Secretary of Defense for Environmental Security issued a memorandum promoting ecosystem management on military installations. DODI and DODM 4715.03 further states that natural resources under the stewardship and control of DOD should be managed using ecosystem-based management principles and guidelines that maintain and improve the sustainability and biological diversity of terrestrial and aquatic ecosystems, while supporting sustainable economies, human use, and the environments required for realistic military training operations (DOD, 2013). DOD ecosystem-based management principles and guidelines are incorporated by the following:

- Maintaining and improving the sustainability and native biodiversity of ecosystems,
- Considering ecological units and timeframes,
- Supporting sustainable human activities,
- Developing a vision of ecosystem health,
- Developing priorities and reconciling conflicts,
- Developing coordinated approaches to work toward ecosystem health,
- Relying on the best science and data available,
- Using goals and objectives to monitor and evaluate outcomes,
- Using adaptive management, and
- Implementing activities through existing installation plans and programs.

Adaptive management - is an iterative cycle of planning, monitoring, evaluation, and adjusting management. Unknown factors and changing conditions require management goals and prescriptions to be adaptable. Periodic reviews of management goals and practices provide the opportunity to incorporate new science and information as well as assess the performance of management actions. Prescribed actions should be considered experimental and subject to change if the expected or desired results are not achieved.

At the installation level, adaptive management includes development of flexible management practices to accommodate the evolving scientific understanding of ecosystems and adjusting management practices as necessary, informed by the annual INRMP review and Metrics and documented in that process. Installations also accommodate military activities, and coordinate resultant impacts on existing ecosystem management to preserve both the mission and conservation processes and objectives. DOD components of adaptive management include:

- Identification and assessment of military mission operations and facility requirements,
- Analysis and assessment of risks to natural resources,
- Completion of needs assessment surveys,
- Monitoring and preparation of the needs assessment results,
- Updating natural resources inventories to ensure information is current,
- Reanalysis and reassessment of risks to natural resources, and
- Incorporation of adjustments into the overall natural resources program, as necessary (DOD, 2013).

The natural resources program will be reviewed on an annual and five-year basis as described in *Section 1.6 Review and Revision Process*, and these reviews provide an opportunity for the adaptive management process. They also provide an opportunity to ensure that the program is achieving its goals of stewardship and ecosystem-based management.

1.8 INTEGRATION WITH OTHER PLANS

The preparation and development of an INRMP must be coordinated with the development of other existing plans and programs, both at the DOD level and installation level.

1.8.1 Strategic Plan for Amphibian and Reptile Conservation and Management on Department of Defense Lands

The *Strategic Plan for Amphibian and Reptile Conservation and Management on DOD Lands* summarizes current reptile- and amphibian-related challenges and concerns on DOD lands. This plan provides a framework for accomplishing DOD-wide conservation objectives related to the protection of amphibians, reptiles, and their habitats as part of a comprehensive effort to manage natural resources in ways that preclude mission conflicts and loss of training capabilities that can result from conservation-based regulatory restrictions. To the extent applicable natural resources management at NRTF LaMoure will be conducted consistent with this strategic plan. Presently there are no constraints on mission activities at the installation related to amphibian or reptile regulatory restrictions.

1.8.2 Partners in Flight Strategic Plan for Bird Conservation and Management on Department of Defense Lands

The DOD Partners in Flight (PIF) strategic plan (DOD PIF, 2014) identifies actions that support and enhance military missions while working to secure bird populations. It also provides a scientific basis for maximizing the effectiveness of resource management, enhancing the biological integrity of DOD lands, and ensuring continued use of these lands to fulfill military training requirements. The plan is centered on the three concepts that make up PIF's mission:

- Helping Species at Risk – protecting species before they become imperiled;
- Keeping Common Birds Common – ensuring that common native birds, both resident and migratory, remain common throughout their natural ranges; and
- Voluntary Partnerships for Birds, Habitats and People – collaborating with partners to conserve birds and their habitats.

The DOD PIF strategic plan presents a compilation of current best management practices (BMPs) and suggested focus areas to assist in compliance with the MBTA, BGEPA, EO 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) and its associated MOU, and the Final Rule on Take of Migratory Birds by the Armed Forces. The PIF strategic plan recognizes that one of the best ways to comply with the above legal requirements is to continue ongoing conservation efforts at the installation level. This helps protect and conserve birds and their habitats via implementation of INRMPs, as well as to build and maintain partnerships with other agencies and conservation entities.

In the strategic plan, DOD established goals to identify key bird conservation priorities and guide the actions of its natural resource management activities, including:

- Bird/Animal Aircraft Strike Hazard (BASH)
- Encroachment Minimization
- Stewardship
- Habitat and Species Management
- Monitoring
- Research
- Partnership/Cooperation
- Communication and Education
- Enhancing the Quality of Life

These goals will be pursued to the extent they are applicable for conservation of birds at NRTF LaMoure. Presently there are no constraints on mission activities at NRTF LaMoure related to bird regulatory restrictions.

1.8.3 State Wildlife Action Plan

In 2000, Congress began to provide annual funding to supplement existing state fish and wildlife conservation programs. Along with this funding came the responsibility of each state and territory to develop a SWAP. In 2015, the NDGFD published a comprehensive wildlife conservation strategy, referred to as the SWAP for North Dakota.

The SWAP represents a strategy rather than a detailed plan to guide the process of preserving the state's fish and wildlife resources for the foreseeable future. The SWAP is a habitat based, rather than species based approach, and is not simply a compilation of specific management plans for all the species of fish and wildlife at risk in North Dakota, but rather is a strategic vision with the goal of preserving the state's wildlife diversity. North Dakota's SWAP is intended to identify species of greatest conservation priority and provide fundamental background information, strategic guidance, input from partners, and most importantly, a framework for developing and coordinating conservation actions to safeguard all fish and wildlife resources. Additional discussion of the habitat types and species prioritized in the SWAP specific to the area surrounding NRTF LaMoure is provided in *Section 2.3.4 Other Species of Concern*.

Natural resources management strategies and recommendations included in this INRMP also satisfy the goals and objectives of the North Dakota SWAP in conserving the state's natural

resources for future generations.

1.8.4 Spill Prevention, Control, and Countermeasure Plan

The Spill Prevention, Control, and Countermeasure (SPCC) Plan for NRTF LaMoure was revised in 2019. This plan addresses the five aboveground storage tanks located at the installation, which have a combined petroleum storage capacity of approximately 12,100 gallons. Petroleum products are delivered to the installation by common carrier cargo tank trucks.

The SPCC Plan describes standards and operating procedures to reduce the potential for petroleum discharges, including existing infrastructure such as secondary containment systems on all tanks and an interstitial monitoring system on the largest tank. In addition, the SPCC Plan documents measures to be taken to prevent the discharge of petroleum into waters of the U.S. To reduce the risk of spills, the storage, handling, and transfer of oil must adhere to a number of procedures identified in the SPCC Plan. For example, the transfer of oil requires a "second man" who visually inspects and confirms no hoses are still connected prior to the cargo tank truck's departure. Another example requiring an onsite attendant is during the transfer of diesel fuel from the 10,000-gallon aboveground tank to the 1,000-gallon aboveground tank. A site employee with readily available absorbent materials must be onsite to immediately cease the transfer of oil upon visual determination of a release.

Inspections, training, and record keeping are also key components in the SPCC Plan. Formal facility inspections are conducted weekly and monthly by the contractor personnel who operate the facility, and records of these inspections are documented and signed by the inspector or office manager. During the weekly inspections, all tanks, containment structures, valves, pipes, and other equipment are inspected. The monthly tank inspection concentrates on the condition of the storage tanks and associated piping systems. All new hires with oil handling responsibilities review the oil discharge briefing material within one week of participating in oil-handling responsibilities. Other training deemed appropriate by the facility's management is provided on an as-needed basis. A series of three spill prevention briefings are presented each year to all oil-handling employees at the facility. The topics of each briefing include:

a) SPCC Plan Awareness and Response and Site Inspection Procedures
b) Petroleum Based Fuels Hazard Review and Loading/Unloading Procedures
c) Basic Oil Spill Response Procedures including Review of Prior Year's Incidents

Any near misses or incidents are discussed in these briefings in order to prevent them from recurring. Employee feedback and recommendations are encouraged in spill prevention and operation. These topic discussions are documented and maintained as part of the SPCC training program. As funding allows, it is recommended that the SPCC program manager or regional SPCC program manager visit the site and evaluate the program every three years.

2.0 CURRENT CONDITIONS AND USE

2.1 NRTF LaMoure Installation Information

The mission critical facilities of NRTF LaMoure were constructed between 1969 and 1971. Since 1997, the LaMoure installation has been operated by the Navy as a radio communications facility. In 2014, the installation was transferred to the command of NSE.

2.1.1 Military Mission

NRTF LaMoure serves as a critical element for naval communications and is a Government Owned/Contractor Operated Facility. NCTAMS LANT DET LaMoure is the sole tenant on NRTF LaMoure. The Command military mission is to operate and maintain the fixed submarine broadcast system (FSBS) facility and transmit its very low frequency (VLF) broadcast to submarine forces at sea.

2.1.2 Location and General Description

NRTF LaMoure consists of two sites. Both sites are located in LaMoure County, North Dakota. The main site measures 834.39-acres in size and situated approximately 1.5 miles to the west of the town of LaMoure, along the west bank of the James River (Figure 2-1). The second site, referred to as the remote site, measures 1.6-acres and is located approximately 20-miles northwest of the main facility. The remote site fronts the north side of 59th Street, approximately 3.1 miles west of the intersection of State Route 281 and 59th Street (Figures 2-1 and 2-2).

The main site is comprised of four contiguous parcels all of which are leased by the U.S. Government from three separate entities beginning April 1, 1970 until June 30, 2069. On the installation, the majority of the land is undeveloped, consisting of mixed-grass prairie and non-tidal emergent wetlands. The operational area is approximately 500 acres of the main site, but developed areas where roads and buildings are located comprise only 12 acres. The remainder of the operational area is undeveloped and is mostly emergent wetlands, although this area was disturbed in the past during construction of the facilities.

Structures on the installation consist of a storage warehouse, transmitter building, helix house, maintenance roads, and a 1,200-foot antenna tower with associated downleads, guy wires, and ground field (Figure 2-3). The guy wires (shorter wires that reach the ends of the inner maintenance roads) are for the purpose of holding up the tower, whereas the downleads (longer wires that reach out to the perimeter road) and ground field are part of the transmitting system. Both the guy wires and downleads are from 2 to 2 $^{3}/_{8}$-inches thick. The transmitting tower has nine total light levels using red light-emitting diode (LED) lights. Four levels are flashing beacon levels and the other five levels are steady burning levels. The flashing levels have two beacons per level except for the top level, which is a single flasher. The steady burning levels have three fixtures per level. The facility has approximately 500 acres of buried copper grounding in a circle around the base of the tower. The ground screen is in a grid where it is nearest to the tower, with single lines spreading farther from the center. This site was selected in part because of the extensive surface water provided by the wetlands. The copper grounding

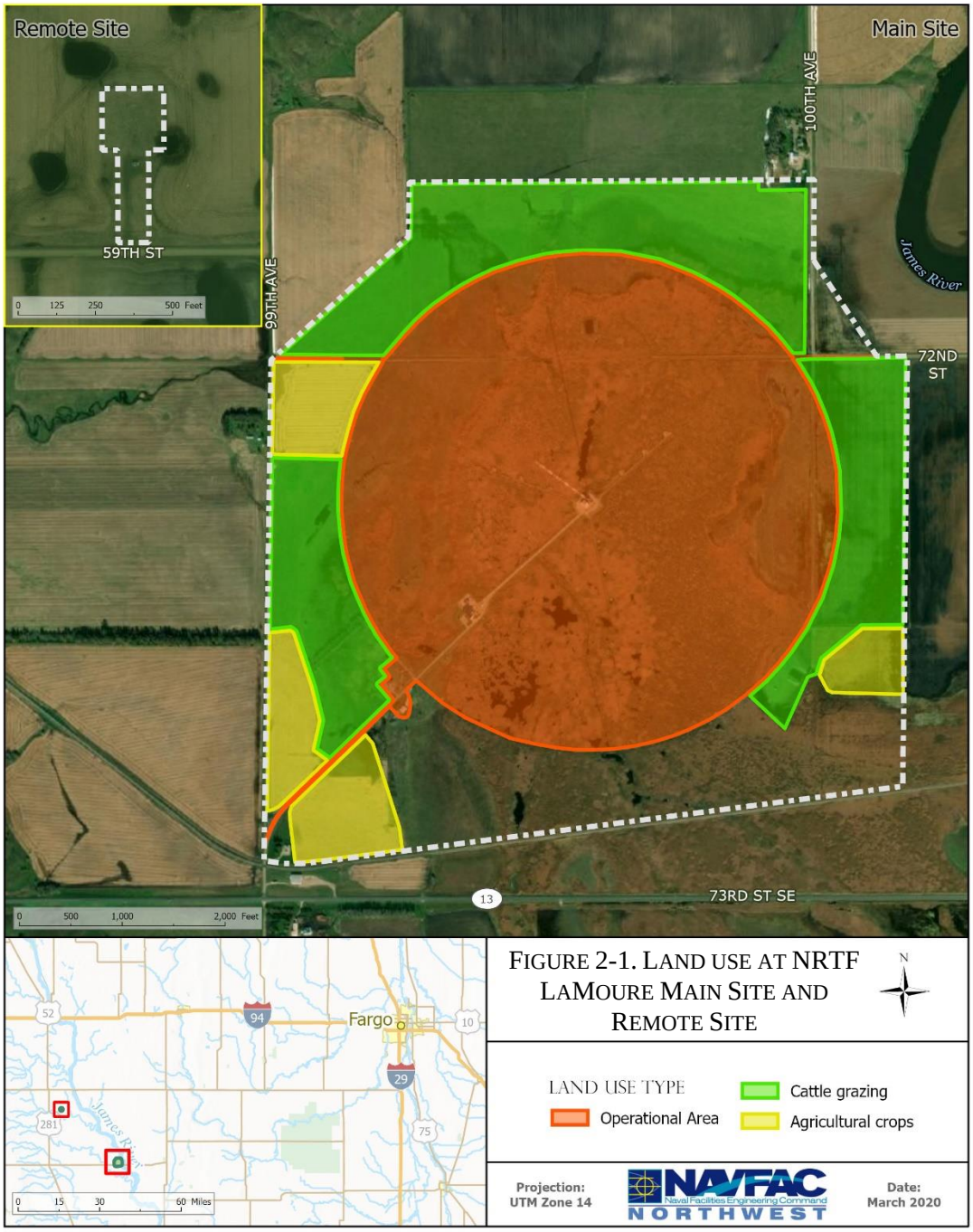


FIGURE 2-1. LAND USE AT NRTF LAMOURE MAIN SITE AND REMOTE SITE

Figure 2-2. View of the Remote Site from 59th Street.

resistance of the ground, requiring less energy from the facility.

The primary entry to the facility and the only paved road is a 0.25-mile driveway, Milton R Young Drive, which extends from 99th Avenue SE to the front of the transmitter building. A perimeter road runs the circumference of the operational area just outside the base of the downleads (Figures 2-1 and 2-3). Several access roads cross the facility, used for the maintenance of the antenna, insulators, and guy wires. All of these roads are dirt and gravel mix and prone to flooding and washout. The area within the perimeter road, plus the area where the warehouse and other buildings are located along the driveway, make up the Navy's operational area of the installation, just over 500 acres.

Outside of the Navy's operational area, the lease agreement allows the landowner to continue to use the land if that use does not impact military operations. The landowner currently grazes cattle and cultivates agricultural crops in some areas of the installation outside of the operational area (Figure 2-1). Approximately 200 acres of the installation are used for grazing and approximately 70 acres are cultivated. The lands surrounding the installation are largely undeveloped, with the primary use being agriculture and pasture. The town of LaMoure, 1.5 miles east of the installation, has a population of fewer than 800 people. Fargo, with a population of over 118,000, is about 80 miles northeast of the installation (USCB, 2017).

The remote site is comprised of one parcel owned by the U.S. Government. The site is entirely fenced and consists of a single concrete block building measuring approximately 200-square feet and an 80-foot radio antenna. The building and antenna were originally used as a stable local reference for maintaining the correct phasing of the signal transmitted by the Omega Station (NAVFAC, 2016). The remote site continues to be maintained by the Navy, although not currently in use. The remaining land on the 1.6-acre parcel is currently maintained as open field and is not used for any mission activities. The surrounding lands are largely undeveloped, with the primary use being agriculture (Figure 2-2).

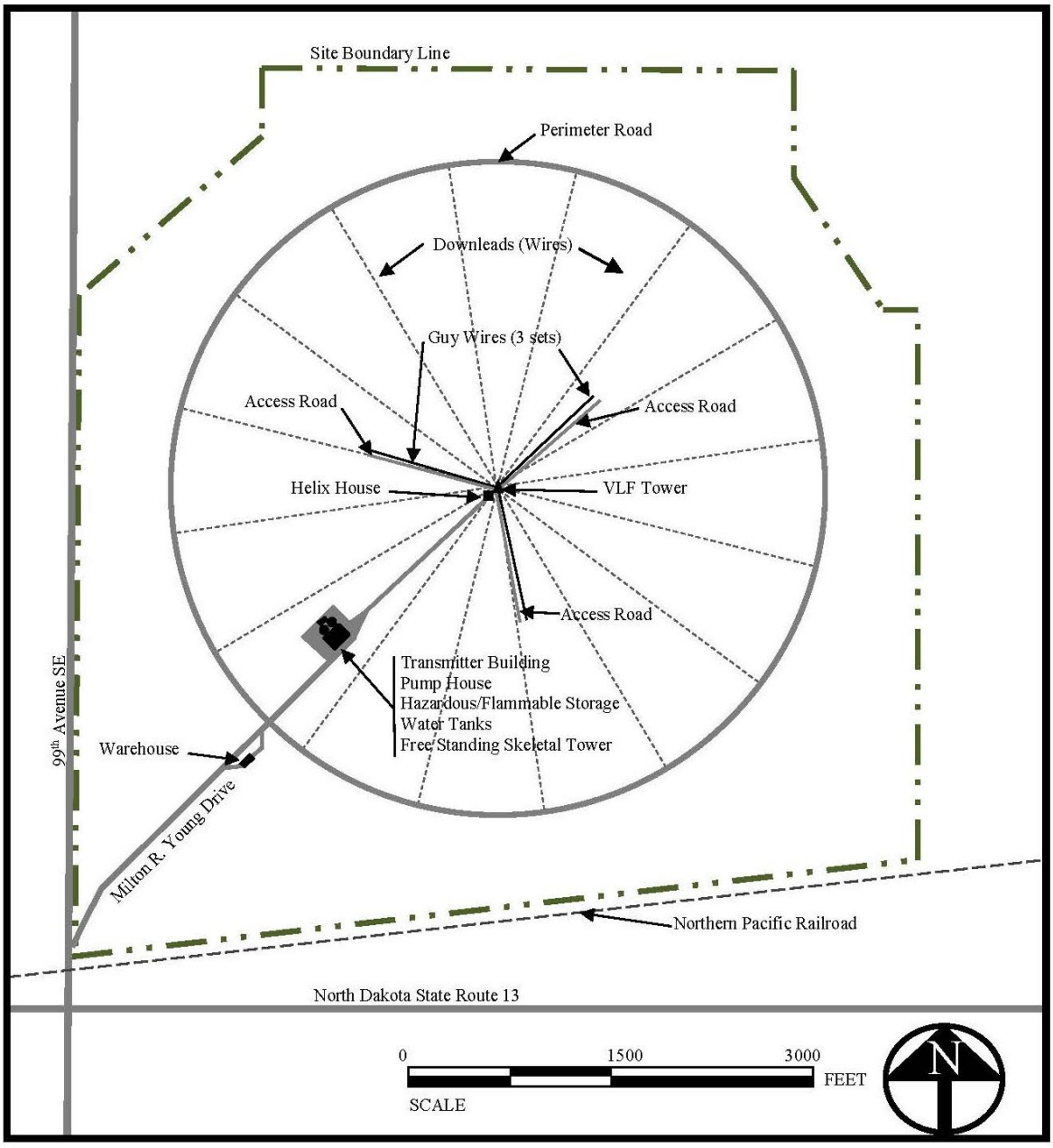


Figure 2-3. Buildings and Roads at NRTF LaMoure Main Site.

2.1.3 Regional Land Uses

LaMoure County is largely dominated by agriculture and pasturelands. Soybeans, corn, and wheat are the top three crops by acreage in the county (NASS, 2019). Concentrated development is mainly limited to small communities with less than 100 inhabitants. There are

8 cities (including the city of LaMoure) and 32 organized townships within the county (LaMoure County, 2020). The most recent official population estimate for the City of LaMoure is 764 (USCB, 2017).

Dickey, Ransom, and Sargent Counties surround LaMoure County to the south and east, and are within a 20-mile radius of the City of LaMoure. Land use within these surrounding counties is similar to LaMoure County in terms of population size and concentration, and the predominance of agriculture. Soybeans, corn, wheat, and forage/hay are similarly the principal crops produced (NASS, 2019).

2.1.4 Abbreviated History and Pre-Military Land Use

Very little information is readily available regarding the history of the NRTF LaMoure properties. Based on aerial photographs and review of the 1971 LaMoure County Soil Survey, both sites appear to have been utilized for agriculture and/or pasture from the mid-1960s to the time when they were acquired by the government. The LaMoure main site was originally obtained by the Navy for the establishment of an Omega Navigation System station. The entire property was graded prior to construction of the tower and the buildings on site. Areas for roads and buildings were built on fill placed within the wetlands. Construction of the tower and mission critical facilities was completed in September 1971, and the operational duties were transferred from the Navy to the U.S. Coast Guard. LaMoure was the first of the eight globally positioned Omega facilities to become operational when it went into service in 1972. Use of the Omega Navigation System declined as the Global Positioning System (GPS) became operational in the 1990s, and the system shut down entirely in 1997. At that point, the U.S. Coast Guard returned the operational duties of the LaMoure installation to the Navy, and the Navy put the same antenna and facilities to use for naval radio communications (NAVFAC, 2016).

No intensive cultural resource surveys have been completed for the installation. A built environment inventory of the installation was conducted in 2016, culminating in an Inventory and Eligibility Evaluation report (NAVFAC, 2016). The Navy determined that portions of the main site were eligible for nomination to the National Register of Historic Places (NRHP), and the North Dakota State Historic Preservation Officer made a consensus determination on January 23, 2017 that the main site is eligible for listing on the NRHP under Criteria Consideration G. This criteria provides for the recognition of historic places that have achieved significance within less than 50 years, if it is of exceptional significance at the local, state, or national level. The period of historic significance for the site began in 1972 when the Omega station came online, and the site will reach the NRHP 50-year historic period threshold in 2022.

2.1.5 Operations and Activities

Operations and activities that take place at NRTF LaMoure are associated with the transmission of the communications broadcast to naval forces and general upkeep of the installation grounds and facilities. General upkeep includes the following:

- Transmitting tower maintenance (e.g., tower surface preparation, protection, and painting; maintenance of the guy cables and/or footers; maintenance of the radial cables

and/or footers; ground screen maintenance and/or repair), which occurs on as-needed basis for repairs and on an approximately 20-year cycle for periodic maintenance;
- Building maintenance;
- Road maintenance (e.g., re-paving asphalt roads and re-grading gravel roads); and
- Stormwater drainage maintenance (e.g., mowing, maintaining original ditch dimensions, culvert repair and replacement, etc.).

Outside of the operational area, the following activities are conducted by the landowner:

- Grazing cattle;
- Production of agricultural crops; and
- Mowing.

2.1.6 Natural Resource Constraints and Encroachment

The INRMP is a living document that will be reviewed annually and periodically updated to provide for the sustainable management of natural resources in support of its military mission. The purpose of the INRMP and goal of ecosystem-based management, as established by the DOD, is to ensure that military lands support present and future mission requirements while preserving, improving, and enhancing ecosystem integrity.

Significant natural resources at NRTF LaMoure include wetlands, birds, and other wildlife species. Approximately 362 acres (72 percent) of the installation is comprised of freshwater emergent wetlands. Most bird species are afforded protection under the MBTA. The whooping crane (*Grus americana*), northern long-eared bat (*Myotis septentrionalis*), and Dakota skipper (*Hesperia dacotae*) are protected under the ESA and have the potential to be present. Wetlands are protected under the CWA (Sections 401 and 404, 33 United States Code [USC] 1251 et seq.) and EO 11990 Protection of Wetlands.

Development/improvements within any portion of the wetland system on the installation would require advance coordination with the U.S. Army Corps of Engineers (USACE) and/or State of North Dakota to secure appropriate authorizations. For example, a proposed security fence project could impact wetlands within the installation, and may require a permit from the USACE and State of North Dakota.

Bird and bat species are present on the installation and in the surrounding areas throughout the year. Mortality from collision with the transmitting tower, downleads, or guy wires may impact both birds and bats traversing the site.

Laws and guidance relevant to managing the natural resources at NRTF LaMoure include:

- Sikes Act Section 16 U.S.C. 670a(3)(a) (see *Section 1.2 Authority* and Appendix A);
- Endangered Species Act (see *Section 3.2.1 ESA Section 7 Consultations for Federally Threatened and Endangered Species*);
- Migratory Bird Treaty Act (see *Section 3.2.2 Migratory Bird Treaty Act*);

- Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c) (see *Section 3.2.3 Bald and Golden Eagle Protection Act*);
- Clean Water Act (Sections 401 and 404, 33 USC. 1251 et seq.) (see *Section 3.2.4 Clean Water Act*);
- National Environmental Policy Act (42 USC. 4321 et seq.), Council on Environmental Quality NEPA implementing regulations (40 Code of Federal Regulations [CFR] 1500-1508; Navy procedures for Implementing NEPA (32 CFR Part 775 and OPNAV-M 5090.1, Chapter 10) (see *Section 3.3 NEPA Compliance*);
- EO 11990 Protection of Wetlands (see *Section 2.2.6 Wetlands* and *Section 4.5 Wetlands and Floodplains Management*);
- EO 13175 Consultation and Coordination with Indian Tribal Governments (see Section *1.5.3 Tribal Governments*); and
- EO 13112 Invasive Species, as amended by EO 13751 Safeguarding the Nation from the Impacts of Invasive Species (see *Section 4.7 Invasive Species Management*).

Under current environmental conditions, no net loss to the Navy mission attributed to wetland protection or other natural resource conditions is anticipated at the installation. Encroachment threats have not been analyzed; however, there is no known situation where natural resources issues are putting mission activities at risk. Additional discussion of the impact of wetlands to the mission is included in *Section 2.2.6 Wetlands*. Additional discussion of avian collision hazards is included in *Section 2.3.1.2 Birds*. Additional discussion on encroachment is included in *Section 3.7 Encroachment Partnering*.

2.1.7 Natural Resource Opportunities

Approximately 97 percent of the operational area of NRTF LaMoure is undeveloped, leaving opportunities for potential natural resource projects that would benefit the installation and enhance the environment. Opportunities include restoration of native grasslands and enhancement of emergent wetlands. Restoration and enhancement of these ecosystems would provide habitat for wildlife species in a region where grasslands and wetlands are being lost at a rapid rate (USFWS, 2019a). Restoring these ecosystems would also benefit the military mission, e.g., by protecting the ground field wires from damage by invasive tree species, maintaining hydrology in the wetlands to enhance signal transmission, and addressing flooding issues that damage infrastructure and inhibit use of the roads.

2.2 General Physical Environment

The main NRTF LaMoure site is located along the western slope of the James River valley. The installation is relatively flat with semi-permanently and seasonally ponded areas, gradually sloping to the southeast. The much smaller remote site is relatively flat and surrounded by agricultural lands.

Both NRTF LaMoure and the remote site are located in the Northern Glaciated Plains ecological region, and more specifically, within the Drift Plains (Bryce et al., 1996). The Drift Plains cover a portion of the northcentral and eastern areas of North Dakota, extending into

South Dakota. The land is generally flat with occasional washboard-like undulations, and the historic grassland ecosystem was a transition zone between shortgrass and tallgrass prairie. High concentrations of seasonal wetlands are interspersed throughout the landscape. European settlement of the Dakotas boomed in the late 1800s, and in the present day, the Drift Plains region is almost entirely under cultivation, with prairie grasses replaced by wheat, barley, alfalfa, and other crops, and many of its wetlands either drained or tilled and planted (Bryce et al., 1996).

2.2.1 Climate

North Dakota's climate is characterized by large variances in temperature, both on a seasonal and daily basis. These temperature fluctuations are caused by regular changes in atmospheric air masses through the region, which also results in frequently windy conditions (Enz, 2003). The Rocky Mountains tend to block cool, moist air masses from the Pacific Ocean; however, no barriers exist to the north or south, which allows air masses from these regions to pass through the state with little to no change in temperature or water content. Air masses from the polar region bring cold, dry air to the state, resulting in bitter cold spells in the winter. Tropical air masses bring warm, wet weather. The primary atmospheric water source for North Dakota is the warm, humid air originating from the Gulf of Mexico (Enz, 2003).

In the region of North Dakota where LaMoure is located, the climate is typified by long winters, warm to hot summers with moderate to high relative humidity, and frequent high winds. Many freeze-thaw events occur in the fall and the early spring. Extreme weather events are common, such as recurring periods of drought and near-drought conditions, as well as brief, high intensity storms (USDA NRCS, 2009). Based on the 30-year averages (1981 to 2010) at the LaMoure meteorological station, January is typically the coldest month of the year and July is the warmest. LaMoure receives an average of 22.77 inches of rain annually, with the majority of the annual precipitation occurring from April through September, which coincides with the growing season (Arguez et al., 2010).

A summary of climate data for LaMoure is provided in Table 2-1. This summary is from the 30-year climate normals dataset produced by the NOAA National Centers for Environmental Information for the period of 1981 to 2010, which is the most recent climate normals dataset available (Arguez et al., 2010).

Table 2-1. Weather data recorded at LaMoure, ND meteorological station.

	Jan	Feb	Ma	Apr	Ma	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Avg. Max. Temp. (ºF)	21.0	26.9	39.5	57.3	69.8	78.1	84.0	83.0	72.7	58.3	39.8	25.4	54.8
Avg. Min. Temp. (ºF)	0.4	5.6	18.7	31.5	44.0	54.3	59.0	56.0	45.5	32.8	19.4	6.0	31.2
Avg. Total Precip. (inch)	0.76	0.64	1.50	1.68	2.98	3.51	3.52	2.35	2.23	1.88	1.02	0.70	22.77
Avg. Total Snow Fall (inch)	8.7	6.0	9.4	4.0	0.1	0.0	0.0	0.0	0.0	0.5	8.3	6.9	43.9

Source: Arguez et al., 2010; Station: LA MOURE, ND US USC00324937

2.2.2 Climate Change

DODI 4715.03 requires all DOD Components "to the extent practicable and using the best science available, [to] utilize existing tools to assess the potential impacts of climate change to natural resources on DOD installations, identify significant natural resources that are likely to remain on DOD lands or that may in the future occur on DOD lands and, when not in conflict with mission objectives, take steps to implement adaptive management to ensure the long-term sustainability of those resources."

In 2018, the U.S. Global Climate Research Program released the *Fourth National Climate Assessment*, which focuses on the human welfare, societal, and environmental elements of climate change and variability for 10 regions, with particular attention paid to observed and projected risks, impacts, and implications under different mitigation pathways (USGCRP, 2018). The report identified several trends and projected impacts related to climate change throughout the U.S. as well as within the Great Plains Region. Important issues identified for the Great Plains Region in the *Fourth National Climate Assessment* (Conant et al., 2018) and the previous version (Shafer et al., 2014) include:

- There are projected to be many fewer cold days (days with minimum temperatures less than 28°F) in the region, as well as alterations in the timing and magnitude of rainfall events. These climate-driven changes will influence snowpack, spring snowmelt, and runoff, causing accelerated melting of winter snowpack and earlier peak runoff due to rapid springtime warming. The timing and quantity of both precipitation and runoff have important consequences for water supplies, affecting the region's valuable wetlands, rivers, and snow-dependent ecosystems.

- The probability for more very hot days (days with maximum temperatures above 90°F) is expected to increase. Rising temperatures will lead to increased demand for water and energy (e.g., for cooling buildings in the summer). This could stress natural resources and increase competition for water among communities, agriculture, energy production, and ecological needs in the region.
- Extreme events are projected to become more frequent within an already highly variable climate system. These projections include an increase in the number of heavy precipitation events and a higher magnitude of year-to-year variability. For example, major flooding across the Upper Missouri River basin in 2011 was followed by severe drought in 2012, representing an unprecedented level of variability that is predicted to become more common in the region.
- Lower stream flows, especially in late summer, combined with warmer air temperatures, have caused stream temperatures to rise. These conditions are negatively affecting aquatic biodiversity and ecosystem functions of riparian areas.
- The increase in landscape fragmentation in the region (e.g., from energy development activities) will hinder the ability of species to adapt when climate change alters habitat composition and timing of plant development cycles. This pattern may continue as the demand for energy increases and climate-induced land use changes in agriculture become more prevalent.
- Projected warmer and generally wetter conditions with elevated atmospheric carbon dioxide concentrations are expected to result in longer growing seasons, which will increase the abundance and competitive ability of weeds and invasive species.
- The magnitude of expected changes will exceed those experienced in the last century. Existing adaptation and planning efforts are inadequate to respond to these projected impacts.

Projected impacts of climate change in North Dakota are specifically relevant to the natural resources at NRTF LaMoure. Changes in spring precipitation will affect wetlands because spring snowmelt, runoff, and refill influence wetland hydrology (including water depth and the number of days with standing water) and plant cover. A warmer climate, if not offset by enough additional precipitation, could shrink wetland areas and reduce waterfowl and amphibian habitat. If spring runoff occurs more rapidly or if precipitation increases significantly during extreme events, the wetlands on the installation could flood more frequently, impacting mission activities and water quality.

In addition to reduction or changes to wetland habitat, wildlife species may be significantly impacted by temperature increases, changes in precipitation patterns, and increased climate variability, particularly sensitive species that have already experienced population declines. The effects could include geographic range shifts to areas with suitable climate; changes in relative species abundance; changes in phenology (e.g., timing of bird migration); disruptions in community dynamics (e.g., predator-prey and plant-insect interactions); increased disease, pest, and non-native species invasions; and other impacts to ecological aspects of biotic communities (USFWS, 2012a). The rapid pace of recent environmental change has increased the threat of extinction, as the ability of species to adapt is not quick enough to keep pace with the changing environment (USFWS, 2012a).

In the case of grassland-dependent species, the opportunities for range shifts to new areas with suitable climate conditions may be limited. Habitat projection models show the amount of grassland habitat lost is unlikely to be compensated by the gain in grassland habitat under future climate conditions (Wilsey et al., 2019). Projections also show that species reliant on temperate grasslands will have to move greater distances to find habitat in their current climatic range than species in other types of habitats (such as forests or montane habitats) over the same time period (Loarie et al., 2009). Habitat fragmentation also limits the ability of plant and wildlife species with short dispersal distances to colonize new areas by creating movement barriers. Research has indicated that habitat fragmentation barriers may be particularly severe in the Great Plains Region (McGuire et al., 2016). As described above, habitat fragmentation in this region is expected to increase with climate change pressures. Grassland-dependent species of conservation concern at NRTF LaMoure (such as birds and butterflies discussed in *Section 2.3.3 Federally Listed Species* and *Section 2.3.4 Other Species of Concern*), may become rarer in the region or see further population declines as habitat disappears or transitions in ways that no longer support the species.

Grasslands are also carbon sinks, contributing significantly to carbon sequestration (Pendall et al., 2018). The continued protection of native grasslands is therefore important for maintaining the ecosystem service provided by grasslands in mitigating climate change.

2.2.3 Geology/Soils

The present day landscape in LaMoure County was formed by the advance and retreat of the glaciations that occurred late in the Pleistocene Epoch (from 2.58 million years ago to 11,700 years ago). Nearly all the surface materials in LaMoure County were deposited during the Pleistocene Epoch and the Holocene Epoch (11,700 years ago to present). The surface sediments range up to approximately 600 feet thick, and consist of glacial sediment, glacial meltwater sediment, and post-glacial alluvium, the most common of which is glacial sediment (also referred to as glacial till; Bluemle, 1979).

A majority of LaMoure County is part of the Glaciated Plains physiographic region, which is characterized by broad areas of low- to moderate-relief hummocky topography (collapsed glacial sediment), created by mudflow materials that slid into position as the glacial ice melted out from underneath (Bluemle, 1979). The relief is generally less than 20 feet locally, and the surface elevation ranges up to about 1,700 feet above sea level in the northwestern part of LaMoure County (Bluemle, 1979). NRTF LaMoure is at an elevation of around 1,306 to 1,312 feet above sea level, and the remote site is around 1,525 to 1,530 feet above sea level (Figure 2-4).

The areas of collapsed glacial sediment in the Glaciated Plains are crossed by numerous stream valleys, indicated by glaciofluvial and glaciolacustrine landforms. Running water has washed the surfaces in some places and deposited gravel and sand in other places (glaciofluvial landforms). Much of the sand and gravel sediment is found in small glacial meltwater trenches running southeastward across the County. These meltwater trenches are narrow and shallow,

mostly less than 50 feet deep from floor to rim, but commonly contain sand and gravel deposits that are several tens of feet thick (Bluemle, 1979). A segment of the James River flows through the largest glacial meltwater trench in the County. Other segments of the James River valley are part of the drainage system that existed prior to the last glaciation (Bluemle, 1979). Extensive gravel terraces occur in the James River Valley, which includes the largest deposits of alluvium in the County. The James River Valley varies from approximately 0.75 mile wide rim-to-rim, up to 3 miles wide, such as near the town of LaMoure where the river's floodplain is approximately 2 miles wide (Bluemle, 1979).

Glaciolacustrine landforms are characterized by low, flat areas veneered by laminated clay and silt, and may contain boulders. In LaMoure County, these landforms are mostly very small or covered by sloughs. The clay is generally a yellowish-gray material that contains some fossil shells (Bluemle, 1979).

Economic mineral deposits in LaMoure County include the gravel and sand on the James River terraces and on terraces of some of the smaller streams. The best quality gravel and sand is found on some of the terraces along the James River, where the deposits contain less shale and are better sorted than the river sediment found in the meltwater trenches (Bluemle, 1979). The first known natural gas well in North Dakota was discovered in 1892 in LaMoure County near the town of Edgeley, approximately 20 miles west of LaMoure (State Historical Society of North Dakota, 2019). While the western portion of North Dakota is a large producer of natural gas, there are currently no active wells or gas plants in LaMoure County (NDIC, 2019).

The Natural Resources Conservation Service (NRCS) Web Soil Survey provides planning-level soil maps and data for most U.S. counties. Soil maps from the Web Soil Survey for NRTF LaMoure and the Remote Site are shown in Figure 2-4. At the main site, Ryan-Ludden, saline silty clays is the major soil series found, making up 369.0-acres (44.5 percent) of the installation. There are also large areas of Colvin silt loam, which comprise approximately 175.7-acres (21.2 percent) of the installation (USDA NRCS, 2019). The majority (nearly 90 percent) of the soils on the site are poorly drained hydric soils (saturated soils that indicate the presence of a wetland) and nearly level, with slopes of 0–2 percent, which result in ponding water. Better drained, more coarsely textured soils are found on the side slopes and terraces of the western edge of NRTF LaMoure main site and the entirety of the remote site, indicating upland conditions (USDA NRCS, 2019). Additional information for each soil type is included in Tables 2-2 and 2-3. Wetlands are discussed in more detail in *Section 2.2.6 Wetlands*.

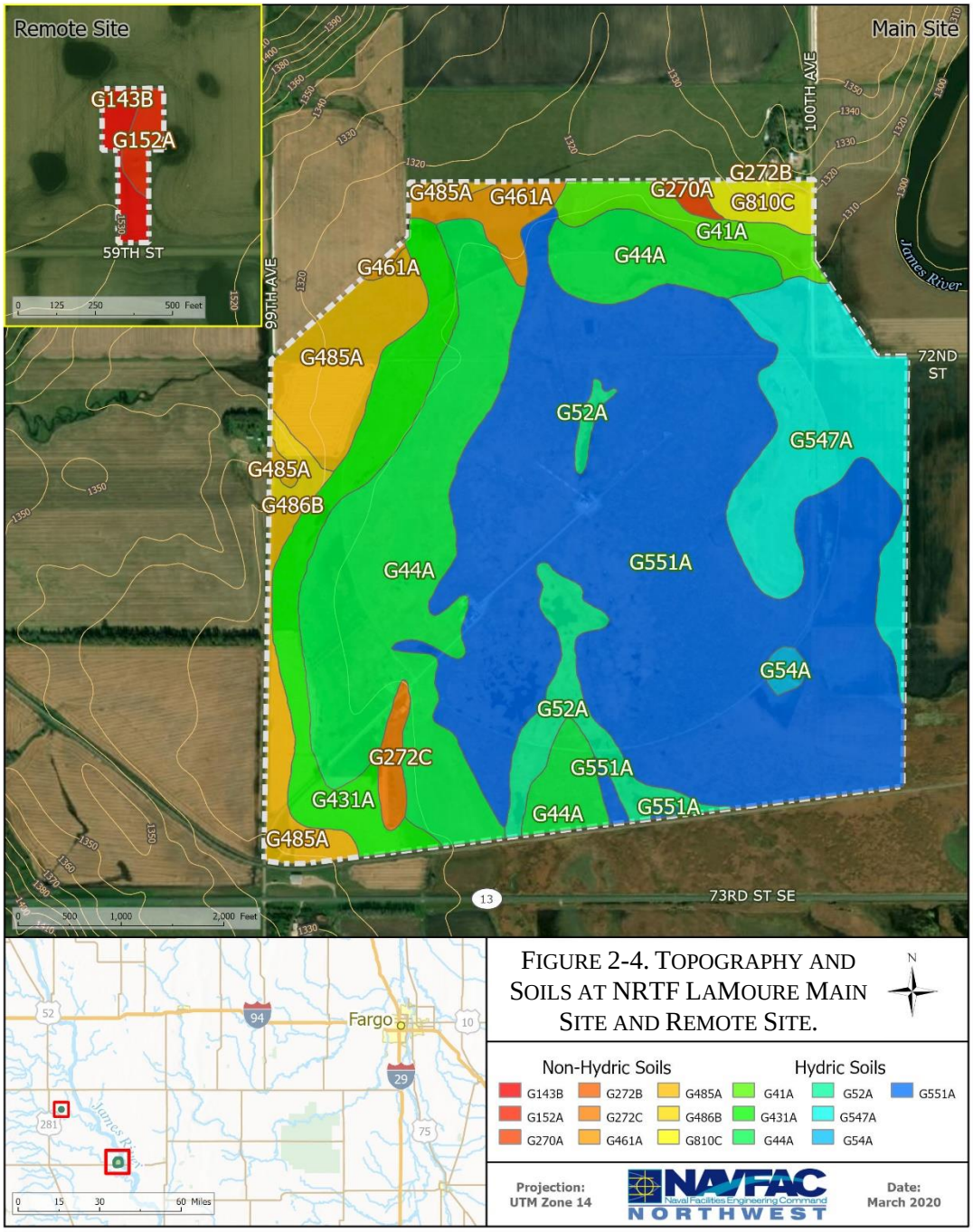


FIGURE 2-4. TOPOGRAPHY AND SOILS AT NRTF LAMOURE MAIN SITE AND REMOTE SITE.

Table 2-2. Soils of NRTF LaMoure Main Site

Soil Series	Map Unit	Acres	Landform	Drainage Class	FPPA
Hydric Soils – Main Site					
Borup loam, 0 to 1 percent slopes	G41A	19.5	Depressions or flats on lake plains	Poorly drained	Prime farmland if drained
Colvin silt loam, 0 to 1 percent slopes, frequently ponded	G44A	175.7	Depressions on lake plains	Very poorly drained	N/A
Rauville silty clay loam, 0 to 1 percent slopes, frequently flooded	G52A	29.3	Drainageways	Very poorly drained	N/A
Lamoure silty clay loam, 0 to 1 percent slopes, frequently flooded	G54A	3.2	Floodplains	Poorly drained	N/A
Bearden silt loam, 0 to 2 percent slopes	G431A	56.8	Flats on lake plains	Somewhat poorly drained	Prime farmland
Lamoure silty clay loam, saline, 0 to 1 percent slopes, frequently flooded	G547A	79.9	Floodplains	Poorly drained	N/A
Ryan-Ludden, saline silty clays, 0 to 1 percent slopes, frequently flooded	G551A	369.0	Floodplains	Poorly drained	N/A
Non-Hydric Soils – Main Site					
Arvilla sandy loam, 0 to 2 percent slopes	G270A	2.7	Rises	Somewhat excessively drained	N/A
Arvilla-Sioux complex, 2 to 6 percent slopes	G272B	<0.1	Flats	Somewhat excessively drained	N/A
Sioux-Arvilla-Renshaw complex, 6 to 9 percent slopes	G272C	6.7	Knolls	Excessively drained	N/A
Aberdeen silt loam, 0 to 2 percent slopes	G461A	15.2	Rises	Moderately well drained	Farmland of statewide importance
Gardena loam, 0 to 2 percent slopes	G485A	57.6	Flats on lake plains	Moderately well drained	Prime farmland
Gardena-Eckman loams, 2 to 6 percent slopes	G486B	6.2	Rises	Well drained	N/A
Claire sandy loam, terrace, 0 to 9 percent slopes	G810C	10.1	Knolls	Excessively drained	N/A

Source: USDA NRCS, 2019

Table 2-3. Soils of NRTF LaMoure Remote Site

Soil Series	Map Unit	Acres	Landform Position	Drainage Class	FPPA
Non-Hydric Soils – Remote Site					
Barnes-Svea loams, 3 to 6 percent slopes	G143B	0.9	Ground moraines	Well drained	Prime farmland
Svea-Wyard loams, 0 to 3 percent slopes	G152A	0.7	Ground moraines	Moderately well drained	Prime farmland

Source: USDA NRCS, 2019

Approximately 149.1 acres of NRTF LaMoure main site is classified as prime farmland or farmland of statewide importance. All 1.6 acres of the remote site is classified as prime farmland (USDA NRCS, 2019). Under the Farmland Protection Policy Act (FPPA [7 USC 4201 et seq.]), the U.S. Department of Agriculture (USDA) designates prime farmland in areas where the soil quality, growing season, and moisture supply are appropriate to produce sustained high yields of crops when proper management is employed. State agencies may designate farmland of statewide importance under the FPPA in additional areas that do not meet the criteria for prime farmland. The purpose of the FPPA is to minimize the impacts of federal programs that would cause the irreversible conversion of farmland to nonagricultural uses. Any future project by the Navy that would result in the irreversible conversion of land should incorporate early coordination with the NRCS to ensure compliance with the FPPA.

2.2.4 Hydrology

Hydrologic processes at NRTF LaMoure are driven by water bodies located on site, including surface waters and groundwater, as well as by climate factors, as discussed in *Section 2.2.1 Climate*.

2.2.4.1 Surface Waters

NRTF LaMoure and the remote site both lie within the boundaries of the Upper James River watershed (Hydrologic Unit Code [HUC] 8 – 10160003). The Upper James River sub-basin is approximately 2,712,500 acres (4,238 square miles), and includes land in North Dakota and South Dakota (NRCS, 2007). The drainage pattern in the sub-basin flows to the south, ending where the James River joins the Missouri River near Yankton, South Dakota. LaMoure is located near the center of the Upper James watershed, and the contributing drainage area to the river at this location is 1,790 square miles (USDA NRCS, 2009).

Other surface waters at the NRTF LaMoure main site consist of a large freshwater wetland system that is seasonally flooded to semi-permanently flooded (Figure 2-5). Surface waters drain southeast through a series of natural and man-made channels to the nearby James River. The James River floodplain and wetlands are further described in sections 2.2.6 and 2.2.7 below.

No surface waters are present on the remote site. Stormwater sheet flow is conveyed to adjacent properties and into nearby agricultural and roadside ditches.

In its 2018 assessment, the North Dakota Department of Health (NDDH), Division of Water Quality (now the Department of Environmental Quality, Division of Water Quality) identified impaired waters within the James River watershed on the 303(d) list; however, the section of the river within the vicinity of NRTF LaMoure was not included on the list and therefore meets the federal and state water quality standards (NDDH, 2019a).

2.2.4.2 Groundwater

In the Upper James River watershed, there are several major and minor aquifers of varying depths and water quality. The shallow aquifers tend to be smaller and have better water quality, but are more susceptible to contamination from leaching. Deep aquifers tend to occur between layers of bedrock and are less susceptible to leaching, but have variable water quality. Recharge of all aquifers occurs primarily from infiltration of precipitation and snowmelt, but water from wetlands, lakes, and streams may also contribute (USDA NRCS, 2009).

The LaMoure Aquifer directly underlies the NRTF LaMoure installation. It is a shallow aquifer composed of glacial drift and alluvium sediments. This aquifer covers an area of approximately 23 square miles, has an average saturated thickness of 46 feet, and an estimated 102,000 acre-feet of water available from storage (Shaver, 1984). The LaMoure Aquifer recharges mainly from precipitation and snowmelt, but irrigation water and flooding from the James River also contribute. Discharge of the aquifer is by pumping, evapotranspiration, and leakage into the James River, as the aquifer generally slopes toward the river (Shaver, 1984).

Naturally occurring arsenic is common in glacial aquifers in North Dakota due to anoxic conditions in the sediments (Warner and Ayotte, 2014). A study conducted by the U.S. Geological Survey (USGS) found low arsenic concentrations ranging from 2 to 12 µg/L in water samples from five deep wells in the LaMoure area (Berkas and Komor, 1996). Some of these water samples surpassed the federal drinking water standard for arsenic, which is 10 µg/L. Other contaminants are also common in groundwater in this region, including manganese, radon, uranium, nitrate, iron, pesticides (particularly atrazine), and volatile organic compounds (Warner and Ayotte, 2014).

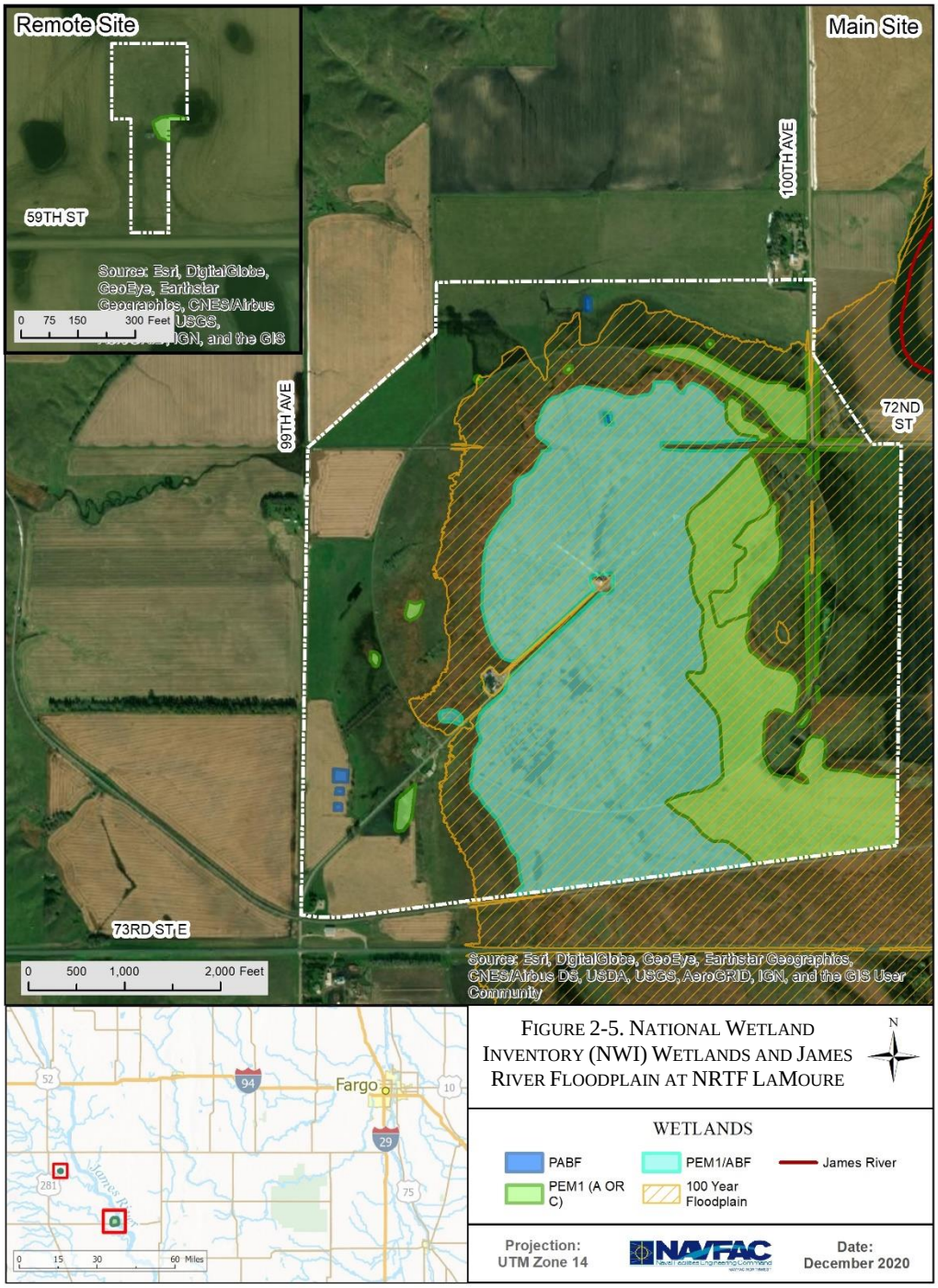


FIGURE 2-5. NATIONAL WETLAND INVENTORY (NWI) WETLANDS AND JAMES RIVER FLOODPLAIN AT NRTF LAMOURE

2.2.5 Floodplains

The Federal Emergency Management Agency (FEMA) is the official public source for flood hazard information produced in support of the National Flood Insurance Program. While the flood maps produced by FEMA are intended for use in reducing flood risk to developed areas, the floodplain maps are based on hydrologic analyses, soils mapping, and topography data and can be valuable for natural resources management as well.

NRTF LaMoure is located in an area that has not yet been mapped by FEMA. The North Dakota State Water Commission (NDSWC), in partnership with FEMA Region VIII, is currently conducting a floodplain mapping effort on the James River through LaMoure County as part of the FEMA Risk MAP program. The NDSWC provided draft floodplain mapping products as part of the ongoing effort. These products are considered best available information, and are a non-regulatory product until the time that they are adopted as a federally-recognized regulatory flood map by FEMA. The floodplain boundary based on this model encompasses the majority of the NRTF LaMoure main site (Figure 2-5).

In the Upper James River sub-basin, the highest period of annual runoff occurs during the four-month span of March through June when greater than 75 percent of runoff occurs. The high spring runoff in March and April is generally the result of snowmelt, while the summer runoff in May and June is from rainfall, including brief, intense thunderstorms (USDA NRCS, 2009). Stream flow data collected by the USGS at LaMoure from 1950 through 2006 indicates annual peak streamflow has exceeded 5,000 cubic feet per second in unusually high years (USDA NRCS, 2009).

2.2.6 Wetlands

Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds (EO 11990 - *Protection of Wetlands*). Wetland classification utilizes a system developed by Cowardin et al. (1979) and the Federal Geographic Data Committee (2013). Indicators of wetlands are hydric soils, hydrophytic vegetation, and hydrologic characteristics (see definitions below). Such characteristics are usually present in areas that are inundated or have soils that are saturated to the surface for sufficient duration to develop hydric soils and support vegetation typically adapted for life in periodically anaerobic soil conditions (Environmental Laboratory, 1987).

Hydric soils: soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation.

Hydrophytic vegetation: vegetation that has adapted to living in aquatic environments and that occurs where at least the root zone of plants are seasonally or continually found in saturated or submerged soil.

Hydrologic characteristics: areas that are periodically inundated or have soils saturated to the

surface at some time during the growing season, and areas with evident characteristics of wetland hydrology, i.e., where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic and reducing conditions, respectively.

EO 11990, *Protection of Wetlands*, requires federal agencies to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities.

Wetlands serve important environmental functions including filtering water, controlling erosion, storing floodwaters, cycling nutrients, providing habitat for wildlife (including many threatened and endangered species), and providing rest stops for migrating birds. Eastern North Dakota falls within the globally significant Prairie Pothole Region, which provides prime nesting and migratory habitat for waterbirds, including nearly 120 species of wetland-dependent birds (Conant et al., 2018). Estimates suggest that 50 to 75 percent of all North American waterfowl hatch in this region and rely on its wetland habitat (Conant et al., 2018). The rapid expansion of agriculture in the early 1900s resulted in the draining of a large portion of the wetlands in the Prairie Potholes Region, with fewer than 10 percent of the original potholes remaining in the eastern portion of the region, which includes North Dakota (Prairie Pothole Joint Venture, 2017).

Review of USFWS National Wetlands Inventory (NWI) data indicates that NRTF LaMoure contains approximately 362 acres of palustrine (freshwater) emergent wetlands and ponded areas (Figure 2-5; Table 2-4), with the largest wetland continuing off site of the main site. The NWI data also indicate areas of ponding within the emergent wetlands at the main site, as is evident in aerial photos (Figures 1-1 and 2-5).

Table 2-4. NRTF LaMoure Wetlands Classification

Code	Classification	Type	Acres	Percent
PABF	Palustrine Aquatic Bed Semipermanently Flooded	Freshwater Pond	1.1	0.3
PEM1 (A or C)	Palustrine Emergent Persistent (Temporary or Seasonally Flooded)	Freshwater Emergent Wetland	109.3	30.2
PEM1/ABF	Palustrine Emergent Persistent and Aquatic Bed Semipermanently Flooded	Freshwater Emergent Wetland with Ponded Areas	251.1	69.5
Total Wetland Acreage			**361.5**	

Source: USFWS, 2019b

On-the-ground observations at the NRTF LaMoure main site support the approximate extent

provided by the NWI data and the wetland classification. However, the NWI data indicate a small wetland at the remote site that needs to be verified, as this site is dry at the surface and the wetland may be mapped inaccurately. The NWI dataset is limited to approximate locations, and is not intended to define the boundaries of federal regulatory jurisdiction. A wetland delineation and rating assessment would be required to define the boundary of the wetlands and determine the level of impacts and mitigation required should any activities at NRTF LaMoure be conducted in the wetlands. In North Dakota, wetlands are regulated by the USACE and the North Dakota Department of Environmental Quality (DEQ) under the CWA Sections 404 and 401.

Wetland vegetation documented on site is described below in *Section 2.3.2. Flora*. Water depth in the wetland ranges from saturated soils only (no standing water) to approximately 10 feet deep in non-flood periods, according to on-site staff. The flooding regime of the James River directly impacts water depth in the wetland. In past years, when the James River was measured at 15.7 feet at the depth gauge in LaMoure, the maintenance roads on the south side of the installation were all flooded. When the James River is around 16.5 feet, there is water intrusion into the facility itself, and the James River bridge east of LaMoure is closed.

The original construction of the installation resulted in disturbance to the wetlands. The perimeter road surrounding the ground field is built up on a berm with culverts in some locations, in order to provide year-round access to the maintenance road. This berm segments areas of the wetlands, creating semi-connected or discontinuous patches. Milton R Young Drive, three tower footing access roads, and an access road extended off 72nd Street SE are also built on berms intersecting the wetlands. On an annual basis, there are no regular operations or maintenance within wetlands; however, heavy equipment is required to enter portions of the wetlands to replace the insulators on the tower for emergency repairs or during the 20-year maintenance cycle. Since 1990, there have been only a few instances of insulators needing replacement.

Prior to the radio station, the site was likely used for pasture and/or agriculture, and the current landowner from whom the Navy leases the land continues to graze cattle on approximately 200 acres of the installation (Figure 2-1). Grazing may affect the wetland by causing sedimentation/erosion, reducing diversity of native plant species, and reducing habitat value for wildlife (e.g., limiting opportunities for bird nesting). The lease agreement allows the landowner to continue to use the leased land if that use does not impact military operations, and the Navy does not provide input on location and intensity of grazing outside of operational areas.

2.3 General Biotic Environment

2.3.1 Fauna

Limited surveys were completed by NAVFAC biologists on May 19 and 20, and July 26 and 27, 2016. The surveys were conducted by walking random transects across the property and vehicular surveys along roadways. Species observed during these site visits or by installation personnel are listed in the following sections.

2.3.1.1 Mammals

Mammals observed at NRTF LaMoure include several species common to North Dakota, such as white-tailed deer (*Odocoileus virginianus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), red fox (*Vulpes vulpes*), striped skunk (*Mephitis mephitis*), 13-lined ground squirrel (*Ictidomys tridecemlineatus*), Richardson's ground squirrel (*Urocitellus richardsonii*), American badger (*Taxidea taxus*), muskrat (*Ondatra zibethicus*), eastern cottontail (S*ylvilagus floridanus*), American mink (*Neovision vision*), and white-tailed jackrabbit (*Lepus townsendii*). On-site staff has reported rare sightings of moose (*Alces alces*). Small mammals, such as mice, shrews, and voles, are likely also present, but more difficult for surveyors or staff to observe.

Mammal species use the wetland and grassland habitat on the installation, and some may create nuisance problems, such as ground squirrels or badgers digging in the roads and around the buildings.

2.3.1.2 Birds

As described in *Section 2.2.6 Wetlands*, NRTF LaMoure is within the Prairie Potholes Region, which is the most important waterfowl production area on the North American continent. An estimated one-third of the continent's waterfowl breeding population nests within this region (USFWS, 2019a). The complex of highly productive freshwater wetlands and surrounding grasslands in the Prairie Potholes Region provides critical breeding and migration habitat for approximately 196 species of waterfowl, landbirds, shorebirds, and waterbirds within North Dakota alone (Prairie Pothole Joint Venture, 2017). NRTF LaMoure is also within the Central Flyway, a major migration corridor for birds.

The bird community at NRTF LaMoure is diverse and reflects the wide variety of habitats available on or nearby the installation, including small stands of trees, mixed-grass prairie, agricultural fields, developed areas, and wetlands. Fifty-four bird species were observed during the May and July 2016 site visits.

One of the main habitat types at NRTF LaMoure is mixed-grass prairie, which is utilized by a number of migratory species and year-round residents. Several bird species have been observed in grassland habitats at the installation, including the American tree swallow (*Tachycineta bicolor*), western meadowlark (*Strunella neglecta*), mourning dove (*Zenaida macroura*), clay-colored sparrow (*Spizella pallida*), eastern kingbird (*Tyrannus tyrannus*), bobolink, brown-headed cowbird (*Molothrus ater*), and ring-necked pheasant (*Phasianus colchicus*).

Wetlands and open water habitats at NRTF LaMoure support a variety of wading birds and waterfowl, including green-winged teal (*Anas crecca*), mallard (*Anas platyrhynchos*), northern shoveler (*Anas clypeata*), northern pintail (*Anas acuta*), American widgeon (*Anas acuta*), Canada goose (*Branta canadensis*), sora (*Porzana carolina*), killdeer (*Charadrius vociferus*), Virginia rail (*Rallus limicola*), Wilson's phalarope (*Phalaropus tricolor*), Wilson's snipe (*Gallinago delicata*), marbled godwit (*Limosa fedoa*), American coot (*Fulica atra*), and American bittern (*Botaurus lentiginosus*). Blue-winged teal (*Anas discors*) nests were discovered during survey transects in the wetland. Passerines including the sedge wren

(*Cistothorus platensis*), northern waterthrush (*Parkesia noveboracensis*), yellow-headed blackbird (*Xanthocephalus xanthocephalus*), and red-winged blackbird (*Agelaius phoeniceus*) were also observed in the wetland habitat.

Birds observed in the developed areas include European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), northern flicker (*Colaptes auratus*), common grackle (*Quiscalus quiscula*), cliff swallow (*Petrochelidon pyrrhonota*), and barn swallow (*Hirundo rustica*). The cliff swallows frequently build their nests under the eaves on the helix house (Figure 2-6), but their nesting does not impact operations at the facility.

Figure 2-6. Cliff swallow nests on the helix house.

While most of the operational area is undeveloped, providing quality habitat with little to no human activities, the tower, guy wires, and downleads make up a large man-made structure within the airspace above the terrestrial habitats used by birds. After the original Omega tower was constructed in 1971, a study of bird collisions and mortality was conducted to address the concern over the impact this structure would have on bird populations. The study was timed during the bird migration periods, with surveys during fall 1971, spring and fall 1972, and spring and fall 1973. During this timeframe, researchers found a total of 937 dead or injured birds and 5 bats (Avery et al., 1978). Based on patterns in the timing, species, and locations of the birds found, the researchers concluded the following:

- On the basis of the birds found in sample plots, they estimated an average of about 1,075 birds killed or injured per season (Avery et al., 1978).
- Most injuries or mortalities were caused by collisions with the wires, not the tower (Avery et al., 1978).
- There was considerable seasonal variation in the bird species that were impacted. Warblers and vireos were found in greater numbers in the fall, and wrens, icterids (blackbirds, cowbirds, meadowlarks, and bobolink), and fringillids (finches, siskins, redpolls, and grosbeaks) were found in greater numbers in the spring. Species impacted in the fall were generally species that do not breed locally and only migrate through the region, whereas species impacted in the spring tended to be species that were local breeders or year-round residents (Avery et al., 1978).
- Large mortality events documented in the fall occurred on overcast nights following cold fronts. Migrating birds would congregate around the tower, attracted to the lights (Avery et al., 1977).

- The large mortality events documented in the spring were much smaller (i.e., fewer birds killed) and followed favorable wind conditions for migration when the winds were blowing to the northwest, in the direction that most migrants were heading (Avery et al., 1977).
- Throughout the study, birds seen flying during the day avoided the wires and tower (Avery et al., 1978).

Some of these conclusions have been supported by research at other communication tower locations. A study compiling the data from bird collision research at communication towers across the country found that the majority of birds injured or killed at these sites were nocturnal migrating passerine species, and that collisions occurred most frequently when nocturnal migrants were attracted to tower lights, particularly during inclement weather (Longcore et al., 2013). Long-term studies have also indicated that bird collisions decrease over time or within a few years of tower construction, perhaps indicating that birds become accustomed to the presence of the tower and learn to avoid it, although the reasons for the decreases have not been studied (Gauthreaux and Belser, 2006; Kerlinger, 2000).

Birds can detect electromagnetic fields and can use the earth's magnetic field to orient and navigate (Wiltschko and Wiltschko, 2002). There has been very little research into the effects of electromagnetic fields produced by communication towers and whether electromagnetic fields could attract or deter birds from an area or disrupt their ability to navigate. A study at a DOD extremely low frequency communication system in Wisconsin and a second study at a Navy extremely low frequency antenna system in Michigan both found no evidence that bird distribution or abundance was affected by the electromagnetic field from the antenna system, suggesting that birds were neither attracted or repelled by the electromagnetic field (Hanowski et al., 1993; Hanowski et al., 1996). Other studies with birds have indicated temporary disorientation from electromagnetic fields, but that birds are able to adjust and successfully navigate (Wiltschko and Wiltschko, 2002). In lieu of sufficient research, expert opinion holds that electromagnetic fields in the range produced by communication towers is unlikely to attract or deter birds from an area or disrupt their ability to navigate (Hanowski et al., 1996; Kerlinger, 2000).

2.3.1.3 Herpetofauna

The wetlands and prairie areas of NRTF LaMoure provide habitat for a number of reptile and amphibian species that are common to the region. The following species were confirmed present on the installation during the 2016 surveys: plains garter snake (*Thamnophis radix*), Canadian toad (*Anaxyrus hemiophrys*), northern leopard frog (*Lithobates pipiens*), and boreal chorus frog (*Pseudacris maculate*). In addition, installation personnel had a picture of a common snapping turtle (*Chelydra serpentine*) taken on the installation, and have also reported seeing the western tiger salamander (*Ambystoma mavortium*).

Other amphibian species not confirmed on the NRTF LaMoure but with the potential to be present include American toad (*Anaxyrus americanus*), Great Plains toad (*Anaxyrus cognatus*), Woodhouse's toad (*Anaxyrus woodhousii*), wood frog (*Lithobates sylvaticus*), and mudpuppy (*Necturus maculosus*). Reptiles not confirmed, but with the potential to be present, include

common gartersnake (*Thamnophis sirtalis*), smooth greensnake (*Opheodrys vernalis*), western hog-nosed snake (*Heterodon nasicus*), redbelly snake (*Storeria occipitomaculata*), and western painted turtle (*Chrysemys belli*).

2.3.1.4 Fish

Freshwater fish habitat at NRTF LaMoure consists of the wetland complex, natural and man-made drainage features, and livestock ponds. No surveys have been completed to date for fish species on the installation. Extreme flood events reaching the extent where the James River has a surface water connection the wetlands on the installation are rare (estimated greater than ten-year event), which therefore limits the opportunities for fish from the James River to enter or persist in the wetland complex. With water depths of approximately 10 feet in some areas of the wetland, if temperature and oxygen levels are not restrictive (e.g., all surface water in the wetlands does not freeze completely solid in winter), it is possible that these pools could sustain small, localized populations of fish.

Species present would likely be those that are tolerant to a variety of conditions (including environmental degradation), and either water column insectivores, benthic insectivores, or omnivores. Some possibilities include fathead minnow (*Pimephales promelas*), green sunfish (*Lepomis cyanellus*), and black bullhead (*Ameiurus melas*; Shearer and Berry, 2002).

2.3.1.5 Invertebrates

Numerous invertebrates were observed during the May and July site visits; however, due to the short time on site and limited expertise, surveys consisted of incidental observations only. Other observations were made during visits to the installation with USFWS. Species observed include rusty crayfish (*Orconectes rusticus*; nonnative) and monarch butterfly (*Danaus plexippus*), as well as other moths, dragonflies/damselflies, beetles, and spiders that were not identified to species level.

In North Dakota, the principal pollinators are insects, including native bumblebees, tunnel-nesting bees, ground-nesting bees, butterflies, and moths. The North Dakota Monarch and Native Pollinator Strategy lists 23 species of bumblebees in North Dakota and nearly 150 species of butterflies (NDGFD et al., 2018). Another source indicates more than 1,400 species of moths in the state (Fauske, 2004). While pollinator populations, such as bumblebees, have been declining around the country, areas where agricultural intensity is the greatest, including the Midwest "Corn Belt," have seen the greatest declines (Koh et al., 2016). Habitat loss is believed to be the primary driver for pollinator declines (Potts et al., 2010). Pollinators play an essential role both in natural ecosystems and agricultural systems, and several species in North Dakota have been listed under the ESA — all important reasons for prioritizing conservation actions for pollinators. The monarch butterfly, which has been petitioned for listing under the ESA, is described in detail in *Section 2.3.4 Other Species of Concern*.

2.3.1.6 Wildlife Diseases

There are a number of diseases carried by wildlife in North Dakota that can pose health threats to wildlife populations and to humans that come into contact with them. Several diseases that

are problematic in North Dakota are discussed below. Any animals that appear to have symptoms of one of these diseases should be reported to the NDGFD and/or USFWS (as appropriate, depending on species).

Epizootic Hemorrhagic Disease (EHD) is a virus primarily affecting white-tailed deer. The disease occurs periodically in North Dakota, primarily in the western portion of the state. EHD is spread by biting midges and cannot be transmitted to humans. Symptoms observed in deer that could indicate this disease include respiratory distress; swelling of the head, neck, and tongue; indifference to humans; and hemorrhaging from the body orifices (NDGFD, 2019a).

Chronic Wasting Disease (CWD) is prion disease affecting the nervous system and lymphoid tissue of deer, elk, and moose. Although not yet prevalent in North Dakota, this disease is a serious concern given the potential to cause long-term population declines. CWD is a slow, progressive disease and is always fatal. The disease is spread by direct contact between animals and the evidence is inconclusive as to whether it can be transmitted to humans. Symptoms only appear in the late stages of the disease and include emaciation; excessive salivation, thirst, and urination; loss of coordination; and lowering of the head and drooping of the ears (NDGFD, 2019a).

White-nose syndrome is a disease found in bats caused by the fungus *Pseudogymnoascus destructans*. It is devastating to bat populations but is not known to pose a threat to humans, pets, livestock or other wildlife. The disease is transmitted primarily from bat to bat, although people can carry fungal spores on their clothing, shoes, or caving gear (USFWS, 2019e). The fungus invades the skin of hibernating bats and causes damage, especially to delicate wing tissue, and physiologic imbalances that can lead to disturbed hibernation, depleted fat reserves, dehydration, and death (USFWS, 2019e). White-nose syndrome has spread quickly among bats in eastern North America, killing more than six million beneficial insect-eating bats since it was first documented in 2006 (USFWS, 2019e). White-nose syndrome was first detected in North Dakota in 2019, and the first mortalities documented in May 2020, with several little brown bats found dead in the western portion of the state (NDGFD, 2020).

Rabies is a viral disease transmitted by a bite or scratch from an affected animal, and can be transmitted to humans. Its major reservoirs and vectors include dogs, cats, bats, raccoons, foxes, skunks, coyotes, and bobcats. Symptoms include confusion, excessive salivation, fear of water, and abnormal behavior. The public is generally kept aware of rabies outbreaks via the news and other media outlets, and recent rabies activity can be found on the NDDH website (NDDH, 2019b).

Tularemia is a bacterial disease transmitted by bites or scratches or contact with feces, urine, or body parts of an infected animal. Commonly infected wildlife include ticks, beavers, muskrats, and in particular, rabbits and hares. Affected animals may outwardly appear in good condition, or show symptoms such as skin ulcers, lethargy, and loss of coordination. The disease can be spread to humans, but is treatable with antibiotics (NDGFD, 2019a).

2.3.2 Flora

Large portions of NRTF LaMoure are undeveloped and exist as native grasslands and emergent

wetlands, which have differing vegetation communities. Comprehensive plant species inventories have not been undertaken at NRTF LaMoure; however, plant species were recorded during site visits in 2016, documenting 34 plant species.

2.3.2.1 Native Grasslands

The grassland vegetation community was likely impacted to some extent in the past during construction of the installation. Currently, grasslands within the operational area are not managed (e.g., by mowing) and contain a diversity of native grass and forb species, as well as some nonnative species. Much of the upland areas within the installation but outside of the operational area are regularly grazed by cattle, cultivated with agricultural crops, or infrequently mowed by the landowner, who maintains use the land outside of the Navy's operational area (Figure 2-1).

Dominant grassland species observed during site visits included a mix of grasses and forbs, both native and nonnative species. The most common grasses, listed in no particular order, were foxtail barley (*Hordeum jubatum*), yellow foxtail (*Setaria pumila*; nonnative), Kentucky bluegrass (*Poa pratensis*; nonnative), green needlegrass (*Nassella viridula*), western wheatgrass (*Pascopyrum smithii*), big bluestem (*Andropogon gerardii*), switchgrass (*Panicum virgatum*), blue grama grass (*Bouteloua gracilis*), and Russian wildrye (*Psathyrostachys juncea*; nonnative).

The most common forbs observed included white sagebrush (*Artemisia ludoviciana*), yellow salsify (*Tragopogon dubius*; nonnative), purple prairie clover (*Dalea purpurea*), wavyleaf thistle (*Cirsium undulatum*), prairie coneflower (*Ratibida columnifera*), curlycup gumweed (*Grindelia squarrosa*), sweet clover (*Melilotus officinalis*; nonnative), absinth wormwood (*Artemisia absinthium*; nonnative), Missouri goldenrod (*Solidago missouriensis*), and Cuman ragweed (*Ambrosia psilostachya*).

There are limited trees and shrubs in the upland portions of the installation. Within the operational area, there are only a few small patches on the western side in the uplands. Outside of the operational area, there are a few larger patches of trees and shrubs in the southwest portion of the installation, including near the transmitter building.

2.3.2.2 Emergent Wetlands

Emergent wetland species included Kentucky bluegrass (*Poa palustris*), saltgrass (*Distichlis stricata*), hardstem bulrush (*Scirpus acutus*), spear saltbush (*Atriplex patula*), common duckweed (*Lemna minor*), common cattail (*Typha latifolia*), western seablite (*Suaeda depressa*), hybrid cattail (*Typha glaucal*), common bladderwort (*Utricularia vulgaris*), and oakleaf goosefoot (*Chenopodium salinum*). No shrubs or trees are found in the wetland.

Cattail is the dominant vegetation in the wetland. A discussion of the benefits and adverse effects of cattail is included in *Section 2.3.5 Invasive Species*.

2.3.3 Federally Listed Species

The USFWS official species list for NRTF LaMoure identifies two federally listed species

potentially occurring in LaMoure County; whooping crane, listed as endangered, and northern long-eared bat, listed as threatened (Table 2-5). In addition, the Dakota skipper has not been documented in LaMoure County (USFWS, 2019c), but its likely range may include or be in very close proximity to NRTF LaMoure. No federally listed plant species are documented in the vicinity of NRTF LaMoure, and there is no designated critical habitat within the boundaries of NRTF LaMoure. A copy of the official species list is provided in Appendix D, and further description of these species is provided below.

Because the status of federally listed species changes over time, careful tracking and periodic field surveys are needed to confirm the occurrence of threatened and endangered species on the installation.

Table 2-5. LaMoure County Federally Listed Species Summary.

Common Name	Scientific Name	ESA Status	Final Listing Rule (Year)	Final CH Rule (Year)	Species Presence
Whooping crane	*Grus americana*	Endangered	32 FR 4001 (1967)	43 FR 20938 20942 (1978)	Rarely during migration
Northern long-eared bat	*Myotis septentrionalis*	Threatened	80 FR 17973 18033 (2015)	None designated, 81 FR 24707 24714	Unlikely, possibly rarely for foraging
Dakota skipper	*Hesperia dacotae*	Threatened	79 FR 63671 63748 (2014)	80 FR 59247 59384 (2015)	Unlikely, not documented in LaMoure County (historic or current)

Whooping Crane

The whooping crane is North America's tallest bird, with males approaching 1.5 m (5 feet) tall. Adult plumage is snowy white except for black feathers on the wingtips and on the side of the head near the bill, as well as red feathers on the forehead (Figure 2-7). The common name "whooping crane" likely originated from the loud, single-note vocalization given repeatedly by the birds when they are alarmed (Urbanek and Lewis, 2020).

Figure 2-7. Whooping cranes in flight.

Photo credit: Klaus Nigge, USFWS.

The whooping crane occurs only in North America and is one of the rarest birds on the continent. The historical breeding range of the species extended from Illinois, northwest through North Dakota, and up to the Northwest Territories of Canada (USFWS, 2013). There are currently only four wild populations of whooping cranes remaining, none of which breed in North Dakota. The last nesting record for North Dakota was in McHenry County in 1915 (USFWS, 2013). Although whooping cranes no longer breed in North Dakota, the state is within the migratory path of the Aransas-Wood Buffalo whooping crane population, which is the only self-sustaining wild population remaining, comprising approximately 80 percent of all wild whooping cranes (Urbanek and Lewis, 2020). This population nests in Wood Buffalo National Park and adjacent areas in Canada, migrates through the Prairie Pothole Region of the U.S. (including North Dakota), and winters in coastal marshes in Aransas National Wildlife Refuge, Texas. The other populations of whooping crane are located in other states and either do not migrate or do not cross North Dakota during their migration (Urbanek and Lewis, 2020).

The USFWS conducts annual surveys to estimate the population of whooping cranes in the Aransas-Wood Buffalo population. During winter 2018–2019 surveys, the population was estimated at 504 whooping cranes (Butler and Harrell, 2019), marking a milestone as the first time since the 1800s that the population has risen above 500 cranes (Devokaitis, 2018). The long-term growth rate in the Aransas-Wood Buffalo population has averaged 4.5 percent (Butler and Harrell, 2019). Despite the success of international efforts to recover the species, the whooping crane has not yet met the recovery objectives for downlisting from Endangered to Threatened under the ESA, which would require 1,000 individuals in the Aransas-Wood Buffalo population, or establishment of one or two additional self-sustaining populations, depending on size of populations (USFWS, 1994).

The Whooping Crane Recovery Plan proposed several recovery actions that are important for addressing threats to the species. Identifying, protecting, managing, and creating habitat for the species was identified as a significant recovery action because of increasing demands being placed on habitat (USFWS, 1994). Since breeding and overwintering no longer occurs in North Dakota, this INRMP will focus on the migratory portion of the life cycle and management of migratory habitat.

Whooping cranes are bi-annual migrants, traveling in the spring and fall of each year. They are diurnal migrants, stopping daily to feed and rest, and only rarely have been documented flying at night (Kuyt, 1992). Whooping Cranes migrate as singles, pairs, family groups, or small aggregates of up to 13 subadults, sometimes joining up with groups of sandhill cranes (*Antigone*

canadensis; Urbanek and Lewis, 2020). The departure of whooping cranes for the fall migration is staggered, with yearlings and subadults beginning migration after the middle of September, and with family groups and paired adults following in early October. The fall migration can take birds up to 50 days, broken into three segments: a two-day flight from the breeding range in Wood Buffalo National Park to the staging area in Saskatchewan; a one- to five-week staging period on prairie, grainfield, and wetland habitats in Saskatchewan; and a rapid one-week flight through the U.S. to Aransas National Wildlife Refuge (Kuyt, 1992). The spring migration is also staggered, beginning with the family groups and paired adults by the middle of March, followed by subadults in April, and the last birds leaving by the beginning of May. The spring migration does not include a staging period, and is typically faster than the fall migration, with flights that are longer in distance and time each day, and lasting only 10 to 11 days total (Kuyt, 1992). Although there can be stragglers during either fall or spring migration, most whooping cranes migrate through North Dakota in April to mid-May and September to early November (Dyke et al. 2015).

The primary migration route for whooping cranes in North Dakota is mostly in western North Dakota, west of the Missouri River (Kuyt, 1992; Dyke et al. 2015). Studies of migrating whooping cranes in flight indicated that the Missouri River might be important as a visual aid in migration (Kuyt, 1992), and therefore may be the reason that whooping cranes are less frequently seen outside of the primary migration route. However, four observations of migrating whooping cranes have been reported within 30 miles of NRTF LaMoure (J. Reinish, personal communication, January 30, 2020). The closest observation was a pair of migrating cranes flying approximately 0.25 mile southwest of the installation heading in a northward direction, spotted by Navy biologists during surveys at LaMoure in 2016 (I. Trefry, personal communication, May 27, 2020). The only other observation in LaMoure County was near Nortonville (J. Reinish, personal communication, January 30, 2020).

Stopover habitats with quality roosting sites and foraging opportunities are important for migrating whooping cranes. Roosting habitat for migrating whooping cranes includes palustrine, lacustrine, and riverine wetlands, particularly wetland complexes and mosaics that are not heavily vegetated and that are within a close distance (1 km/0.62 mile) of foraging locations (Austin and Reichert, 2005; Niemuth et al., 2018). Foraging habitat during migration includes croplands, grasslands, and palustrine emergent wetlands. In general, whooping cranes appear to avoid treed areas and roads (Austin and Reichert, 2005; Niemuth et al., 2018). A whooping crane habitat model developed for North Dakota identified NRTF LaMoure as high quality migratory habitat (J. Reinish, personal communication, January 30, 2020), although not within the primary migration route. Whooping cranes are omnivorous, and their diet during migration includes frogs, fish, plant tubers, crayfish, insects, and agricultural grains (Canadian Wildlife Service and USFWS, 2007).

In addition to the threat of migratory habitat degradation and loss, other human-related threats during migration include shooting, aircraft collisions, and collisions with structures or power lines (Stehn and Haralson-Strobel, 2014). Hunting is not permitted on NRTF LaMoure; however, the antenna, downleads, and guy wires could pose a collision hazard for whooping passing by the installation or using it as a stopover site, although the likelihood of this occurrence is very low. The antenna tower is 1,200 feet tall with the 2 to 2 $^{3}/_{8}$-inch downleads

and guy wires extending down to ground level. Whooping crane flight altitude during migration is normally below 600 meters (1,969 feet) above ground level, but has been observed as high as 1,950 meters (6,398 feet) above ground level. During normal flying days without weather disturbances, flight speed of migrating whooping cranes is around 53 km per hour (33 miles per hour), but can increase up to around 100 km per hour (62 miles per hour) when assisted by wind (Kuyt, 1992). Given the altitude and speed of flight, collisions at NRTF LaMoure are possible; however, this risk is lower than for power lines, which are much thinner than the wires on the installation and less visible to flying birds.

Northern Long-Eared Bat

The northern long-eared bat is a brown, medium-sized bat with a wingspan of 9 to 10 inches (Figure 2-8). The primary reason for the listing of this species under the ESA is the threat of white-nose syndrome, a fungal disease that has already caused dramatic population declines in this and other bat species wherever the disease has spread (USFWS, 2015; 81 FR 1908). Other human-related factors that could potentially affect northern long-eared bats include loss of prey because of pesticides used in foraging areas, loss of water sources for drinking, collision with wind turbines, and killing (Dyke et al. 2015).

Figure 2-8. Northern long-eared bat roosting.

Photo credit: USFWS

Northern long-eared bats are considered rare in North Dakota, but have been documented in the west of the state in habitat along the Little Missouri and Missouri rivers, and in the north of the state in the Turtle Mountains (Dyke et al. 2015). Northern long-eared bats spend winter hibernating in caves and mines. No hibernacula have been identified in North Dakota, and there are no caves or mines at NRTF LaMoure, so northern long-eared bats would not be present at the installation in the winter.

During summer, northern long-eared bats roost in forest habitat underneath bark, in cavities, or in crevices of both live and dead trees. This species is insectivorous and prefers forest habitat for foraging, but may also use open areas such as forest gaps, trails, and roads (81 FR 1908). NRTF LaMoure does not provide roosting habitat or the preferred foraging habitat for northern long-eared bat. While the species could rarely be present in the summer for foraging, it is unlikely that northern long-eared bats would occur at NRTF LaMoure.

Dakota Skipper

The Dakota skipper is a small butterfly with a nondescript appearance that is found in high quality native tall or mixed-grass prairie habitat (Figure 2-9). The species spends most of its lifecycle in the larval phase. The adult butterflies emerge in mid-June through July and lay eggs within approximately 3 weeks, after which the adult butterflies die off and the new larvae hatch and overwinter in ground-level or subsurface shelters (79 FR 63672-63748). Adult nectar sources include plants that are flowering during the adult flight period, significantly the blue coneflower (*Echinacea angustifolia*). Larvae feed on native grasses, preferring prairie habitat with little bluestem (*Schizachyrium scoparium*), rosette grasses (*Dichanthelium spp*.), and needlegrass (*Hesperostipa spp.* or *Nassella viridula)* (79 FR 63672-63748).

The primary cause for the decline of the Dakota skipper is the loss of native prairie and the degradation of remaining patches of habitat. The USFWS Draft Recovery Plan for the species prioritizes management, restoration, and protection of suitable habitat for the species (USFWS, 2019d). As described in *Section 2.2.2 Climate Change*, grasslands and grassland-dependent species, such as the Dakota skipper, are projected to be highly vulnerable to climate change. While the species has not been documented, historically or currently, in LaMoure County (USFWS, 2019c), potential suitable habitat is present at NRTF LaMoure and the species known extant range is not far from this location.

Figure 2-9. Dakota skipper butterfly.

Photo credit: Philip Delphey, USFWS.

2.3.4 Other Species of Concern

North Dakota's SWAP identifies species that are considered Species of Conservation Priority (SCP), ranks these species into three levels based on funding priorities, and provides conservation actions needed to recover the species' population (Dyke et al. 2015). Species ranked as Level I have the highest level of conservation priority, while species ranked as Level II or Level III have a moderate level of conservation priority in North Dakota or have other conservation funding already available (e.g. federally threatened and endangered species are assigned a Level II rank because other funding is available, such as the Cooperative Endangered Species Conservation Fund). Regardless of ranking level, all species on the SCP list are of conservation concern for various reasons, and require deliberate planning and management efforts to sustain them throughout the North Dakota landscape. Information relating to the distribution, abundance, habitat requirements, threats, management goals, and monitoring

techniques for each of these species is also included in the SWAP.

The SWAP is organized by major landscape components, three of which occur at NRTF LaMoure: Eastern Mixed-grass Prairie (Drift Prairie); Wetlands and Lakes; and Rivers, Streams, and Riparian. The Eastern Mixed-grass Prairie landscape component refers to the same region and habitat type as described in Section 2.2 as the Drift Plains ecological region, and encompasses the James River basin (including LaMoure). The Wetlands and Lakes landscape component comprises all wetlands throughout the state, including the palustrine emergent wetland at NRTF LaMoure, which is described in detail in *Section 2.2.6 Wetlands.* This landscape provides a mosaic of wetlands and grasslands of particular importance to the conservation of many SCP and other wetland-associated wildlife. The Rivers, Streams, and Riparian landscape component encompasses all rivers, streams, and associated riparian areas throughout the state, and the SWAP further identifies the James River and its floodplain and riparian corridor as a focus area within this landscape component, indicating a higher level of importance and priority for resource management.

Based on these landscape components present at LaMoure and documented species ranges, the SWAP identifies 34 SCP with a primary range overlapping the installation. These species, as well as their habitat requirements and the ranking levels from the SWAP, are listed in Table 2-6. Comprehensive wildlife inventories have not been completed to date; however, eight SCP were documented on site at NRTF LaMoure during surveys in 2016 or by observations of on-site staff (indicated in the occurrence column in the table). Although not included in the count above or listed in the table, whooping crane, northern long-eared bat, and Dakota skipper are listed as SCPs in the SWAP. In addition to the species whose primary ranges overlap NRTF LaMoure, the SWAP identifies another 18 species (all birds) that have secondary or potential ranges in the area. These species, as well as their habitat requirements and the ranking levels from the SWAP, are listed in Table 2-7.

The USFWS identifies a list of species considered to be Birds of Conservation Concern (BCC), which are migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the ESA. This list represent the highest conservation priorities for the USFWS beyond those species already designated as federally threatened or endangered. The BCC list is separated into Bird Conservation Regions (BCRs), which are ecologically distinct regions in North America with similar bird communities, habitats, and resources management issues. NRTF LaMoure is located within BCR 11, the Prairie Pothole Region. Several species identified as SCPs in the North Dakota SWAP are also included on the USFWS BCC list for the Prairie Pothole Region, as indicated in Tables 2-6 and 2-7. In addition to these species, there are also eight BCC species that do not occur in North Dakota except during migration: American golden-plover (*Pluvialis dominica*), buff-breasted sandpiper (*Calidris subruficollis*), dunlin (*Calidris alpina*), Hudsonian godwit (*Limosa haemastica*), lesser yellowlegs (*Tringa flavipes*), pectoral sandpiper (*Calidris melanotos*), ruddy turnstone (*Arenaria interpres*), and short-billed dowitcher (*Limnodromus griseus*).

Table 2-6. State Species of Conservation Priority and USFWS Birds of Conservation Concern with primary range overlapping NRTF LaMoure.

	Common Name	Scientific Name	SCP Level	BCC List	Occurrence at NRTF LaMoure*	Habitat Requirements*
Mammals	Arctic Shrew	*Sorex arcticus*	3	N/A	Likely	Grasslands, sedge marsh wetland
	Big Brown Bat	*Eptesicus fuscus*	1		Likely	Roost in buildings; forage in a variety of habitats
	Eastern Spotted Skunk	*Spilogale putorius*	3		Unlikely, rare in North Dakota	Grassland, riparian areas, fencerows
	Gray Fox	*Urocyon cinereoargenteus*	3		Unlikely, rare in region	Brush/scrub riparian forest
	Little Brown Bat	*Myotis lucifugus*	1		Likely	Roost in buildings; forage in a variety of habitats, e.g. stream corridors
	Plains Pocket Mouse	*Perognathus flavenscens*	3		Likely	Grasslands with stable sand
	Richardson's Ground Squirrel	*Urocitellus richardonii*	2		Likely	Grasslands near agriculture
	River Otter	*Lontra canadensis*	2		Unlikely, no preferred habitat	Wetlands, riparian within 300 yds of waterway
Birds	American Avocet	*Recurvirostra americana*	2		Likely; seasonal, April - October	Wetlands, needs mosaic for nesting
	American Bittern	*Botaurus lentiginousus*	1		Likely; seasonal, April - October	Mosaic wetlands for nesting
	American Kestrel	*Falco sparverius*	2		Likely; seasonal, early spring through summer, some holdovers in winter	Open, semi-open grasslands and ag lands; cavity nesters
	American White Pelican	*Pelecanus erythrorhynchos*	2		Documented; seasonal, spring to early summer	Large bodies of water, peninsulas and islands, sometimes large wetlands for foraging
	Bald Eagle	*Haliaeetus leucocephalus*	2		Documented off-site within a few miles; year-round and migratory.	Large rivers and lakes
	Black Tern	*Chlidonias niger*	1	x	Likely; seasonal, June - August	Shallow wetland complexes with equal amounts of open water and emergents
	Bobolink	*Dolichonyx oryzivorus*	2	x	Documented; seasonal, May - mid-Sept	Grasslands, moderately grazed pastures, no-till croplands, and wet meadows
	California Gull	*Larus californicus*	N/A	x	Unlikely; no breeding habitat nearby; seasonal, April - August	Breed on islands in lakes and rivers. Forage in a variety of habitats.
	Canvasback	*Aythya vaslisineria*	2		Likely; seasonal, May - August	Deep wetlands, semi-permanent wetlands with emergent cover. Prefers bulrush and cattails for cover.
	Chimney Swift	*Chaetura pelagica*	N/A	x	Unlikely, not near urban area; seasonal, April - Oct	Variety of habitats, but most common in urban areas
	Dickcissel	*Spiza americana*	2		Likely; seasonal, June - August	Grasslands with dense, moderate to tall vegetation
	Franklin's Gull	*Leucophaeus pipixcan*	1	x	Likely; seasonal, April - Oct	Large wetlands with semi-open emergent cover. Forages in agricultural fields
	Grasshopper Sparrow	*Ammodramus savannarum*	1	x	Documented (Avery et al., 1978); seasonal, April – Oct.	Idle or lightly grazed tall or mixed-grass prairie, and hayfields
	Lesser Scaup	*Aythya affinis*	2		Likely; seasonal, May - August	Seasonal and semi-permanent wetlands and associated uplands
	Long-eared Owl	*Asio otis*	N/A	x	Likely; year-round resident	Dense vegetation near grasslands. Nests and roosts in trees.
	Northern Harrier	*Circus cyaneus*	2		Documented; seasonal, mid-Feb to mid-Nov	Grasslands for nesting; wetlands for foraging
	Northern Pintail	*Anas acuta*	2		Likely; seasonal, March - Nov	Wetland complexes of open water and associated upland prairie
	Sharp-tailed Grouse	*Tympanuchus phasianellus*	2		Likely; year-round resident	Mixed-grass prairie with patches of trees and shrubs. Elevated areas with less vegetation for mating.
	Swainson's Hawk	*Buteo swainsoni*	1	x	Likely; seasonal, April - Sept	Mix of grassland and cropland with thickets of trees. Nests in variety of habitats, including on the ground.
	Upland Sandpiper	*Bartramia longicauda*	2	x	Likely; seasonal April - August.	Dry, open mixed-grass prairie or moderately grazed areas. Often uses wooden fence posts for viewing. Forages in wet meadows.
	Western Grebe	*Aechmophorus occidentalis*	N/A	x	Unlikely, no breeding habitat nearby; seasonal, late April - early Nov	Lakes and marshes with extensive areas of open water bordered by emergent vegetation
	Western Meadowlark	*Sturnella neglecta*	2		Documented; seasonal, April - Oct	Native and planted grasslands
	Willet	*Tringa semipalmatus*	2	x	Likely; seasonal, April - Sept	Wetlands for foraging associated with upland native grassland for nesting
	Wilson's Phalarope	*Phalaropus tricolor*	1		Documented; seasonal, April - Sept	Forages in wetlands with open water, emergent vegetation, and open shoreline. Nests in wet meadows or upland grasslands.
Herpeto-fauna	Canadian Toad	*Anaxyrus hemiophrys*	1	N/A	Documented	Lakes, ponds, and wetlands, particularly permanent water
	Plains Hog-nosed Snake	*Heter nasicus*	1		Unlikely, species is uncommon.	Dry, sandy or gravelly areas in grasslands or sand dunes. Sometimes forest and cropland.
	Smooth Green Snake	*Opheodrys vernalis*	1		Unlikely, species is uncommon.	Grasslands, upland hills where grass is shorter
	Snapping Turtle	*Chelydra serpentina*	2		Documented	Large permanent or semi-permanent bodies of water with muddy bottom and warm water
Butter-flies	Monarch Butterfly	*Danaus plexippus*	1	N/A	Documented; seasonal, late May - Oct	Grasslands with a high number of nectar sources. Milkweed required for larvae.
	Regal Fritillary	*Speyeria idalia*	1	N/A	Potential, species is rare but habitat is present; year-round	Tall-grass and wet prairie habitats with native nectar sources. Native violets required for larvae.

*Source: Dyke et al., 2015 and Billerman et al., 2020.

Table 2-7. State Species of Conservation Priority and USFWS Birds of Conservation Concern with secondary range overlapping NRTF LaMoure.

Common Name	Scientific Name	SCP Level	BCC List	Occurrence at NRTF LaMoure*	Habitat Requirements*
Baird's Sparrow	*Ammodramus bairdii*	1	x	Unlikely, very rare outside of primary range; seasonal, May-August	Native grasslands/prairie, sometimes idle pasture land
Black-billed Cuckoo	*Coccyzus erythropthalmus*	1	x	Unlikely, preferred habitat is sparse in the area; seasonal, mid May to mid-Sept	Brushy margins or openings of woodlands, and thickets of small trees or shrubs on grassland/prairie.
Burrowing Owl	*Athene cunicularia*	2		Unlikely, uncommon outside of primary range; seasonal, early May to August	Shortgrass or grazed mixed-grass prairie with burrows dug by mammals present.
Chestnut-collared Longspur	*Calcarius ornatus*	1	x	Unlikely, site lacks preferred habitat; year-round resident	Native prairie specialist. Prefers native grasses >30 cm.
Clark's Grebe	*Aechmophorus clarkii*	N/A	x	Unlikely, no nesting areas nearby; seasonal, April - early Nov	Lakes and marshes with extensive areas of open water bordered by emergent vegetation
Ferruginous Hawk	*Buteo regalis*	1		Unlikely, uncommon outside of primary range; seasonal; April -July	Large tracts of native grasslands
Horned Grebe	*Podiceps auritus*	1		Unlikely; uncommon even in primary range; seasonal April - Sept	Ponds and wetlands with emergents and substantial areas of open water
Le Conte's Sparrow	*Ammodramus leconteii*	2	x	Documented (Avery et al., 1978); seasonal; April - Oct	Fens, wet meadows, and marshes of sedge grasses.
Loggerhead Shrike	*Lanius ludovicianus*	2		Unlikely. Species is uncommon. Seasonal March - Oct	Open country with small trees, shrubs and shelter belts
Marbled Godwit	*Limosa fedoa*	1	x	Potential, just outside primary range, preferred habitat is available; seasonal April - August	Forage in a variety of wetlands, nest frequently on grazed native prairie.
Nelson's Sparrow	*Ammodramus nelsoni*	1		Potential, just outside primary range and preferred habitat is available; seasonal May to Sept	Fens, shallow-marsh and wet meadow zones of wetlands
Peregrine Falcon	*Falco peregrinus*	3		Unlikely, no preferred habitat; seasonal, April - Nov	Rocky cliffs close to rivers and lakes.
Piping Plover	*Charadrius melodus circumcinactus*	2		Unlikely, rare outside of primary range, no preferred habitat; seasonal April - August	Sandy or gravelly beaches and sandbars or alkaline wetlands.
Prairie Falcon	*Falco mexicanus*	2		Unlikely, no preferred habitat; year-round resident.	Expansive native prairies with cliffs along riverways or near buttes
Red Knot	*Calidris canutus rufa*	3		Unlikely, species is rare in ND and no preferred habitat on site; migration only, mid-May and mid-Sept - Oct	Sandy or gravelly beaches and sandbars or alkaline wetlands.
Red-headed Woodpecker	*Melanerpes erythrocephalus*	1	x	Unlikely, no preferred habitat; seasonal, mid-April - Oct	Deciduous woodland
Short-Eared Owl	*Asio flammeus*	2		Likely, just outside primary range and preferred habitat is close by; year-round resident. Documented in the area by Avery et al., 1978.	Open grasslands, native prairie, wet meadows, or hayfields. Will only nest in 30-60 cm high grasses
Sprague's Pipit	*Anthus spragueii*	1	x	Unlikely, species is uncommon; seasonal, April - October	Open, extensive prairie; utilizes introduced or lightly grazed grassland to a much lesser extent
Yellow Rail	*Coturnicops noveboracensis*	1	x	Unlikely, species is rare in region; seasonal, mid-May - July	Fens or wet meadows with emergent vegetation, shallow water, and moist soil

*Source: Dyke et al. 2015 and Billerman et al., 2020.

The North Dakota Parks and Recreation Natural Heritage Program developed a list of plant SCPs. The list of SCPs for the Eastern Mixed-grass Prairie landscape component combined with the list for the James River focus area is in Table 2-8. (The plant SCP list does not include a focus area for wetlands such as included the SWAP). None of these plant species have been documented within LaMoure County or at NRTF LaMoure, although comprehensive plant surveys have not been conducted at the installation.

Table 2-8. State Plant Species of Conservation Priority for Eastern Mixed Prairie and James River.

Common Name	Scientific Name	SCP Level
Wooly Milkweed	*Asclepias lanuginosa*	1
Prairie Grapefern	*Botrychium campestre*	1
Chamomile Grapefern	*Botrychium matricariifolium*	3
Hair-like Sedge	*Carex capillaris*	3
Delicate Sedge	*Carex leptalea*	2
Sterile Sedge	*Carex sterilis*	2
Torrey's Cryptantha	*Cryptantha torreyana*	2
White Lady's-slipper	*Cypripedium candidum*	1
Small Yellow Lady's-slipper Orchid	*Cypripedium parviflorum*	2
Large Yellow Lady's-slipper	*Cypripedium parviflorum var. pubescens*	3
Showy Lady's-slipper	*Cypripedium reginae*	2
Dutchman's Breeches	*Dicentra cucullaria*	3
Wood Horsetail	*Equisetum sylvaticum*	3
Chamisson's Cottongrass	*Eriophorum chamissonis*	3
Bog Bedstraw	*Galium labradoricum*	2
Stickseed	*Lappula cenchrusoides*	2
Buckbean	*Menyanthes trifoliata*	2
Small-flowered Grass-of-Parnassus	*Parnassia palustris var. parviflora*	3
Small-flowered Penstemon	*Penstemon procerus*	3
Thin-fruited Knotweed	*Polygonum leptocarpum*	1
Mountain Meadow Cinquefoil	*Potentilla diversifolia*	3
Hair Beakrush	*Rhynchospora capillacea*	3
Bog Willow	*Salix pedicellaris*	2
Nodding Ladies'-tresses	*Spiranthes cernua*	3
Hooded Ladies'-tresses	*Spiranthes romanzoffiana*	3
Hooker's Townsendia	*Townsendia hookeri*	2
Sticky False-asphodel	*Triantha glutinosa*	1
Flat-leaved Bladderwort	*Utricularia intermedia*	3

Disturbance or threats to wildlife or plant SCPs present on NRTF LaMoure are expected to be minimal because most of the operational area is undeveloped, with little to no human activities on a daily basis. A few specific cases are discussed below. Outside of the operational area, in portions of the installation where active cattle grazing or agricultural production occurs, grassland habitat, wetland habitat, and dependent species may be affected; however, these activities are conducted by the landowner and are not directed by the Navy.

Bird Species of Concern

Bird species included on the SCP and BCC lists could be impacted by collision strikes with the antenna, downleads, or guy wires. In particular, the yellow rail (*Coturnicops noveboracensis*) has been identified as a species with high mortality at communication towers (Longcore et al., 2013), although this species is not likely to be present at NRTF LaMoure. The grasshopper sparrow (*Ammodramus savannarum*) and Le Conte's sparrow (*Ammodramus leconteii*) represented a high proportion of mortalities (>20 percent) in a bird collision study conducted at what was then the Omega tower at LaMoure in 1971 and 1972 (Avery et al., 1978). The risk of bird collisions is addressed further in *Section 2.3.1.2 Birds*.

The rapid pace of climate change has increased the threat of extinction for many sensitive species, and grassland-dependent bird species may be particularly vulnerable, as described in *Section 2.2.2 Climate Change*. Several SCP and BCC bird species with ranges potentially overlapping NRTF LaMoure were identified as highly vulnerable to climate change in a model-based vulnerability assessment (Wilsey et al., 2019). These species include Baird's sparrow (*Ammodramus bairdii*), bobolink (*Dolichonyx oryzivorus*), chestnut-collared longspur (*Calcarius ornatus*), Le Conte's sparrow, and Sprague's pipit (*Anthus spragueii*).

Monarch Butterfly

The monarch butterfly is an SCP that was documented on site at NRTF LaMoure, and whose conservation is of particular urgency given recent population trends and consideration for listing under the ESA (Figure 2-10). Monarch butterflies in North Dakota are part of the eastern population, which overwinters in Mexico and produces several generations of butterflies in spring through summer in the U.S., ranging from Texas north to the "Corn Belt" states (including North Dakota). Monarchs in North Dakota are mostly third and fourth generations, arriving in the state around late May, and then migrating south to the overwintering

Figure 2-10. Monarch butterfly.

Photo credit: Eileen Hornbaker, USFWS

grounds in September and October (NDGFD et al., 2018). Monarch larvae feed exclusively on milkweed (*Asclepias spp.*) plants, of which there are nine species native to LaMoure County. Adult monarchs feed on nectar producing plants, particularly blazing stars (*Liatris spp.*), wild bergamot (*Monarda fistulosa*), asters (*Aster spp.*), coneflowers (*Echinacea spp.*), and goldenrods (*Solidago spp.*); (NDGFD et al., 2018).

The major cause of decline for the monarch butterfly is habitat loss, specifically the loss of host plants and nectar-producing plants. Factors driving this loss include: elimination of milkweed and nectar plants in agricultural fields, resulting in large part from Round-Up ready crops; herbicide application and mowing in roadside ditches and agricultural margins; and increasing urban and industrial development (Dyke et al. 2015; The Monarch Joint Venture, 2020).

Regal Fritillary Butterfly

Similar to the monarch butterfly, the regal fritillary butterfly (*Speyeria idalia*) is an SCP that is also under consideration for listing under the ESA. This species has not been documented at NRTF LaMoure and is rare in North Dakota; however, there have been few surveys or studies targeting this species (none at NRTF LaMoure) and the southeast corner of North Dakota has the best remaining habitat (Dyke et al., 2015).

The regal fritillary is typically found in tall-grass prairie remnants and other native prairie habitats including damp meadows, marshes, and wet fields. The larvae rely exclusively on native violets as a food source, particularly the bird's foot violet (*Viola pedata*), prairie violet (*V. pedatifida*), and Nuttall's violet (*V. nuttallii*). Adults rely on a variety of nectar sources including milkweeds, thistles (*Cirsium spp.*), blazing stars, and coneflowers (Dyke et al., 2015; USFWS, 2018a). Adult butterflies may be present from mid-June through mid-September, and females lay eggs in late summer, mostly in August. The eggs hatch in the fall and the new larvae overwinter in leaf litter, then begin feeding and growing the following spring (Selby, 2007).

The loss of suitable prairie habitat is the primary cause of decline in the regal fritillary population, and the reduction of connectivity between habitat patches is of great concern, since the butterflies do not disperse long distances (Dyke et al., 2015; Selby, 2007). As described in Section *2.2.2 Climate Change*, grasslands and grassland-dependent species, such as the regal fritillary, are projected to be highly vulnerable to climate change.

2.3.5 Invasive, Noxious, and Nuisance Species

Invasive, noxious, and nuisance species can pose a potential threat to NRTF LaMoure's natural resources, real property, and human health and safety, as well as interfere with military operations and infrastructure. Invasive or nuisance animals can displace native species through competition or predation, alter or damage ecosystems, and potentially spread disease or have health effects for humans or animals (USFWS, 2012b). Examples of nuisance animals include feral or free-ranging household dogs and cats, and an example of an invasive animal is the rusty crayfish, which has been documented on site. Feral or free-ranging dogs and cats can kill significant numbers of native wildlife (in particular, the predation of birds by cats), and are reservoirs for diseases such as rabies (Witmer et al., 2005). The rusty crayfish is native to the Ohio River basin, and can impact water quality and ecosystems by reducing aquatic vegetation

and by competing with native crayfish and fish species (NDGFD, 2019b).

Invasive and/or noxious plants can displace native plant communities or reduce plant species diversity, which can impact wildlife, and can alter ecosystem processes and damage built infrastructure (USFWS, 2012b). The projected warmer and generally wetter conditions resulting from climate change are expected to lengthen the growing season, which will increase the abundance and competitive ability of invasive plant species (Conant et al., 2018). An invasive species survey has not been conducted on the installation; however, during site visits, absinth wormwood, Russian olive, and Canada thistle (*Cirsium arvense*) were observed in upland portions of the installation. Both absinth wormwood and Canada thistle are on the North Dakota Noxious Weeds List (North Dakota Department of Agriculture, 2020).

While Russian olive is not listed as a noxious weed, this species has significant ecological consequences in the Great Plains region. Russian olive aggressively invades upland areas and moist riparian areas, forming dense, monotypic stands that out-compete and displace native vegetation (Shafroth et al., 1995). Russian olive can also affect nutrient cycling and system hydrology, further altering the native habitats (Tu, 2003). Seeds of Russian olive are dispersed by birds and other animals, and can remain viable in the soil for up to three years. Plants can also resprout from root suckers of trees that were not fully removed (Tu, 2003). Climate projections using habitat species distribution models suggest that Russian olive trees will continue to spread in the next 10 years because of increasing temperatures and precipitation (Conant et al., 2018).

Several small pockets of common reed (*Phragmites australis*) were observed on the installation, as well as just offsite bordering State Highway 13 along the southern edge of the installation. Although this species is not on the noxious weed list, if left unchecked, this plant will likely spread to cover larger areas and disrupt the wetland plant community. Common reed can form dense patches, outcompeting native species, altering wetland hydrology, increasing the potential for fire, and potentially decreasing available wildlife habitat because of its dense growth habit (Swearingen and Saltonstall, 2012).

Cattail, believed to be hybrid cattail (*Typha glaucal*), dominates much of the emergent wetland community on the installation. Historically, none of the species of cattail (*Typha spp.)* were prominent in the Prairie Potholes Region, but since the late-1800s these species have become widespread in the region, particularly in large wetlands (Bansal et al., 2019). Monocultures of cattail are associated with a wide range of negative ecological impacts to wetland and native wildlife habitats; however, cattail also provides a variety of ecosystem services such as bioremediation and provisioning of biomass (Bansal et al., 2019). Cattail is very difficult to control because of its ability to rapidly reproduce through rhizomes, and given the prevalence of this species on the installation, control measures may be too costly (both financially and ecologically) to be a management priority.

3.0 ENVIRONMENTAL MANAGEMENT STRATEGY AND MISSION SUSTAINABILITY

A successfully implemented INRMP, as stated in the Sikes Act and emphasized in the Navy INRMP Guidance (Navy, 2006), will meet the overarching goals described in *Section 1.3 Goals and Objectives*, including ensuring no net loss of the capability of military installation lands to support the military mission of the installation into the future, and ensuring that conservation of natural resources on military installations will continue without permanent loss of function into the future. These goals are closely related and not mutually exclusive. This INRMP was developed to meet overarching goals and objectives by identifying and prioritizing program elements that achieve both functions.

3.1 SUPPORTING SUSTAINABILITY OF THE MILITARY MISSION AND THE NATURAL ENVIRONMENT

Successful management of natural resources at NRTF LaMoure will protect and enhance the military mission. Priorities will include those management activities that protect infrastructure (such as increasing flood storage capacity of the wetland, preparing for changing flood regimes over the long term, reducing damage by wildlife, etc.) and those that reduce risk of regulatory requirements that could interfere with operations (such as preparing for new species or critical habitat listings and reducing bird strikes). Program elements planned for the current five-year cycle and for the long-term are described in detail in *Section 4 Program Elements*. The benefits and impacts to the military mission are assessed for each element.

In addition to implementation of the INRMP, the Environmental Division of NAVFAC's Public Works Department at NSE will provide technical oversight of mission-related activities at NRTF LaMoure, so that all future development and operations at the facility are conducted in an environmentally sensitive way with cooperation between environmental, engineering, operational, and planning personnel.

Project planning and review are achieved through an environmental review process which requires all new projects, programs, and operations, or changes to existing projects, programs, and operations, be reviewed by the NRM for potential impacts to the environment. The NRM reviews planned actions, identifies the risks to natural resources, and provides comments and/or alternatives to the action proponents that will minimize or eliminate the risks, if possible.

An established procedure is in place within NAVFAC NW Environmental Division at NSE which requires the project proponent to complete and submit an "Environmental Checklist" (Appendix E) and provide adequate detail to discern potential impacts. Depending on the scope of the proposed project, more information may be collected from the project proponent via phone and email, beyond that provided initially. Requirements (prescriptions/conditions of approval) for projects or plans are prepared and documented, including media-specific BMPs and prudent limitations. Environmental Protection Plans are generally required for projects, and reviewed by Environmental Division staff to verify environmental compliance and standards are met. The NRM

consults with other agencies (as necessary) to obtain required approvals, permits and concurrences, and incorporates conditions and limitations imposed by agencies as requirements to the projects.

When formal consultations are required under the ESA for projects or activities planned at NRTF LaMoure, the USFWS may require changes or mitigation to proposed actions that could result in delays and additional costs. Likewise, if permitting is required under the CWA, the USACE may require mitigation for impacts to wetlands or other water resources. Consequently, it is imperative that the installation and public works staff initiate early environmental/natural resources review of proposed actions in order to assess risks, develop alternatives, avoid impacts where possible, and correctly identify mitigation costs.

3.2 NATURAL RESOURCES CONSULTATION REQUIREMENTS

Three federal laws – the ESA, the MBTA, and the Bald and Gold Eagle Protection Act – require consultation with USFWS for Navy actions that could affect wildlife or plant species protected under these laws. The CWA requires notification or permits from the USACE and the DEQ.

3.2.1 ESA Section 7 Consultations for Federally Threatened and Endangered Species

ESA Section (7)(a)(1) directs federal agencies to manage federally listed threatened and endangered species and their habitat in a manner promoting conservation consistent with plans for recovery of such species. Section 7(a)(2) of the ESA requires federal agencies to consult with the USFWS whenever actions are proposed that may affect ESA-listed species, or species proposed for listing. Specifically, pursuant to Section 7 of ESA, the DOD consults with the USFWS when threatened or endangered species or designated critical habitats may be affected in order to ensure that no DOD action will likely jeopardize the continued existence of listed species, or destroy or adversely modify designated critical habitats.

There are no threatened or endangered species known to occur at NRTF LaMoure, and no critical habitat has been designated on the installation. This precludes, in most cases, the need for consultations under Section 7 of the ESA, which requires federal agencies to consult the USFWS whenever proposed actions "may affect" ESA-listed species. Future proposed projects, operations, or other actions that could potentially affect species listed under the ESA will be evaluated in consultation with USFWS under Section 7 of the ESA, if warranted.

3.2.2 Migratory Bird Treaty Act

The MBTA implements various treaties and conventions between the U.S. and Canada, Japan, Mexico, and Russia for the protection of migratory birds. Under the MBTA, taking, killing, or possessing migratory birds is unlawful.

The MBTA protects migratory birds and their nests and eggs from being hunted, captured, purchased, or traded. If an installation plans to control bird populations other than European starlings (*Sturnus vulgaris)*, house sparrows (*Passer domesticus*), and rock pigeons (*Columba*

livia), it may be required to coordinate with the USFWS. Future proposed projects, operations, or other actions that would potentially affect migratory birds would be evaluated through a formal review process in consultation with the USFWS under the MBTA.

The MBTA does not explicitly address incidental take from otherwise lawful activities, and the courts have been divided on the issue over the years. The DOD will continue to comply with EO 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) and its associated MOU, which requires federal agencies to identify actions that may result in unintentional take of migratory birds and to develop BMPs to minimize the amount of unintentional take.

3.2.3 Bald and Golden Eagle Protection Act

Bald and golden eagles are protected under the BGEPA (16 U.S.C. 668). Bald eagles have been documented in the vicinity, but no active nests are known to occur on the installation.

The BGEPA states that no one may "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or any golden eagle, alive or dead, or any part, nest, or egg thereof of the foregoing eagles…". Any action taken by the Navy with the potential to result in take of an eagle may require an Eagle Incidental Take Permit and should be coordinated through the Region 6 Migratory Bird Permit Office of the USFWS. The installation does not currently require an Eagle Incidental Take Permit for operations.

3.2.4 Clean Water Act

Under Section 404 of the CWA, discharge of dredged or fill material into waters of the U.S., including wetlands, is prohibited unless a jurisdictional determination is made and a permit issued by the USACE. USACE jurisdictional determinations are valid for a period of five years. The USACE regulates discharges of dredged or fill material within 100-year floodplains. Some floodplains receive additional protection through EO 11988, *Floodplain Management*, which instructs federal agencies to restore and preserve floodplains and to reduce the risk of flood-related loss by not building within 100-year floodplains. If floodplain disturbance is unavoidable, appropriate permits and NEPA documentation must be obtained before any ground-disturbing activities are undertaken.

In accordance with Section 401 of the CWA, federal agencies also must obtain a water quality certificate from the state for any action requiring a federal license or permit. In North Dakota, the 401 program is administered by the DEQ.

As part of the permit evaluation process used to authorize a particular project proposing to impact regulated waters (including wetlands), applicants must (1) establish that avoidance of impacts to regulated waters, including wetlands is not practicable; (2) demonstrate that all practicable efforts to minimize unavoidable impacts to regulated waters, including wetlands, have been taken into account in the project design and construction plan; and (3) provide a plan for compensation for all unavoidable impacts.

A number of Nationwide Permits (NWPs) issued by the USACE may be used to streamline the permitting process for activities that would have minimal adverse effect on wetlands and other aquatic environments. The NWPs protect all jurisdictional waters, including small wetlands and other waterbodies, through their terms and conditions, such as acreage limits and linear foot limits. The NWPs also support the "no overall net loss goal" through mitigation requirements. Currently, activities such as the maintenance of existing structures, residential development, reshaping existing drainage ditches, stormwater management facilities, and recreational facilities that do not alter the existing landscape are permitted under NWPs. Almost all NWPs require notification to the District Engineer, usually in the form of a permit application. If project impacts are expected to exceed allowable stream/wetland impact thresholds outlined under a particular NWP, then an individual permit must be obtained.

Compensatory mitigation requirements are determined by USACE District Engineers on a case-by-case basis, after considering relevant and available information, such as the ecological conditions of the project site, the type of activity, the impacts of the activity on the aquatic environment and other public interest factors. General conditions for NWPs require compensatory mitigation at a minimum 1:1 ratio for all wetland losses that exceed 0.10 acre and require a preconstruction notification. The mitigation ratio, however, can be adjusted upward as necessary to provide more appropriate mitigation for a specific activity.

All activities with the potential to disturb wetlands at NRTF LaMoure must be coordinated with the NSE environmental department to obtain certifications and permits required by federal and state pollution control laws applicable to federal agencies. To help facilitate wetland identification and the permitting process, the natural resources personnel must receive wetland delineation and regulatory training in preparing joint permit applications.

Environmental compliance staff (water program media managers, etc.) also will review erosion and sediment control plans for construction projects and actions that are 10,000 square feet or greater in size, and/or review the project-specific stormwater pollution prevention plan (SWPPP) that would be required for construction projects that disturb 1 acre or more. Site visits will be conducted during construction of such projects to help ensure compliance with erosion and sediment control plans and that BMPs are being implemented.

3.3 NEPA COMPLIANCE

NEPA requires that federal agencies evaluate the impacts of major federal actions on the quality of the human environment. The Navy's policies regarding NEPA, including OPNAV-M 5090.1 and the Secretary of the Navy Instruction (SECNAVINST) 5090.6A, Environmental Planning for DON Actions (26 April, 2004), emphasize that environmental planning is necessary and most effective at the earliest stages of project development. This ensures that planning and decision-making reflect environmental values, avoid unnecessary impacts, avoid delays, and avoid potential conflicts. The NSE Public Works Department's Environmental Division will review individual projects proposed at NRTF LaMoure to determine the appropriate level of analysis under NEPA, and whether a Categorical Exclusion (CATEX), an Environmental Assessment (EA), or an Environmental Impact Statement (EIS) is applicable.

Development and implementation of an INRMP is considered a major federal action and, as such, is subject to NEPA. An EA was prepared to evaluate the potential environmental effects associated with natural resource management actions and projects that are identified in this INRMP. The INRMP and the EA were made available for public review and comment from November 25 to December 28, 2020. The Finding of No Significant Impact (FONSI) is included in Appendix F. Future natural resource management actions and projects that are proposed at NRTF LaMoure, but that are not part of this INRMP and associated INRMP EA, will be assessed to determine the type of NEPA analysis needed.

3.4 Beneficial Partnerships and Collaborative Resource Planning

Installation natural resources staff will pursue partnerships with relevant federal and state agencies, non-governmental organizations, and other regional conservation partners as opportunities allow. Potential partnerships/collaborative efforts could include efforts to assess impacts from climate change and develop appropriate adaptation strategies to protect natural resources in the region, including rare, threatened, and endangered species. Other opportunities could include partnering with PIF for the Northern Great Plains Joint Venture in the conservation and management of land birds and/or with PARC for the conservation of herpetofauna and their habitats.

3.5 Public Access and Outreach

Opportunities and the need for public outreach regarding mission-related operations or natural resources management at NRTF LaMoure are limited because of the rural, somewhat remote location of the facility and because the general public is not allowed on the facility. See *Section 3.6 Encroachment Partnering* and *Section 4.4 Law Enforcement of Natural Resources Laws and Regulations* for instances where public outreach activities might be pursued.

3.6 Encroachment Partnering

The DOD's ability to operate continuously from its installations, conduct realistic live-fire training, and test weapons systems is essential for building and maintaining a more lethal and resilient combat force. Starting in the late 1990s, the Department became increasingly concerned about "encroachment" – pressures adversely affecting the military's use of operational, training, and testing lands. At the time, DOD identified two main encroachment threats: nearby incompatible land uses and environmental restrictions to protect imperiled species and their habitats.

The mission of the NAVFAC Asset Management business line is to provide comprehensive land, facilities, and public works services to the Navy's installations, ranges, and operating areas worldwide. NAVFAC provides planning, environmental, legal, real estate support, and program management oversight for the CNIC Encroachment Management program. One of CNIC's missions, as outlined in OPNAVINST 11010.40, is to ensure operational sustainment for all Navy installations, test and training ranges, air and water operating areas, special use airspace, and military training routes. The Asset Management business line at NAVFAC is responsible for land

use planning, program management, and project development for encroachment. Encroachment is primarily any non-Navy action planned or executed which inhibits, curtails, or possesses the potential to impede the performance of Navy activities.

An Encroachment Action Plan is the primary tool and process that Asset Management develops that results in the identification, quantification, mitigation, and prevention of the potential encroachment challenges to an installation or a range. Encroachment threats have not been analyzed at NRTF LaMoure, and NRTF LaMoure does not have an Encroachment Action Plan. With the existing and proposed levels of mission-related activities, no encroachments at NRTF LaMoure are expected that would affect adjacent lands or require specific partnering. No situations have been identified where others are encroaching on the NRTF LaMoure property to the point that it is putting mission activities at risk; however, initiation of an Encroachment Action Plan process could be useful for assessing potential encroachment issues or opportunities for community outreach activities.

3.7 GIS MANAGEMENT, DATA INTEGRATION, ACCESS, AND REPORTING

Accurate and current geospatial data representing the natural resources managed at NRTF LaMoure are a critical component of an effective natural resources management program. Geospatial data facilitate the installation's efforts to comply with environmental laws and ensure the protection of sensitive resources, while supporting military mission activities. Informed decision-making relies upon data collection and integration into an enterprise system.

All natural resource geospatial data are to be stored and maintained in NAVFAC's enterprise geodatabase, referred to as the GeoReadiness Enterprise System (GES). This will facilitate accessibility in the GeoReadiness Explorer (GRX), NAFAC's primary web-based geospatial data viewing tool, as well as future editing of data. Regional data for all NAVFAC NW installations are maintained by the CNRNW GeoReadiness Center (GRC). As this INRMP is reviewed and updated to accommodate new information and objectives, natural resource data requirements and planning-level surveys will be identified. Any data acquisition proposed under this INRMP must comply with the standards identified in the current version of the Navy Data Model. The GRC will be consulted when scopes of work are being prepared to ensure sufficient compliance with data standards and formats for integration into the GES. Further, Data Collection Guides for each feature class in the Navy Data Model Natural Resource Dataset are available from the GRC and must be referenced for any geospatial data collection efforts.

3.8 TRAINING OF NATURAL RESOURCES PERSONNEL

Personnel with natural resources conservation responsibilities shall receive the appropriate job-specific education and training to perform their assigned tasks per OPNAV-M 5090.1, Chapter 12. Assigned personnel submit and obtain training through their approved Individual Development Plan. Staff attends training sponsored by the Civil Engineer Corps Officers School (CECOS) and other internal Navy sources.

Attending annual workshops or conferences held by various professional organizations is important for natural resources staff to keep appraised of current and emerging natural resource issues. Professional organizations such as the National Military Fish and Wildlife Association (NMFWA), The Wildlife Society, and the Society for Ecological Restoration all host annual meetings focused on the management of natural resources. Trainings specific to NRM duties are frequently offered at the NMFWA annual meeting. Additional training opportunities are listed in Appendix G.

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4.0 PROGRAM ELEMENTS

The NRM is responsible for the oversight, management, and implementation of the natural resources program for NRTF LaMoure. The following sections describe the relevant program elements at NRTF LaMoure and identify goals and objectives for each program element. Objectives are numbered under each program element, but are not necessarily ranked. INRMP projects are developed directly from the program element objectives. *Section 5 INRMP implementation* lists and prioritizes the INRMP projects and identifies the program element objectives targeted by each project. Parameters to determine the effectiveness of management actions are listed for each program element objective. The effectiveness parameters will be monitored, assessed, and reported annually during the INRMP review and Metrics, as well as during the five-year Review for Operation and Effect.

Several standard program elements for Navy INRMPs are not included in this INRMP because there is no need or there are no opportunities available. These program elements include Forestry Management, Agricultural Outleasing, Outdoor Recreation, Bird/Animal Airstrike Hazard (BASH), and Coastal/Marine Management. NRTF LaMoure does not have forest habitat, coastal or marine habitat, or an airstrip. Outdoor recreation is not permitted on the installation for security reasons. Grazing and production of agricultural crops are activities conducted by the landowner (the Navy leases the land for the main site), and not under an agricultural outleasing program.

4.1 FISH AND WILDLIFE MANAGEMENT

An important function of the INRMP is to maintain and enhance habitats that support a full spectrum of native wildlife species, including mammals, birds, herpetofauna, fish, and invertebrates at levels that are compatible with the military mission and within habitat carrying capacity. Employing an ecosystem-based approach to wildlife management helps ensure that the needs of a full range of native wildlife species are supported, rather than those of a single or few select species. This also aligns with the habitat-based strategy pursued in the North Dakota SWAP.

In addition to the focus on habitat, successful management should also address maintaining healthy populations of wildlife, and reduce disturbance and mortality risks to fish and wildlife wherever possible (such as collision hazards and spread of disease).

Goal

Promote healthy populations of native fish and wildlife species, and protect and enhance their habitats at NRTF LaMoure.

Information/Data Needs

- Additional baseline data for species and their habitats present at NRTF LaMoure is needed. Plant surveys and invasive species surveys in grassland and wetland areas of the installation are needed to characterize the habitats.
- Determine whether the plant species composition of the grassland habitat at LaMoure compares to what a natural reference site for Eastern Mixed-grass Prairie would look like.

Management Strategy

The military mission of NRTF LaMoure is consistent with the conservation of habitats and species because the wetlands and adjacent uplands of the installation are maintained in a natural state to a great extent. Efforts to enhance the grassland and wetland habitats on site would provide benefits to many species groups, including mammals, birds, herpetofauna, invertebrates, and plants. Management actions should address or minimize risks posed to wildlife and habitat, including collision hazards, causes of mortality, spread of disease, and any change in operations or development of the installation. Additionally, habitat and conservation efforts at NRTF LaMoure should account for projected impacts from climate change, as described in *Section 2.2.2 Climate Change*, which could result in altered habitat or species interactions. Further management strategies and objectives addressing climate change impacts on habitat are provided in *Section 4.11 Climate Change Planning and Adaptation*.

Because grassland and wildlife communities are interrelated and interdependent, integrating grassland habitat and wildlife planning is essential to sustainable management. Restoration and enhancement projects for native grasslands have been identified as a priority for wildlife conservation in the region, as native grassland habitats in the eastern portion of the Prairie Potholes Region have been reduced to 1 percent of the historical extent (Prairie Pothole Joint Venture, 2017). Resultantly, wildlife endemic to grasslands have been greatly affected; for example, grassland bird populations are in a steeper, more consistent, and more geographically widespread decline than any other bird guild (Knopf, 1994). Restoration and enhancement projects could include removal of nonnative and invasive plant species, and reseeding or planting to increase diversity and abundance of native plant species. A number of more intensive practices could be assessed to determine if they would provide a benefit to grassland habitats at NRTF LaMoure, both within and outside of the operational area. Examples could include mowing or haying every three to five years, or disking to help break down plant litter build-up and stimulate new growth; however, these restoration practices should avoid the primary bird nesting season (April 15 – August 1). If any development is planned in the future at the installation, development should be located to avoid further fragmentation of grasslands. Finally, climate-related ecological changes to grassland communities in the Great Plains are expected to be profound, and all grassland habitat management should be considered within that context. Additional discussion relation to management and climate change is provided in *Section 4.11 Climate Change Planning and Adaptation*.

Wetlands at NRTF LaMoure provide habitats for a number of game and nongame species that rely on these areas for forage and cover. Wetland areas have minimal operations activities and maintenance needs. Management practices to restore or enhance wetland habitat should focus on invasive plant species control and diversifying native plant species. In addition, areas within and adjacent to wetlands should be monitored for drainage and erosion issues, which could lead to increased sediment buildup, alteration of hydrology, flooding, and other problems that could negatively impact wetland habitats. As with grassland habitat, all wetland habitat management should be considered within the context of climate change.

In addition to avoiding and minimizing impacts to habitat during project review, early involvement of the NRM in public works project planning can provide opportunities to incorporate habitat

enhancement into project design. Creation of habitat as part of project mitigation programs can also provide an opportunity for wildlife management.

Site-specific management actions for mammals and birds include removing trash (particularly food-related materials) and maintaining refuse bins and dumpsters to prevent wildlife from accessing the contents. Habituation and/or food conditioning could result in an increase in negative human-wildlife interactions, and human food is not healthy for wild animals. Any animal that appears to be sick or injured, or any unusual mortality event should be reported to the NDGFD and/or USFWS (as appropriate, depending on species), particularly if there are indications of one of the diseases identified in *Section 2.3.1.6 Wildlife Diseases*. Additional management actions specific to birds are discussed in *Section 4.3 Migratory Birds Management*.

Site-specific management actions for herpetofauna could include keeping vehicles on established roadways, temporarily closing roads during times of amphibian migrations, and as appropriate, mowing grassy areas using methods that reduce mortality such as increasing mower blade height to at least 8 inches or greater. In addition, any gear or equipment that will be used in aquatic areas should be decontaminated to prevent spread of water-borne diseases affecting amphibians, as well as the spread of aquatic invasive species. Decontamination procedures using bleach solution or other chemical agents are provided by the Partners in Amphibian and Reptile Conservation (NEPARC, 2014). Cleaning gear with hot water at a temperature of at least 140º F or drying gear completely for 30 days are also effective methods of decontamination (USFS, 2014). Any changes to management practices outside of the operational area will have to be pursued with the landowner, as the landowner maintains the use of the land in these areas and these activities are not directed by the Navy.

Given that invertebrate species have not been surveyed at NRTF LaMoure, current management should target taxonomic groups, such as butterflies and bumblebees, and their habitats. A focus on pollinators in particular is important given their important ecological role, as well as the rapid declines of pollinator species in North Dakota and worldwide. Restoring and enhancing grassland habitats will provide the greatest benefit to pollinators. Avoiding or limiting the use of insecticides provides additional protection. Use of insecticides is discussed in *Section 4.8 Pest Management*. If baseline surveys detect other important species groups, such as native freshwater crustaceans, specific management strategies for these groups should be assessed in the INRMP.

It is unknown whether there are any fish species within the waterbodies at NRTF LaMoure, and any that could be present would be limited to small, localized populations of fish tolerant to a variety of conditions. Therefore, no specific management actions are proposed for fish. This strategy should be reassessed if baseline surveys document fish species that would require or benefit from management actions.

Fish and Wildlife Objective 1 – Establish species baseline at NRTF LaMoure, documenting species presence, seasonality, and approximate abundance, where appropriate. In particular, taxa that have not been included in previous studies (fish, bats, and invertebrates) should be targeted to fill the data gaps. Given the rapid and significant shifts in ecosystems and species assemblages expected as a result of climate change, this objective should be reassessed on a maximum ten-year interval. Parameters used to determine the effectiveness of actions for this objective include: (a) executing

fish and wildlife studies targeting this objective, and (b) incorporating results from the studies in this INRMP.

Fish and Wildlife Objective 2 – Restore and enhance grassland and wetland habitats within the operational area by removing invasive plant species and increasing diversity and abundance of native grasses, forbs, and emergent wetland vegetation. Parameters used to determine the effectiveness of actions for this objective include: (a) quantifying pre- and post-treatment abundance of invasive plant species, (b) documenting which native plant species are present before and following restoration projects, and (c) quantifying pre- and post-project abundance of target native plant species for habitat restoration.

Fish and Wildlife Objective 3 – Coordinate with the local NRCS representative to see if they can facilitate agreements with the landowner to protect and enhance grassland and wetland habitat areas of the installation outside of the operational area. Parameters used to determine the effectiveness of actions for this objective include: (a) documenting coordination efforts with the NRCS and/or the landowner, (b) identifying management practices that could be improved or projects pursued for the benefit of native habitat, and (c) documenting changes made to management practices or pre- and post-project conditions.

4.2 MIGRATORY BIRDS MANAGEMENT

The DOD PIF program is intended to guide DOD's blending of military preparedness with conservation actions targeting avian species. Since partnering with the PIF initiative in 1991, DOD has become a leader in the effort to keep common birds common, while complying with federal regulations and sustaining the natural landscapes required to maintain military readiness. Further details are provided in *Section 1.9.2 Partners in Flight Strategic Plan*.

Goal

Support the conservation of migratory birds through habitat conservation and enhancement, and avoid the incidental take of migratory birds during military readiness actions as much as possible, in compliance with the MBTA.

Information/Data Needs

- Although a bird collision and mortality study was conducted at NRTF LaMoure nearly 50 years ago, there are several reasons why mortality rates may be different now. Habitats on site may have changed (and therefore species composition), bird populations may have declined, birds may have become accustomed to the tower, and advancements in study design and research techniques have improved. An updated study could provide more accurate data as to the numbers of bird collisions and mortalities at NRTF LaMoure and identify which species are most frequently impacted, which would be useful for directing management actions. On-site staff have expressed concerns that the original study provided an overestimate of mortalities, based on their current observations and experience.
- Recent bird surveys at NRTF LaMoure were conducted in the months of May and July 2016, and therefore only captured year-round resident species or species present during the breeding season. Transient spring and fall migrants were not targeted, and studies of

migrating birds and their populations in this area could inform management planning and decisions. This data gap could also be addressed through a desktop exercise using other relevant studies or reliable data sources, such as eBird, if adequate local information is available.

Management Strategy

The DOD PIF strategic plan provides management goals and recommendations for bird species on military lands (DOD PIF, 2014). The goals and recommendations applicable to NRTF LaMoure focus on inventory and monitoring, collaboration and partnerships, habitat conservation, and compliance with regulations.

Developing and implementing an inventory and monitoring program is important for:

- Assessing the status and trends of bird populations and habitats, including migrating, breeding, and wintering birds;
- Identifying the habitat components and conditions needed by bird species, including species of concern;
- Understanding interrelationships of co-existing species; and,
- Evaluating the effects of management activities on habitats and populations of migratory birds.

The inventory and monitoring program at NRTF LaMoure should be developed in alignment with the DOD Coordinated Bird Monitoring strategy, which includes guidelines for the design of bird monitoring surveys, a plan for monitoring bird species of special concern, and recommendations for DOD's role in continental bird monitoring programs.

In addition, baseline surveys and knowledge of the annual cycle of bird species that occur at the installation will inform methods to avoid potentially harmful activities in habitats used for nesting, migration stopover, and foraging. During sensitive habitat use periods (April 15 – August 1), installation staff and public works staff will coordinate with the NRM to ensure construction and maintenance activities use BMPs to reduce impacts to bird species.

Collaboration and partnerships could include participating in existing long-term regional or national inventory and monitoring programs such as the Breeding Bird Survey, Christmas Bird Count, breeding bird atlas projects, or game bird surveys (e.g., mid-winter waterfowl surveys), if determined to be practicable. USFWS, NDGFD, or other partners could be provided reasonable access to the installation on an annual basis to conduct any of these sampling or survey programs. In addition to updating this INRMP, data collected for breeding, migrating, and wintering bird populations and habitats could be provided to national data repositories such as eBird, Avian Knowledge Network, and Monitoring Avian Productivity and Survivorship (MAPS), as a way of furthering collaboration, if approved by the Navy. In addition, the NRM should explore opportunities for creating new partnerships to facilitate combined funding for inventory, monitoring, management studies, and research.

Habitat conservation through restoration and enhancement of grassland and wetland habitats provides an important benefit for migratory birds, and also supports the military mission by providing the natural infrastructure needed for operations. Management actions for habitat

conservation are described in *Section 4.1 Fish and Wildlife Management*. Additional habitat-related actions targeting bird species could include creating nest boxes, particularly for waterfowl, and removing inactive towers or poles which can serve as perches for predators in an ecosystem that naturally lacks high perches.

Compliance with the MBTA and EO 13186 requires avoiding and minimizing incidental take of migratory birds to the extent possible. The primary hazard to migratory bird species at NRTF LaMoure is the potential for collisions with the tower, downleads, or guy wires. Based on the best available research, nocturnal migrating passerines appear to be the group most impacted by collisions, and particularly during the fall migration. The management strategy includes assessing any improvements that could be made to the infrastructure or operations that minimize collision hazards, relying on the USFWS *Recommended Best Practices for Communication Tower Design, Siting, Construction, Operation, Maintenance, and Decommissioning* (USFWS, 2018b). Potential minimization measures include:

- Switching to all flashing red lights (currently some lights are constant and some flashing)
- Using the minimum intensity for lights and minimum number of flashes per minute
- Using motion-detected or heat-sensing lights for lighting on buildings at the base of the tower, or keeping these lights off
- Installing daytime visual markers or bird flight diverters on the downleads and guy wires

Early discussions of these measures during development of this INRMP have indicated that attaching objects to the downleads and guy wires would likely not be feasible due to the energizing of the wires and the instability caused by the additional weight on the wires. In addition, the lighting on the antenna meets current Federal Aviation Administration (FAA) requirements and was specially designed for Navy communications towers around the world. Changing the solid lights to flashing lights would require re-designing electrical circuits and a multi-year system testing process, and the result would be one antenna with a different design than the other Navy towers. Changing the lighting scheme would also involve changing the paint scheme of the tower in order to meet FAA regulations, requiring additional expense. The technical and logistical obstacles indicate this minimization measure is unlikely to be feasible. However, several minimization measures are already in practice: the tower lights are already set to the minimum intensity and minimum number of flashes per minute. On-site staff currently leave the lights off on the buildings at the base of the tower, except for infrequent use when needed for night work by the crew. Future updates to this INRMP will continue to use best available science to identify other minimization measures that could be implemented.

Migratory Bird Objective 1 – Assess improvements that could be made to infrastructure or operations that would address daytime and nighttime collision hazards for bird or bat species. Parameters used to determine the effectiveness of actions for this objective include: (a) identifying potential hazards, and (b) for each hazard, either documenting the needed change in infrastructure or operations, or documenting reasons why no change can be implemented.

Migratory Bird Objective 2 – Investigate the extent of bird mortality related to collisions with the tower, downleads, and guy wires. Research should identify species affected, and the infrastructure, seasonality, and weather-related factors that contribute to the issue. Parameters used to determine

the effectiveness of actions for this objective include: (a) executing research program that targets this objective, (b) incorporating results from the research program in this INRMP, and (c) using the results related to infrastructure to inform actions needed for *Migratory Bird Objective 1*.

Migratory Bird Objective 3 – Establish a bird species baseline at NRTF LaMoure, documenting species presence, seasonality, and approximate abundance, where appropriate. In particular, spring and fall surveys should be included to fill the data gaps. Given the rapid and significant shifts in ecosystems and species assemblages expected as a result of climate change, this objective should be reassessed on a maximum 10-year interval. Parameters used to determine the effectiveness of actions for this objective include: (a) executing avian studies targeting this objective, and (b) incorporating results from studies in this INRMP.

Migratory Bird Objective 4 – Participate in a long-term regional or national inventory and monitoring programs such as the Breeding Bird Survey or Christmas Bird Count. Parameters used to determine the effectiveness of actions for this objective include: (a) submitting datasets annually to the appropriate regional or national program, and (b) incorporating results from these surveys in this INRMP.

4.3 THREATENED AND ENDANGERED SPECIES, CRITICAL HABITAT, SPECIES OF CONCERN

There are currently no federally listed threatened or endangered species known to occur at NRTF LaMoure and no critical habitat has been designated; therefore, this program element focuses on other species of concern (SCP and BCC identified in *Section 2.3.4 Other Species of Concern*) and protecting and enhancing habitat that could be used by species of concern or federally listed species, should a federally listed species occur at NRTF LaMoure in the future. The development of this INRMP cooperatively with the USFWS will ensure all species identified by USFWS as a concern for the Installation have been addressed.

Pursuant to Section 4(a)(3)(B)(i) of the ESA, the Secretary of the Interior will not designate as critical habitat any lands or other geographical areas owned or controlled by the DOD, or designated for its use, that are subject to an INRMP prepared under the Sikes Act, if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation. The simple existence of an INRMP does not prohibit the designation of critical habitat; the plan must provide a benefit to the species. The USFWS uses three criteria to determine if an INRMP provides adequate special management or protection to obviate the need for critical habitat designation. These criteria require that the INRMP contributes to species conservation, that species-related measures are funded and implemented, and that the INRMP provides assurances that conservation measures will be effective. The criteria are further described in Appendix H. The goal and objectives of this program element were determined with the intent to meet these criteria and provide the benefit to the species that obviates the need for a future critical habitat designation.

Goal

Promote the conservation of threatened and endangered species and species of concern, and protect and enhance their habitats at NRTF LaMoure.

Information/Data Needs

- Additional baseline data for species present at NRTF LaMoure is needed. Specifically, no fish surveys, bat surveys, invertebrate surveys, or plant surveys have been conducted, which could include ESA-listed species or SCPs identified in the SWAP, such as the little brown bat or the Dakota skipper and regal fritillary butterflies.

Management Strategy

Whooping cranes would only be present at NRTF LaMoure during migration, and are expected to occur rarely given that the installation is outside of their normal migration route. Stopover and foraging habitat for whooping cranes includes the wetland complex and surrounding grassland and cropland. Cranes tend to avoid treed areas near roads. Enhancement of any of these habitats at NRTF LaMoure, in particular the removal of invasive Russian olive trees, would be beneficial to whooping cranes. In addition, this species is a diurnal migrant, so the risk of collision with the antenna tower, downleads, or guy wires would be limited to daytime. Mitigation measures that serve to reduce daytime collisions hazards would be beneficial for whooping cranes. Mitigation measures related to collisions, as well as management actions for birds that would include bird species of concern, are discussed further in *Section 4.3 Migratory Birds Management*.

The North Dakota Monarch and Native Pollinator Strategy sets a goal of restoring or enhancing seven million acres of land for pollinators over a five-year period with the primary intent of precluding the need to list the monarch (and other pollinator species) under the ESA (NDGFD et al., 2018). Enhancement of native grassland habitats at NRTF LaMoure would be beneficial to monarch butterflies, and should include a focus on increasing abundance of native host plant and nectar-source plant species. While Dakota skipper and regal fritillary have not been documented at NRTF LaMoure, they could be present and therefore should be included in management planning. As with the monarch, restoration and enhancement of habitat is the most important conservation action needed, and should focus on increasing abundance of native host plant and nectar-source plant species in the grassland habitats on the installation.

It is unlikely that the northern long-eared bat is present at NRTF LaMoure (see *Section 2.3.3 Federally Listed Species*); however, no bat surveys have been conducted at the installation. Other bat species of concern, the big brown bat and little brown bat, are more likely to be present, using habitats at the installation for foraging and potentially using buildings for roosting. All three of these species are insectivorous bats that are affected by white-nose syndrome, so the same management actions will benefit all three species, such as avoiding or limiting the use of insecticides to protect their food source and reporting any sick or dead bats that are found. If possible, the carcass should be preserved and submitted to the NDDH Division of Microbiology or to the North Dakota State University Veterinary Diagnostic Laboratory for disease testing (both rabies and white-nose syndrome). These departments should be contacted directly for instructions on specimen collection and safety precautions. If roosting bats are detected in any of the buildings, the NRM and appropriate wildlife agencies should be contacted to determine which species are present. Based on the results of the bird collision study at the original Omega tower (Avery et al., 1978), collision with the tower or wires at the installation is not expected to be a significant risk for these bat species.

Species of Concern Objective 1 – Assess improvements that could be made to infrastructure or operations that would address daytime and nighttime collision hazards for bird or bat species. Parameters used to determine the effectiveness of actions for this objective include: (a) identifying potential hazards, and (b) for each hazard, either documenting the needed change in infrastructure or operations, or documenting reasons why no change can be implemented.

Species of Concern Objective 2 – Restore and enhance grassland and wetland habitats within the operational area by removing invasive plant species and increasing the diversity and abundance of native grasses, forbs, and emergent wetland vegetation. Parameters used to determine the effectiveness of actions for this objective include: (a) quantifying pre- and post-treatment abundance of invasive plant species, (b) documenting which native plant species are present before and following restoration projects, and (c) quantifying pre- and post-project abundance of target native plant species for habitat restoration.

Species of Concern Objective 3 – Coordinate with the local NRCS representative to see if they can facilitate agreements with the landowner to protect and enhance grassland and wetland habitat areas of the installation outside of the operational area. Parameters used to determine the effectiveness of actions for this objective include: (a) documenting coordination efforts with landowner, NRCS, or other agency, (b) identifying management practices that could be improved or projects pursued for the benefit of native habitat, and (c) document changes made to management practices or pre- and post-project conditions.

Species of Concern Objective 4 – Increase abundance of host plants and nectar plants for Dakota skipper, regal fritillary, and monarch butterflies, particularly native milkweeds, blazing stars, wild bergamot, asters, coneflowers, violets, and goldenrods. Parameters used to determine the effectiveness of actions for this objective include the quantifying of pre- and post-project abundance for each target plant species.

4.4 Law Enforcement of Natural Resources Laws and Regulations

Currently, there is no law enforcement program specific to natural resource laws and regulations at NRTF LaMoure. Hunting and fishing are not permitted within the operational area; however, the only current means of enforcement are signs identifying the operational area as a "Restricted Area." Encroachment threats have not been analyzed at NRTF LaMoure and the installation does not have an Encroachment Action Plan. Refer to *Section 3.7 Encroachment Partnering* for more information regarding encroachment issues and planning.

Information/Data Needs

- Determine if there is a need for a law enforcement program to address natural resources regulations.

Management Strategy

There are few on-site staff at NRTF LaMoure, none of whom is tasked with law enforcement. An assessment process with NCTAMS, Public Works Department, and Security department staff is

needed to determine whether enforcement of natural resources laws (such as hunting regulations) is an issue, and whether this should be handled through an Encroachment Action Plan process or via the INRMP. Improved signage indicating that no hunting or fishing is allowed, public outreach activities, or agreements with other agencies to provide law enforcement support could be pursued as possible solutions.

Law Enforcement Objective 1 – Determine if there is a need for a law enforcement program to address natural resources regulations, and if so, create a plan to address the need. Parameters used to determine the effectiveness of actions for this objective include: (a) documenting coordination efforts with on-site staff, the landowner, NSE command, and other law enforcement and natural resources agencies, (b) production and approval of a plan to address law enforcement of natural resources regulations.

4.5 WETLANDS AND FLOODPLAINS MANAGEMENT

EO 11990 requires federal agencies to minimize the loss or degradation of wetlands and to enhance their natural values. Section 404 of the CWA prohibits discharges of dredged or filled material into waters of the U.S., including wetlands, without first obtaining a permit from the USACE. In accordance with 40 CFR Part 230 and 33 CFR Parts 325 and 332, OPNAV-M 5090.1 states the Navy must comply with the national goal of "No Net Loss of Wetlands Policy" and avoid the degradation or loss of size, function, or value of wetlands. Wetlands, floodplain, and water quality management and protection are important issues at NRTF LaMoure, particularly given the benefits to the mission provided by the wetlands (as described in *Section 2.1.2 Location and General Description*).

Goal

Avoid or minimize impacts to wetlands and the James River floodplain to the greatest extent practicable, mitigate any unavoidable impacts in accordance with state and federal regulations, and enhance wetland habitats at NRTF LaMoure in order to provide for healthy ecosystem functions, wildlife habitat, and the natural infrastructure needed for the military mission.

Information/Data Needs

- Verify whether there is a wetland at the remote site, as mapped in the NWI.
- Identify the primary water source(s) for the wetlands at NRTF LaMoure (e.g., groundwater, agricultural drainage system, or floodwaters from the James River).
- An engineering study of how current drainage infrastructure affects the water levels in the wetlands is needed, including proposals for how road flooding issues can be addressed while protecting the wetlands. This study should consider how flooding and drainage patterns are expected to change over time with the effects of climate change.
- FEMA has not yet produced flood maps for this segment of the James River. When this information becomes available, the INRMP should be updated accordingly.

Management Strategy

Any new construction or maintenance projects will be analyzed in the early planning stages for impacts to wetlands or the James River floodplain. Any project that cannot avoid impacts to

wetlands shall be designed to minimize wetland degradation and shall include compensatory mitigation as required by regulatory agencies in all phases of the project's planning, programming, and budgeting process. Wetland delineations should be completed prior to final project design, pursuant to methods outlined in the 1987 USACE Wetland Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the Wetland Delineation Manual: Great Plains Region (USACE, 2010). Wetland delineations provide the locations of aquatic resources under the potential jurisdiction of the CWA. Permits may be required, as described in *Section 3.2.4 Clean Water Act*.

The management strategy to protect water quality includes compliance with the SPCC plan (described in *Section 1.9.4 Spill Prevention, Control, and Countermeasure Plan*) as well as assessing other potential actions that could be employed. Establishing or enhancing vegetated riparian buffers along all waterways, retaining vegetative cover in drainage ditches, and establishing vegetative buffers around as much impervious surface area as practicable would help to substantially reduce nonpoint source pollution runoff. Other management strategies could include establishing zones where mowing is reduced to once or twice per year, creating no-mowing zones where practicable, and planting appropriate native vegetation.

Wetland restoration or enhancement projects will be pursued for the purpose of wildlife habitat and for maintaining the functional value of the wetlands. Management actions to restore or enhance wetlands should focus on invasive plant species control and diversifying native plant species, as well as monitoring drainage and erosion issues, which could lead to increased sediment buildup, alteration of hydrology, flooding, and other problems that could negatively impact wetlands and mission. In addition, given climate change projections for warmer temperatures and alterations in the timing and quantity of precipitation, runoff, and streamflow, the wetlands should be monitored to determine if the hydrology is changing over time. The primary and contributing sources of hydrology in the wetlands have not been studied, and a gradual shrinkage of wetland acreage would not only result in a loss of habitat for wildlife, but would also impact radio signal transmission. Data from long-term monitoring is needed to inform management and/or adaptation strategies that allow the wetlands to continue to provide natural resources benefits as well as benefits to the mission.

Flooding has become an annual problem at NRTF LaMoure, normally overtopping and blocking access to portions of the perimeter road in the southeast, but in high water years, also overtopping the access road to the helix house and antenna. In 2020, a temporary AquaDam system (Figure 4-1) was purchased and deployed in anticipation of a 100-year flood event that could result in water intrusion in the buildings at the installation. This temporary system will be retained on site to use in future large flood events; however, an engineering study of the drainage infrastructure on site to determine repairs or replacement needed would provide a long-term and more permanent solution. Floodwaters overtopping roads and entering buildings can lead to contamination and sedimentation of water, and is therefore an issue for the protection of both infrastructure and natural resources. Changes in spring runoff and precipitation increases during extreme events could cause wetlands to flood more frequently in the future, given projected climate change effects.

Figure 4-1. AquaDam deployed at NRTF LaMoure to provide temporary control of flooding.

Wetlands and Floodplains Objective 1 – Develop a long-term monitoring plan to track changes in wetland boundaries, vegetation communities, and flood regimes over time, as the effects of climate change become more significant. Given the anticipated rapid shifts in ecosystems as a result of climate change, monitoring should occur on a five- to ten-year interval. Parameters used to determine the effectiveness of actions for this objective include: (a) production and approval of a long-term monitoring plan addressing climate change impacts to wetlands, (b) delineation of current wetland boundaries to establish the baseline needed for tracking, and (c) incorporating results from the monitoring efforts into the INRMP and management strategy for wetlands.

Wetlands and Floodplains Objective 2 – Improve drainage infrastructure affecting the water levels in the wetlands, in order to address road flooding issues while also protecting the quality and functions of the wetlands. Parameters used to determine the effectiveness of actions for this objective include: (a) completing an engineering study of the drainage infrastructure and water levels, including identifying mission requirements that must be satisfied and benefits to the wetland habitat, and (b) pre- and post-project monitoring of water levels and flooding impacts.

4.6 VEGETATION MANAGEMENT

This section covers vegetation management in developed and landscaped areas of NRTF LaMoure. *Section 4.2 Fish and Wildlife Management* addresses management of vegetation in undeveloped areas of the installation where the goal is to maintain natural ecosystems and plant communities. Landscaping at the installation is minimal, including only grassy areas near the paved road and buildings, and several ornamental trees. Currently, maintenance of landscaping vegetation is conducted by the contractors on site.

Goal

Vegetation management will maintain and enhance landscaped areas at NRTF LaMoure while minimizing the use of energy, water, chemical herbicides, and fertilizers.

Information/Data Needs

- Identify annual grounds maintenance needs and previous/current management practices.

Management Strategy

Landscaping practices should include the use of native plants and require minimal maintenance, which includes reducing the need for fertilizers, pesticides, and watering. Regionally native plant species are better suited for local site conditions than nonnative species, and are also are less likely to become invasive weeds than nonnative species. A list of plant species native to the region that are suitable for landscaping purposes is provided in *Living Landscapes: A Guide to Native Plantscaping* (NRCS, 2006). Plant characteristics and site requirements for each species are included in the guide. Opportunities for incorporating replacement or enhancement of the landscaping in future facilities projects should be pursued.

Native plants also serve as better sources of food and cover for native wildlife. In particular, the Navy has recognized the important ecological role provided by pollinators, and encourages installations to foster pollinator habitats. Native pollinators are attracted to diverse, colorful floral sources that provide a succession of flowers of different shapes and sizes.

Vegetation Objective 1 – Assess annual grounds maintenance needs and current management practices for detrimental effect to species or habitats and opportunities to add ecosystem benefits (such as pollinator-friendly plants in landscaping) without creating an undue burden on staff. Parameters used to determine the effectiveness of actions for this objective include: (a) developing a list of grounds maintenance needs and management practices, (b) documenting coordination with on-site staff, the NW Region pest management consultant, and PW staff to identify opportunities for improving vegetation management and landscaping composition, and (c) for each detrimental practice identified, documenting the needed change in management practices or why no change could be implemented.

4.7 Invasive, Noxious, and Nuisance Species Management

EO 13112, *Invasive Species*, as amended by Executive Order 13751, *Safeguarding the Nation* establishes U.S. policy "to prevent the introduction, establishment, and spread of invasive species, as well as to eradicate and control populations of invasive species that are established." An invasive species is defined as, "…a non-native organism, [with regard to a particular ecosystem,] whose introduction causes or is likely to cause economic or environmental harm, or harm to human, animal, or plant health." Responsibilities of federal agencies, with respect to implementing the U.S. invasive species policy, are enumerated in Section 3 of EO 13751, and OPNAV-M 5090.1, Section 12-3.9, which details Navy guidance with respect to invasive species management. North Dakota state law requires that "each person shall do all things necessary and proper to control the spread of noxious weeds" (North Dakota Century Code 4.1-47-02), and currently designates 13 species as noxious weeds requiring control or eradication (North Dakota Department of Agriculture, 2020). A comprehensive survey of invasive plant and animal species at NRTF LaMoure has not been completed; however, several noxious weeds and invasive plant species were noted on the property during on-site visits.

Goal

Reduce or eradicate (where practical) noxious weed species and invasive plant and animal species at NRTF LaMoure in order to improve the quality of native vegetation and wildlife communities

and habitat.

Information/Data Needs

- A baseline survey of noxious and invasive weeds is needed to identify the species, locations, and extent of infestations at NRTF LaMoure.
- Confirm that hybrid cattail is the species present and determine if detrimental effects are resulting to the wetlands/ecosystem.
- Determine the extent of rusty crayfish population in the wetlands and whether its control is recommended. Once a population is established, it is difficult to control.

Management Strategy

Control of invasive plant species serves not only to enhance native vegetation communities and wildlife habitat, it also provides benefits to the military mission in cases where infrastructure (such as the ground field) or natural systems that support infrastructure (such as the wetlands, which enhance signal transmission) are damaged. The only invasive animal documented at the installation is the rusty crayfish. Feral cats and dogs may also be occasionally present. Any of these invasive animal species could harm the native ecosystem and species, although the extent of impacts, if any, is unknown at this time. Rusty crayfish surveys would be covered under baseline surveys for invertebrate species, as described in *Section 4.1 Fish and Wildlife Management*.

Invasive species management efforts will initially target the species that impact both natural habitats and military mission/infrastructure, for example, Russian olive. Tree roots could damage the wires in the ground field and negatively affect the performance of the antenna. Previous eradication efforts have shown that large, mature stands of Russian olive are very difficult to completely eradicate, but that small populations of the species can be controlled, indicating that early intervention at NRTF LaMoure is more likely to be successful. Infestations should be monitored for several years to prevent re-establishment given the four-year viability of the seed bank and the ability of the tree to resprout from suckers.

Any gear or equipment that will be used in aquatic areas should be decontaminated to prevent spread of aquatic invasive species. Decontamination procedures using bleach solution, other chemical agents, hot water at a temperature of at least 140º F, or drying gear completely for 30 days are effective methods of decontamination (USFS, 2014).

Invasive Species Objective 1 – Remove Russian olive within the NRTF LaMoure. Russian olive has the potential to spread quickly from its current location, degrading the quality of grassland habitat and damaging the ground field infrastructure. Parameters used to determine the effectiveness of actions for this objective include: (a) executing Russian olive removal projects, and (b) monitoring for a minimum of five years after removal to ensure the infestation does not return.

Invasive Species Objective 2 – Conduct baseline surveys within the installation for the presence of noxious weeds and other invasive plants to map the presence, location, and extent of any noxious and invasive plants. Parameters used to determine the effectiveness of actions for this objective include: (a) executing invasive plant studies and mapping, and (b) incorporating results from studies in this INRMP.

Invasive Species Objective 3 – Develop a program to eradicate species on the North Dakota Noxious Weed List and other species whose control is required by LaMoure County, and to control or eradicate other invasive plants. Monitoring and/or control measures may be recommended on an annual basis, and should minimize or avoid the use of herbicides in order to protect pollinator host plants and nectar sources. Parameters used to determine the effectiveness of actions for this objective include: (a) production and approval of an invasive species management plan, and (b) quantifying pre- and post-treatment abundance of invasive plant species.

4.8 PEST MANAGEMENT

An Integrated Pest Management Program (IPMP) is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical means in a manner that minimizes economic, health, and environmental risks. The NW Region pest management consultant is responsible for developing and implementing an IPMP for NRTF LaMoure. Currently, no plan has been developed specifically for this installation.

Goal

Use targeted sustainable methods including habitat modification, biological, genetic, cultural, mechanical, physical and regulatory controls and, when necessary, the judicious use of the least hazardous pesticides to control pests on NRTF LaMoure.

Information/Data Needs

- None at this time

Management Strategy

Consistent with DODI 4150.07 and OPNAVINST 6250.4C, Navy Pest Management Programs, the pest management approach must use targeted sustainable methods including habitat modification, biological, genetic, cultural, mechanical, physical and regulatory controls and, when necessary, the judicious use of the least hazardous pesticides. Methods must be those least hazardous to non-target organisms and the general environment. Where possible and when mission is not negatively impacted, nuisance species should be tolerated. For example, cliff swallows nesting on the helix house do not create any risks to mission or health and nests can be left in place.

Currently, the only significant pest management concern at NRTF LaMoure is the risk of rodent infestation in the transmitter building or helix house. Damage caused by rodents to electrical systems could be catastrophic to mission-critical infrastructure and operations. On-site staff have not reported any rodent infestation issues, but maintain baited traps within the buildings at all times to detect and quickly address any new rodent intrusion.

A small amount (< 1 gallon per year) of herbicide is used by on-site staff to manage weeds in the gravel areas around the buildings. Annual usage is reported to NAVFAC NW. Standard BMPs for herbicide application are employed (e.g., avoid spraying in windy conditions). Insecticides are used rarely to treat any infestations within the buildings.

The effects of pesticides on pollinator species are a growing concern. When insecticides are required, the insecticides used should have the lowest toxicity to bees and other pollinators, the

shortest residual toxicity, or only repellent properties towards bees. When possible, pesticides should be applied early in the morning or in the evening. Pollinators are most active during daylight hours and when the temperature is over 55º F and would therefore be least likely to be impacted in the early morning or the evening (NDGFD et al., 2018). Additionally, if pesticides are used onsite more widely in the future, personnel will use only those pesticides approved for wetland applications, in accordance with the label (OPNAVINST 6250.4C, OPNAV-M 5090.1).

Pest Management Objective 1 – The NW Region pest management consultant will develop an IPMP specific to NRTF LaMoure, in coordination with on-site staff. Parameters used to determine the effectiveness of actions for this objective include the production and approval of an IPMP.

4.9 LAND MANAGEMENT

This program element specifically addresses erosion issues. Various aspects of land management are found in other program elements in this section, such as fish and wildlife management, wetlands and floodplains management, vegetation management, and invasive species management.

Goal

Promote healthy ecosystems by avoiding and minimizing the effects of erosion and sedimentation.

Information/Data Needs

- None at this time

Management Strategy

The relatively flat topography of NRTF LaMoure results in a low potential for erosion and sedimentation. Activities that remove vegetation and disturb the soil increase the risk of erosion and sedimentation, and require measures to protect water quality. Proposed construction projects that disturb 1.0 acre or more must obtain authorization from the DEQ. Permit applications are found on the Division of Water Quality website under Stormwater Permits. Site-specific SWPPPs that address runoff control during and after construction activities must be prepared for all ground-disturbing construction projects at the installation. The SWPPP must include BMPs and erosion and sediment control measures. Guidance is provided in the Authorization for Discharge under the North Dakota Pollutant Discharge Elimination System (NDDoWQ, 2020) and from the NSE Environmental Engineer.

Portions of the installation are utilized by the landowner to graze cattle, which may contribute to soil erosion as cattle traverse the site. Annual inspections should be completed to identify areas experiencing erosion. For example, erosion has been noted on the road at the northeast corner of the installation, where cattle are grazed in a wet area adjacent to the road. Any changes to management practices outside of the operational area will have to be pursued with the landowner, as the landowner maintains the use of the land in these areas and these activities are not directed by the Navy.

There are no specific objectives proposed for land management related to soil erosion issues for this planning phase.

4.10 WILDLAND FIRE MANAGEMENT

Federal wildland fire policy requires that all federal lands with burnable vegetation will have a wildland fire management plan and resources to safely mitigate losses (USDI and USDA, 1995). A wildland fire management plan is a strategic document that guides the full range of fire management related decisions, including the natural ecological review of fire.

A large portion of NRTF LaMoure is comprised of prairie grasses which tend to be highly combustible light fuels that burn readily and rapidly given the right environmental conditions. Fires at NRTF LaMoure would be detrimental to the sensitive communications equipment, particularly the helix house, threatening operational capacity of the installation and its military mission. With the increasing number of very hot days and the alterations in the timing and magnitude of rainfall projected for North Dakota as a result of climate change, wildland fire could be a more significant risk in the future.

Goal

Protect infrastructure and natural and cultural resources, and provide for human safety by maintaining a low risk of wildfire at NRTF LaMoure.

Information/Data Needs

- Identify the available wildfire suppression resources at NRTF LaMoure, in the local community, or from other federal agencies operating in the general area.
- Identify appropriate techniques that could be used to proactively reduce risk of wildfire in the ecosystem found at NRTF LaMoure.

Management Strategy

There has been no wildland fire planning effort to date for NRTF LaMoure. The initial management strategy must first address the information needs, and then focus on developing a long-term, comprehensive strategy for the installation. The objectives below identify the greatest needs for the planning effort.

Wildland Fire Objective 1 - Develop a wildland fire management plan to address potential wildland fire risk and identify appropriate management actions and responses. The plan should also identify actions for post-fire burned area response and rehabilitation. The parameter used to determine the effectiveness of actions for this objective is production and approval of a wildland fire management plan.

Wildland Fire Objective 2 - Pursue mutual aid agreements with local fire suppression responders or other federal partners. Parameters used to determine the effectiveness of actions for this objective include: (a) documenting coordination efforts with appropriate fire suppression agencies, and (b) approval of mutual aid agreements.

4.11 CLIMATE CHANGE PLANNING AND ADAPTATION

As discussed in *Section 2.2.2 Climate Change*, DODI 4715.03 directs installations to address climate change in INRMPS.

Goal

Identify, prepare for, and reduce climate change-related risks to natural resources and the military mission at NRTF LaMoure.

Information/Data Needs

- Information gaps identified in each program element related to the current condition of natural resources must be addressed for comprehensive climate change adaptation planning.
- Climate projections are constantly being refined and updated. As new National Climate Assessments and other credible reports are produced, this INRMP should be updated to reflect best available science.

Management Strategy

The DOD has developed a guide for integrating climate change planning in INRMPs: *Climate Adaptation for Natural Resources Managers* (Stein et al., 2019). This guide provides a process for proactively integrating planning for mitigation, restoration, or adaptation in the objectives and management strategies developed for the program elements. This six-step process includes:

1) Setting the context for adaptation planning
2) Assessing climate vulnerabilities and risks
3) Evaluating implications for INRMP goals and objectives
4) Developing strategies and actions to reduce climate risk
5) Implementing adaptation actions and projects, and
6) Monitoring and adjusting adaptation actions.

The context and climate vulnerabilities are addressed in many sections of this INRMP, such as *Section 2.2.2 Climate Change*, as well as the rest of *Section 2 Current Conditions and Use*, which describes baseline conditions and the interactions between military mission and natural resources.

Additional effort is needed to document current (baseline) conditions of natural resources at the site in order to plan for and adapt to projected impacts of climate change. The information and data needs include surveys for fish, bats, and invertebrates; additional bird surveys during spring and fall migrations; characterization of grassland plant communities compared to reference sites; wetland delineations, characterization of wetland plant communities, and identification of sources of hydrology, including at the remote site; and an inventory of invasive plant and animal species. Once these data gaps have been filled, climate adaptation planning can more comprehensively address the vulnerabilities and risks to natural resources and the military mission at the installation.

Objectives for each program element were developed with the projected effects of climate change in mind. The ecosystem-based approach for natural resources management in this INRMP targets restoring and enhancing habitats and removing invasive species as a way to promote resiliency for native plant and wildlife species. As projects are developed to address these objectives, the potential future climate should be considered so that the desired ecological community will be able to persist under future conditions. For example, native plant species that are tolerant of hotter conditions could be selected for restoration projects. Developing program element objectives for

climate change also includes monitoring natural resources to detect changes over time that would require reassessing management strategies. Given the current understanding of climate vulnerabilities of natural resources at NRTF LaMoure, wetland habitat, grassland habitat, migratory birds, and grassland-dependent bird and butterfly species are the target resources for climate change concerns. Timeframes of less than 25 years to 100 years and more are used by researchers to characterize projected effects from climate change. Climate change effects to the natural resources at NRTF LaMoure will occur incrementally over similar timeframes, and therefore a long-term monitoring and planning strategy is required, with the appropriate timeframe identified in each objective. Based on the results of long-term monitoring, program element goals and objectives should be reassessed during the five-year reviews for operation and effect to ensure continuing feasibility or to include climate-informed updates, as needed.

Developing strategies and actions to reduce climate risk will be an ongoing process as data gaps are filled and vulnerabilities of natural resources are better understood. For example, if a study of the water sources for the wetlands indicates the wetlands may be vulnerable to projected warmer temperatures, a restoration strategy that improves the capacity of the wetlands to hold water (such as addressing sedimentation issues or removing densely growing invasive species) might reduce risk of wetland loss or degradation. If the wetlands are determined to be highly sensitive with low adaptive capacity, an adaptation strategy (as opposed to a restoration strategy) might be necessary in the long term, such as increasing water inputs from the James River, provided the objective is still to maintain wetlands for habitat and mission benefits. As both INRMP projects and public works projects are developed, worksheets 4.1 and 4.2 in *Climate Adaptation for Natural Resources Managers* may be helpful for incorporating climate change planning. Current INRMP projects proposed to reduce climate risk are identified in the INRMP Project Implementation Table (Table 5.1) linked to this program element and its objectives. Implementing climate adaptation actions and projects will be dependent on INRMP project programming and budgeting priorities, coordination in the early planning of public works projects, and cooperation with partner agencies to complete projects through means outside of INRMP project funding. In many cases, habitats and the distribution of species on the Navy's limited property at this installation may be too small in scale to address climate change vulnerabilities. Therefore, regional partnerships may be the most appropriate means to conduct climate adaptation projects.

Monitoring and adaptive management are essential to determine the effectiveness of management actions and course-correcting based on results. During annual review of this INRMP with USFWS and NDGFD, climate change program element objectives will be assessed according to the effectiveness parameters. Prior to the next five-year Review for Operation and Effect, it would be useful to complete the entire worksheet process in *Climate Adaptation for Natural Resources Managers* with stakeholders including NSE environmental and public works staff, NRTF LaMoure on-site staff, and Sikes Act partners from USFWS and NDGFD so that additional objectives, strategies, and actions can be incorporated into the next revision of this INRMP. After several years of long-term monitoring, program element goals and objectives should be reassessed during the five-year reviews for operation and effect to ensure continuing feasibility or to include climate-informed updates, as needed.

Climate Change Objective 1 – Develop a long-term monitoring plan to track the health and extent

of grassland habitat over time, as the effects of climate change become more significant. Grasslands sequester carbon, providing an ecosystem service that mitigates climate change. Because rapid shifts in ecosystems as a result of climate change are anticipated, monitoring should occur on a five- to ten-year interval. Parameters used to determine the effectiveness of actions for this objective include: (a) production and approval of a long-term monitoring plan addressing climate change impacts to grasslands, (b) delineation of current grassland habitat areas and inventory of the plant communities (including nonnative and invasive species), to establish the baseline needed for tracking ecosystem health, and (c) incorporating results from the monitoring efforts into the INRMP and management strategy for fish and wildlife habitat.

Climate Change Objective 2 – Develop a long-term monitoring plan to track changes in wetland boundaries and flood regimes over time, as the effects of climate change become more significant. Given the expected rapid and significant shifts in ecosystems as a result of climate change, monitoring should occur on a five- to ten-year interval. Parameters used to determine the effectiveness of actions for this objective include: (a) production and approval of a long-term monitoring plan addressing climate change impacts to wetlands, (b) delineation of current wetland boundaries to establish the baseline needed for tracking, and (c) incorporating results from the monitoring efforts into the INRMP and management strategy for wetlands.

Climate Change Objective 3 – Monitor species baselines for change over time. This could include conducting semi-annual surveys at the installation, or participating in a long-term regional or national inventory and monitoring program such as the Breeding Bird Survey or annual Christmas Bird Count (in the case of bird species). Monitoring should target grassland-dependent species from multiple taxa. Parameters used to determine the effectiveness of actions for this objective include: (a) incorporating results from these surveys in this INRMP and, if applicable, (b) submitting datasets annually to the appropriate regional or national program.

Climate Change Objective 4 – Restore and enhance grassland and wetland habitats within the operational area to increase resilience to climate change. This includes reviewing the best available science for ecosystems in the region, removing invasive plant species that are modeled to increase under future climate conditions, and increasing diversity and abundance of native grasses, forbs, and emergent wetland plant species that are likely to thrive under future climate conditions. Parameters used to determine the effectiveness of actions for this objective include: (a) producing lists of climate-adapted native and invasive plant species, (b) quantifying pre- and post-treatment abundance of target invasive plant species, and (c) quantifying pre- and post-project abundance of target native plant species.

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5.0 INRMP IMPLEMENTATION

The INRMP reflects a strategy that addresses legal, regulatory, DOD, DON, and OPNAV directives or policy requirements regarding funding and manpower. Formal adoption of an INRMP by a Regional Commander, or their designee as Installation CO, constitutes a commitment to seek funding and execute all Environmental Readiness Level 4 projects and activities (described below in *Section 5.1.1 INRMP Programming Priority Setting*) in accordance with specific time-frames identified in the INRMP. All actions contemplated in the plan are subject to the availability of funds properly authorized and appropriated under federal law. Nothing in the INRMP is intended to be, or construed to be, a violation of the Anti-Deficiency Act.

In accordance with DODM 4715.03, the INRMP is considered implemented once the installation completes the following:

- Actively requests and uses funds for natural resources management projects, activities, and other requirements in support of goals and objectives identified in the INRMP.
- Ensures that sufficient numbers of professionally trained natural resources management staff are available to perform the tasks required by the INRMP.
- Invites annual feedback from the appropriate USFWS and State fish and wildlife agency offices on the effectiveness of the INRMP.
- Documents specific INRMP action accomplishments undertaken each year.
- Evaluates the effectiveness of past and current management activities and adapts those activities as needed to implement future actions.

Implementation further includes NRM input to military activities and proposed projects in order to ensure they are consistent with natural resource requirements and with this INRMP.

5.1 SUMMARY OF PROJECT DEVELOPMENT PROCESS

This INRMP provides a long-term plan for projects and actions to implement the program element objectives, which will be updated every five years during the Review for Operation and Effect. Effectiveness of INRMP project implementation is assessed annually through the INRMP review and Metrics process. Projects can be added, modified, or removed in coordination with the regulatory partners to maintain a viable, effective natural resources program.

5.1.1 INRMP Programming Priority Setting

Project priority within this INRMP is initially determined by funding classification as defined in DODI 4715.03, Natural Resources Conservation Program. This instruction identifies recurring and non-recurring requirements. Recurring requirements include personnel costs and natural resources management requirements connected to ongoing activities/facilities. Non-recurring requirements include staying in compliance with applicable DOD, federal, and state regulations; natural resources planning surveys in support of a proposed action; implementation of conservation recommendations in biological opinions; enhancement of conservation resources that are not specifically required by law, regulation, or EO and are not of an immediate nature; and enhancing

existing recreation, outreach, educational resources. Further information on DOD Funding Classifications is provided in Appendix I.

In accordance with OPNAV-M 5090.1 Chapter 2, the Navy has developed four separate Environmental Readiness Levels (ERLs) to facilitate project funding priorities:

ERL 4: Legal requirements derived from existing laws, regulations, EOs, final government standards, or the Overseas Environmental Baseline Guidance Document, as applicable, and applies to Navy activities, platforms, and operations.

ERL 3: Requirements derived from DOD policy and Navy policy, or proactive initiatives that could enable future compliance or result in a positive return on Navy investments. They could also support critical readiness activities by decreasing encumbrances of statutory compliance requirements. These efforts are not mandated by law or other federal, state, or local requirements but would minimize current or future impacts (including costs) to the Navy mission.

ERL 2: Requirements derived from pending federal, state, or local legal requirements, laws, regulations, or EOs that could enable future compliance but result in less certain returns on investments and uncertain benefits to the Navy mission. These project efforts are not mandated by existing law or other federal, state, or local requirements. Funding requirements should be based on best-available scientific or commercial data or on pending federal, state, or local regulations under development (where publication is scheduled) using model state regulations or permit standards, if available.

ERL 1: Investments in environmental leadership and general proactive environmental stewardship.

"Must fund" conservation requirements are those projects and activities that are required to meet recurring natural and cultural resources conservation management requirements or current legal compliance needs, including EOs. These projects are designated ERL 4 or 3 in the Navy funding classification system. INRMPs should also include valid projects and programs that enhance an installation's natural resources, promote proactive conservation measures, and support investments that demonstrate Navy environmental leadership and proactive environmental stewardship. These projects are considered "stewardship" projects and will fall under ERL 1 or 2 in the Navy classification system. In addition, the NRM should also utilize the Environmental Readiness Program Requirements Web (EPRWeb) Guidebook (OPNAV 5090.1E), which assists project originators in preparing environmental program requirement submissions for consideration during the development of the Shore Environmental Quality Program Memorandum or Program Review.

The EPRWeb is an online database used to define all programming for the Navy's environmental requirements. The EPRWeb records data on project expenditures and provides access to requirements entered by multiple Navy environmental programs. All INRMP projects must be entered into the EPRWeb and receive approval up the chain of command prior to programming and budgeting. CNO, Code 45 is the final authority for designating the appropriate ERL.

5.1.2 INRMP Projects, Actions, and INRMP Implementation Table

The purpose of the INRMP Project Implementation Table (Table 5-1) is to summarize all projects that NAVFAC NW intends to implement over the duration of the INRMP timeframe. It is organized according to program element, linking each project to the program element objectives described in *Section 4 Program Elements*. Individual projects may address multiple program element objectives.

Table 5-1 also identifies the primary legal drivers, programming and budgeting priority (ERL), potential funding source, cost estimate, and implementation schedule for each project. The various EPR project codes and descriptions are referenced or placeholders are included for future EPR projects. Primary statutes and regulations identified in the project table include the ESA, CWA, Sikes Act, NEPA, MBTA, BGEPA, Soil and Water Conservation Act, Forest and Rangeland Renewable Resources Planning Act, National Invasive Species Act, state and local conservation laws and plans, Navy and DOD instructions and policies, and presidential EOs.

Many program element objectives identified in Section 4 do not require a project for implementation, but can be achieved through normal management actions or activities by in-house staff with no additional funding requested. These activities are not included in Table 5.1, but will be assessed during the annual INRMP review and Metrics using the parameters to determine the effectiveness of each objective.

Table 5-1. INRMP project implementation

Project Description	EPR Number	INRMP Section / Program Element Objective	Legal Driver	ERL	Funding Source	Implementation Frequency	Year	INRMP Metrics Focus Area
CHE NW Establishing, Sustaining, and Improving Vegetated Habitats – Remove invasive Russian olive tree species to restore grassland habitat and to protect damage to mission infrastructure. Restore and enhance grassland and wetland habitat within the operational area by removing invasive plant species and increasing diversity and abundance of native grasses, forbs, emergent wetland plants, and target pollinator host and nectar plants. The project may include reduction of cattail for habitat and hydrology improvement. This project includes monitoring and maintenance to ensure success of plantings and invasive removal.	68742NWTJ1	4.1 – Fish and Wildlife Objective 2 4.3 – Species of Concern Objectives 2 and 4 4.7 – Invasive Species Objectives 1 and 3	ESA, DODI 4715.03, OPNAV-M 5090.1	4	O&MN	Non-recurring	2024	7. INRMP Support of Installation Mission and 6. Natural Resources Management
CHE NW Puget Sound & Alaska INRMP Conservation Mapping – Delineate and map wetland boundaries, characterize the plant community, map invasive species, and identify sources of hydrology. This project is a recurring mapping effort to track effects of climate change that may impact ecosystem health and military mission effectiveness.	68742NRMAP	4.5 – Wetlands and Floodplains Objective 1 4.7 – Invasive Species Objective 2 4.11 – Climate Change Objective 2	ESA, OPNAV-M 5090.1, NEPA	4	O&MN	Every 5 years	2021	7. INRMP Support of Installation Mission and 6. Natural Resources Management
3 SAR NW Bat (15 Species) Surveys and Monitoring – Conduct surveys for bat species to fill baseline data gap from previous survey effort. This project includes recurring surveys to track changes in species composition over time.	68742BAT01	4.1 – Fish and Wildlife Objective 1 4.11 – Climate Change Objective 3	Sikes Act, ESA, Fish and Wildlife Conservation Act	4	O&MN	Every 10 years	2023	6. Natural Resources Management
CHS NW - NRTF LaMoure Baseline Biological Surveys – Perform a comprehensive survey of the installation uplands and wetlands to fill baseline data gaps. This would include inventorying the native plant and wildlife species, documenting seasonality and approximate abundance, and identifying invasive species to be controlled. Of particular importance are surveys for birds, invertebrates, and bats (bat surveys proposed under separate EPR), given the potential for ESA listed species or species under review to occur on the installation.	68967LMR01	4.1 – Fish and Wildlife Objective 1 4.2 – Migratory Bird Objective 3	ESA, MBTA, Sikes Act	4	O&MN	Non-recurring	2024	6. Natural Resources Management

5.2 ACHIEVING NO NET LOSS

Section 101(b)(1)(I) of the Sikes Act states that each INRMP shall, to the extent appropriate and applicable, and consistent with the use of the Installation to ensure the preparedness of the Armed Forces, provide for "no net loss in the capability of military installation lands to support the military mission of the installation." It is DOD policy that appropriate management objectives to protect mission capabilities of installation lands (from which annual projects are developed) be clearly articulated, and receive high priority in the INRMP planning process (Navy, 2006).

There may be instances where a "net loss" of mission capability may be unavoidable to fulfill regulatory requirements other than the Sikes Act, such as complying with provisions of the ESA, or wetland protection under provisions of the CWA. However, both the USFWS and USACE are required to adhere to the Sikes Act provision of no net loss. Loss of mission capability in these instances will be identified in the annual Metrics process and will include a discussion of measures being undertaken to recapture any net loss in mission capability. The Metrics are discussed in *Section 1.6.1 Annual INRMP Review and Conservation Metrics* and annual reports for the Metrics are included in Appendix C.

5.3 COOPERATIVE AGREEMENTS

The Sikes Act Section 103a provides for the authority to enter into multi-year cooperative agreements with federal and state agencies, and nonfederal agencies, organizations, or individuals for the purpose of management of natural resources. A cooperative agreement functions as an acquisition tool that is less formal than a contract but has more control than a grant. The principal purpose of a cooperative agreement relationship is to transfer money, property, services, or anything of value to the recipient to support or stimulate an activity undertaken for the public good. Cooperative agreements assume substantial involvement between the federal agency and the recipient during activity performance, establishing the recipient as a "partner" during performance. In accordance with the Sikes Act, when acquiring services to implement and enforce an INRMP that has been agreed to under the Act, priority is to be given to federal and state agencies that are responsible for conserving or managing the fish and wildlife resources covered by the INRMP, provided those agencies are interested in and capable of providing the services.

The USFWS and NDGFD may support INRMP implementation by completing projects through cooperative agreements with the Navy. The Navy does not currently have any such agreements in place for use at NRTF LaMoure, but these agreements will be pursued during the current five-year implementation period.

5.4 FUNDING

Given that INRMPs must be implemented and the status of implementation is reported to Congress, the INRMP must reflect an annual strategy that addresses legal, regulatory, and DOD, DON, and CNO directive or policy requirements; funding; and manpower.

Once validated and entered into EPRWeb, funding for all ERL Level 3 and 4 projects will typically be programmed. INRMPs should also include valid ERL 1 and 2 projects and actions

that would enhance an installation's natural resources, though projects that are ERL 1 or 2 should seek alternate funding sources. There are restrictions on how different Navy funding sources for natural resources management can be used. It is important, therefore, that appropriate funding sources are used and that EPRWeb entries clearly justify funding requests so that (1) natural resource funds are distributed wisely and (2) funding levels are not threatened by the use of funds in ways that are inconsistent with funding program rules. Natural resources projects may also be funded via project funds in relation to mitigation or forward planning for projects.

The majority of natural resource projects are funded with Operations and Maintenance, Navy (O&MN) environmental funds. These appropriated funds are the primary source of resources to support must-fund environmental compliance (i.e., Navy ERL 4 projects). O&MN funds are generally not available for Navy ERL 3 - 1 projects. In addition to the restriction to ERL 4 requirements, there are other limitations placed on the use of O&MN funds:

- Only the initial procurement, construction, and modification of a facility or project are considered valid environmental funding requirements. The subsequent operation, modification due to mission requirements, maintenance, repair, and eventual replacement is considered a Real Property Maintenance funding requirement. For example, the cost of initially installing a BMP can be funded through O&MN, but future maintenance or repair of that BMP must be paid by Real Property Maintenance funds.
- When natural resource requirements are tied to a specific construction project or other action, funds for the natural resource requirements should be included in the overall project costs. For example, if a permit for filling wetlands is required as part of a military construction (MILCON) project, the costs of obtaining the permit and implementing required mitigation should be paid by MILCON funds as part of the overall construction project costs.

Another potential source of funding is the Legacy Resource Management Program (Legacy Program), which is a special congressionally-mandated initiative to fund military conservation projects. This program could be used to fund ERL 3 - 1 projects that are not funded by O&MN environmental funds. The program assists DOD in protecting and enhancing resources while supporting military readiness. A Legacy project may involve regional ecosystem management initiatives, habitat preservation efforts, archaeological investigations, invasive species control, Native American consultations, and/or monitoring and predicting migratory patterns of birds and animals. Three principles guide the Legacy Program: stewardship, leadership, and partnership. Stewardship initiatives assist DOD in safeguarding its irreplaceable resources for future generations. By embracing a leadership role as part of the program, DOD serves as a model for respectful use of natural and cultural resources. Through partnerships, the program strives to access the knowledge and talents of individuals outside of DOD.

If the installation intends to request Legacy Program funds, the following should be noted:

- The availability of Legacy funds is generally uncertain early in the year.
- Pre-proposals for Legacy projects are due in March and submitted using the Legacy Tracker Website: https://www.dodlegacy.org.

- Project proposals are reviewed by the Navy chain of command before being submitted to the DOD Legacy Resources Management Office for final project selection.
- The Legacy Website provides further guidance on the proposal process and types of projects requested.
- Development of innovative new technologies to provide more efficient and effective natural resources management.

Other potential funding sources are listed in Appendix I. These funding sources are less frequently used to fund natural resources projects, or are unlikely to be available for NRTF LaMoure.

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APPENDIX A - DESCRIPTION OF POLICIES, REGULATIONS, AND LEGISLATION GUIDING DEVELOPMENT AND IMPLEMENTATION OF INRMPS

- ***The Sikes Act, 16 United States Code (USC) 670a(3)(a).*** Requires an INRMP be written and implemented for all DOD installations with significant natural resources. According to the Sikes Act, the purposes of a military conservation program are conservation and rehabilitation of natural resources, sustainable multipurpose use of those resources, and public access to military lands, subject to safety requirements and military security. Moreover, the conservation program must be consistent with the mission-essential use of the installation and its lands. The Sikes Act requires the preparation of an INRMP to facilitate the conservation program: "the Secretary of each military department shall prepare and implement an INRMP for each military installation in the United States under the jurisdiction of the Secretary, unless the Secretary determines that the absence of significant natural resources on a particular installation makes preparation of such a plan inappropriate."
- ***DODI 4715.03, Department of Defense Instruction (18 March 2011, Incorporating Change 1 dated 5 October 2017).*** Reissues and renames DODI 4715.3 in accordance with the authority in Department of Defense Directive (DODD) 5134.01 and the guidance in DODD 4715.1E and DODI 4715.5 to establish policy and assign responsibilities for compliance with applicable Federal, State, and local statutory and regulatory requirements, EOs, Presidential memorandums, and DOD policies for the integrated management of natural resources including lands, air, waters, coastal, and nearshore areas managed or controlled by DOD. In addition, develops new policy and updates policy for the integrated management of natural resources (including biological and earth resources) on property and lands managed or controlled by DOD, implements new Natural Resources Conservation metrics, and provides procedures for DOD Components and installations for developing, implementing, and evaluating effective natural resources management programs.
- ***DOD Manual 4715.03, (25 November 2013, Incorporating Change 1 dated 13 December, 2017) INRMP Implementation Manual.*** Provides procedures to prepare, review, update, and implement INRMPs in compliance with sections 670-670o of the Sikes Act. Exhibit 1–1 of this manual lists the specific contents required in an INRMP document.
- ***Memorandum of Understanding between the U.S. Department of Defense, U.S. Fish and Wildlife Service and the Association of Fish and Wildlife Agencies. (July 29, 2013).*** The purpose of this MOU is to further a cooperative relationship between DOD, USFWS, and state fish and wildlife agencies acting through the Association of Fish and Wildlife Agencies in preparing, reviewing, revising, updating and implementing INRMPs for military installations.
- ***USFWS Guidelines for Coordination on Integrated Natural Resource Management Plans (June, 2015).*** This document provides guidance to USFWS personnel for implementing the requirements of the Sikes Act and addresses USFWS program responsibilities, INRMP contents and requirements, reviews and mutual agreement, interagency agreements, reporting, and other items.
- ***Mutual DOD and USFWS Guidelines for Streamlined Review of Integrated Natural Resources Management Plan Updates (July 20, 2015).*** These guidelines clarify and describe a process for cooperating agencies to review and concur specifically on updates

to existing INRMPs; not revisions or new documents. To more effectively respond and rapidly adapt to ongoing natural resource activities (e.g., monitoring, recreational fishing) and to changes that are administrative, process-oriented, or minor (e.g. expanding an existing trail, conducting biological surveys), the USFWS, DOD, and the state fish and wildlife agencies as represented by the Association of Fish and Wildlife Agencies included a provision in the Tripartite MOU to streamline the review process. Such updates do not result in new biophysical effects, do not change the management prescriptions set forth in the INRMP, and do not require analysis under the NEPA nor associated public review. The guidelines provide guidance on format, coordination and responsibilities for submitting draft and final updates. These guidelines are not a required process, and need not apply to DOD components or installations that have already implemented a successful method for updating INRMPs with their USFWS field offices and state agencies.

- ***Memorandum on Implementation of Sikes Act Improvement Amendment: Updated Guidance.*** This Memorandum of the Under Secretary of Defense, issued on 10 October 2002, provides guidance for implementing the requirements of the Sikes Act in a consistent manner throughout DOD and replaces the 21 September 1998 guidance. The October 2002 memorandum and its supplement issued in November 2004 emphasize implementing and improving the overall INRMP coordination process, and focus on coordinating with stakeholders, reporting requirements and metrics, budgeting for INRMP projects, using the INRMP as a substitute for critical habitat designation, supporting military training and testing needs, and the INRMP review process.
- ***The Implementation of Sikes Act Improvement Amendments: Supplemental Guidance Concerning Leased Lands.*** This Memorandum of the Under Secretary of Defense, issued 17 May 2005 states that INRMPs must address resource management on all of the lands for which the subject installation has real property accountability, including lands occupied by tenants or lessees or being used by others pursuant to a permit, license, right of way, or any other form of permission. Installation Commanding Officers may require tenants, lessees, permittees, and other parties that request permission to occupy or use installation property to accept responsibility, as a condition of their occupancy or use, for performing appropriate natural resource management actions. This does not preclude the requirement to address the natural resource management needs of any such lands in the installation INRMP.
- ***OPNAVINST 5090.1E, Environmental Readiness Program (January 10, 2014).*** Contains instructions on the implementation of the OPNAV-M 5090.1 Environmental Readiness Program Manual.
- ***OPNAV-M 5090.1, Environmental Readiness Program Manual (January 10, 2014).*** This manual discusses requirements, delineates responsibilities, and issues implementing policy guidance for the management of the environmental, natural and cultural resources for all Navy ships and shore activities. It discusses federal environmental laws and regulations, EOs, and DOD and DON environmental policies applicable to Navy installations, organizations, and platforms. This manual establishes broad policy and assigns responsibilities for the Naval Natural Resources Program. Chapter 12 of this Manual establishes Navy policy guidance and requirements to ensure sustainable military readiness through compliance with all applicable laws and regulations related to the conservation of natural resources.

***Guidance in OPNAV-M 5090.1 that is pertinent to this INRMP in incorporated herein by reference.

- ***Guidelines for Preparing Integrated Natural Resources Management Plans for Navy Installations (April 2006).*** This guidance provides natural resources managers at Navy installations with an interpretation of what processes are needed to prepare INRMPs, including the INRMP template. This document is divided into three sections. The first section suggests a process to develop an INRMP. The second section addresses traditional technical areas to be included in the INRMP. The third section includes a discussion on implementing the INRMP. Of particular value within this guidance is a comprehensive list of Laws, Regulations, EOs, templates and instructions applicable to this INRMP.
- ***DOI Secretarial Order 3289 (September 14, 2009).*** This Order establishes Landscape Conservation Cooperatives, which focus on on-the-ground strategic conservation efforts at the landscape level. Landscape Conservation Cooperatives (LCCs) are management-science partnerships that inform integrated resource management actions addressing climate change and other stressors within and across landscapes. They link science and conservation delivery. LCCs are true cooperatives, formed and directed by land, water, wildlife and cultural resource managers and interested public and private organizations. Federal, State, tribal, local government and non-governmental management organizations are all invited as partners in their development.
- ***Naval Facilities Engineering Command Natural Resources Management Procedural Manual (P-73, Chapter 2: Integrated Natural Resources Management Plans, 07 December 2005).*** Establishes the governing format under which the INRMP is structured. This document addresses all CNO natural resources program requirements, guidelines and standards.

APPENDIX B - NATURAL RESOURCES MANAGER DESIGNATION LETTER

DEPARTMENT OF THE NAVY
NAVAL STATION EVERETT
2000 WEST MARINE VIEW DRIVE
EVERETT, WA 98207-5001

IN REPLY REFER TO:
1040
N4
6 Jun 19

From: Commanding Officer, Naval Station Everett
To: Ms. Alicia M. Higgs

Subj: DESIGNATION AS NAVAL STATION EVERETT NATURAL RESOURCES MANAGER

Ref: (a) OPNAVINST 5090.1D

1. Per reference (a), you are hereby designated as the Natural Resources Manager for all properties and facilities under the purview of the Naval Station (NAVSTA) Everett Commanding Officer. You will familiarize yourself with the policies and procedures of reference (a) in the performance of your duties.

2. This designation will remain in effect until rescinded in writing or upon your transfer from this command, whichever occurs first.

M. F. DAVIS

Copy to:
NAVSTA Everett (N4)

APPENDIX C - CONSERVATION METRICS

Annual Meeting Participants and Attendees

Navy Lead	Last Name	First Name	Organization	Telephone	Email
	Baker	Karin	US Navy	(701) 883-5227	karin.baker@navy.mil
	Becker	Drew	USFWS	(701) 355-8512	Drew_Becker@fws.gov
	Davies	Bethany	USFWS	(701) 250-4481	bethany_davies@fws.gov
	Goldstein	Amanda	USFWS	701-333-0266	amanda_goldstein@fws.gov
X	Higgs	Alicia	NAVFACNW	425-304-3464	alicia.higgs@navy.mil
	Krentz	Steven	U.S. Fish and Wildlife Service	701-355-8547	steven_krentz@fws.gov
	Kunz	Cindi	NAVFACNW	360-396-1860	cindi.kunz@navy.mil
	Reinisch	Jerry	U.S. Fish and Wildlife Service	701-333-0267	jerry_reinisch@fws.gov
	Schumacher	John	North Dakota Game and Fish	701-328-6321	jdschumacher@nd.gov
	Senner	Robin	NAVFACNW	1-360-990-8861	robert.g.senner1@navy.mil

Summary Score

Focus Area	Score
1 - Natural Resources Management	0.58
2 - Listed Species Critical Habitat	0.23
3 - Recreation Use and Access	0.00
4 - Sikes Act Cooperation	0.84
5 - Team Adequacy	0.66
6 - INRMP Implementation	0.50
7 - Support of Installation Mission	0.78
LAMOURE ND - Overall Score	0.60

1 - Ecosystems

Terrestrial Ecosystems

	1. Eastern Great Plains Floodplain Systems	2. Agricultural Land
Has the ecosystem been identified in the INRMP? *	Yes	Yes
To what degree are the INRMP goals and objectives being achieved? *	Somewhat Achieved	Somewhat Achieved
What is the level of effect Natural Resources management actions have had on desired outcomes to meet the goals and objectives as identified in the INRMP? *	Actions have had a limited effect on desired conditions to meet the goals and objectives as identified in the INRMP	Actions have had a limited effect on desired conditions to meet the goals and objectives as identified in the INRMP

2 - Threatened and Endangered Species

	1. (I01) Dakota Skipper : Hesperia dacotae	2. (V01) Northern Long-Eared Bat : Myotis septentrionalis	3. (V01) Whooping crane : Grus americana
Have inventories and/or surveys for this species ever been completed on the site(s)? *	No	Yes	Yes
Does existing survey data provide adequate information on the population presence and numbers on the site(s)? *		No	No
Do existing surveys provide adequate data on habitat conditions on the site(s)? *		No	No
To what extent are quantifiable goals, objectives, and monitoring requirements in place to address the conservation needs of the species and/or the species' habitat? *	Moderate	None	Moderate
Has critical habitat been proposed for the species during the reporting period on the site(s) (per Federal Register [FR] Proposed Rule)? *	No	No	No
Has the Navy been contacted or responded to any requests regarding the development of critical habitat proposal for the species during the reporting period? *			
Did the Navy respond? *			
Please upload response to document library and then select it here. *			
Has USFWS and/or NMFS designated critical habitat for the species during the reporting period on the site(s)? (Per Federal Register [FR] Final Rule) *	No	No	No
If critical habitat was designated during the reporting period, please explain why USFWS and/or NMFS did not provide the Navy with an ESA (Sec. 4) exemption/exclusion vice designating critical habitat? *			

	1. (I01) Dakota Skipper : Hesperia dacotae	2. (V01) Northern Long-Eared Bat : Myotis septentrionalis	3. (V01) Whooping crane : Grus americana
If critical habitat was designated during the reporting period, provide acreage of final critical habitat designated on the installation? *	0	0	0
If known, please provide the number of acres excluded or exempted from critical habitat. *	0	0	0
If a critical habitat exemption/exclusion exists for this species on the site(s), are critical habitat management actions/projects clearly identified in the INRMP? *	N/A	N/A	N/A
If a critical habitat exemption/exclusion exists for this species on the site(s), are critical habitat management actions/projects clearly identified in the EPRWeb? *	N/A	N/A	N/A
Please identify mission types that are or could be impacted by this species. Select all that apply. If you choose N/A, please explain in the comment field. *	N/A	Communications (C4)	Communications (C4)

2 - Proposed and Candidate Species

No items in this module.

2 - State, Local, and other Species

(2 - State, Local, and other Species) 1 - 4 of 9

	1. (V01) American white pelican : pelecanus erythrorhynchos	2. Bobolink : Dolichonyx oryzivorus	3. Canadian toad : Anaxyrus hemiophrys	4. (V01) Grasshopper sparrow : Ammodramus savannarum ssp. perpallidus
What is the current status of the species?	(SCC) State Species of Special Concern	(SCC) State Species of Special Concern	(SCC) State Species of Special Concern	(SCC) State Species of Special Concern
Does this species occur almost exclusively on this site and found nowhere else? (Note: The Navy has the majority or all of the management responsibility.)	No	No	No	No

	1. (V01) American white pelican : pelecanus erythrorhynchos	2. Bobolink : Dolichonyx oryzivorus	3. Canadian toad : Anaxyrus hemiophrys	4. (V01) Grasshopper sparrow : Ammodramus savannarum ssp. perpallidus
Have surveys been completed for this species on the site(s)?	Yes	Yes	Yes	Yes
Do existing surveys provide adequate data on habitat conditions on the site(s)?	No	No	Yes	Yes
Does existing survey data provide adequate information on the population presence and numbers on the site(s)?	No	No	No	No
To what extent are quantifiable goals, objectives, and monitoring requirements in place to address the conservation needs of the species and/or the species' habitat?	Moderate	Moderate	Moderate	Moderate
Provide a location status for this species from the choices provided below. See i-Note *	Confirmed	Confirmed	Confirmed	Confirmed

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(2 - State, Local, and other Species) 5 - 8 of 9

	5. (I01) Monarch butterfly : Danaus plexippus plexippus	6. (V01) Northern harrier : circus cyaneus	7. Snapping Turtle : Chelydra serpentina	8. Western meadowlark : Sturnella neglecta
What is the current status of the species?	(SCC) State Species of Special Concern	(SCC) State Species of Special Concern	(SCC) State Species of Special Concern	(SCC) State Species of Special Concern
Does this species occur almost exclusively on this site and found nowhere else? (Note: The Navy has the majority or all of the management responsibility.)	No	No	No	No
Have surveys been completed for this species on the site(s)?	No	Yes	Yes	Yes
Do existing surveys provide adequate data on habitat conditions on the site(s)?	No	No	Yes	Yes
Does existing survey data provide adequate information on the population presence and numbers on the site(s)?	No	No	No	No
To what extent are quantifiable goals, objectives, and monitoring requirements in place to address the conservation needs of the species and/or the species' habitat?	Good	Moderate	Moderate	Moderate
Provide a location status for this species from the choices provided below. See i-Note *	Confirmed	Confirmed	Confirmed	Confirmed

(2 - State, Local, and other Species) 9 - 9 of 9

	9. Wilson's phalarope : Phalaropus tricolor
What is the current status of the species?	(SCC) State Species of Special Concern
Does this species occur almost exclusively on this site and found nowhere else? (Note: The Navy has the majority or all of the management responsibility.)	No
Have surveys been completed for this species on the site(s)?	Yes
Do existing surveys provide adequate data on habitat conditions on the site(s)?	Yes
Does existing survey data provide adequate information on the population presence and numbers on the site(s)?	No
To what extent are quantifiable goals, objectives, and monitoring requirements in place to address the conservation needs of the species and/or the species' habitat?	Moderate
Provide a location status for this species from the choices provided below. See i-Note *	Confirmed

2 - Unoccupied Critical Habitat

Has unoccupied critical habitat for any federally listed species been designated on the site(s)? * **N/A (Critical habitat designation was not proposed)**

For which species? *

Have management projects/actions addressing unoccupied critical habitat been clearly identified in the INRMP? * **N/A**

Have management projects/actions addressing unoccupied critical habitat been clearly identified in the EPRWeb? * **N/A**

3 - Recreation Use and Access and Conservation Law Enforcement

Are there Natural Resources related recreational opportunities on the site(s)? (i.e. Hunting, Fishing, Trapping, Hiking, Archery, Wildlife watching, Fresh Watersports, Marine watersports or Day use-picnic) * **N/A: Not available due to mission, security, safety, or environmental constraints**

Does the INRMP adequately identify outdoor recreational activities? *

To what extent did the installation develop and provide public outreach/educational awareness, e.g. environmental educational opportunities, natural resource field trips/tours, pamphlets? *

4 - Sikes Act Cooperation

Select which Sikes Act partners work with this installation/site(s)? * **USFWS, State**

Was the agency invited to participate in the annual INRMP/Natural Resources Program review? * **Yes**

The agency is familiar with and has reviewed the INRMP. * **Yes - This partner is familiar with and has reviewed the site(s)' INRMP.**

The agency is engaged in the INRMP development and implementation. * **The sites(s) engaged the USFWS and these efforts are well documented.**

By what method was the agency invited to participate in the annual INRMP/Natural Resources Program review? * **Telephone call, Electronic mail**

Did the agency respond to the invitation to participate in the annual INRMP/Natural Resources Program review? * **Yes**

How many attempts were made to invite the agency to participate in the annual INRMP/Natural Resources Program review? * **1-3**

Did the agency participate in the annual INRMP/Natural Resources Program review? * **Yes**

How well are site(s) natural resource management goals and objectives aligned with conservation goals of the agency? e.g. USFWS/NOAA Fisheries Service regional goals? * **Somewhat aligned**

Was a report of the previous year's annual INRMP/Natural Resources Program review submitted to the agency during this reporting period? * **Yes**

Was the agency invited to participate in the annual INRMP/Natural Resources Program review? * **Yes**

The state fish and wildlife agency is familiar with and has reviewed the INRMP. * **Yes - The partners is familiar with and has reviewed the site(s)' INRMP.**

The agency is engaged in the INRMP development and implementation. * **The sites(s) engaged the state fish and wildlife agency and these efforts are well documented.**

By what method was the agency invited to participate in the annual INRMP/Natural Resources Program review? * **Electronic mail, Telephone call**

Did the agency respond to the invitation to participate in the annual INRMP/Natural Resources Program review? * **Yes**

How many attempts were made to invite the agency to participate in the annual INRMP/Natural Resources Program review? * **1-3**

Did the agency participate in the annual INRMP/Natural Resources Program review? * **Yes**

How well are site(s) natural resource management goals and objectives aligned with conservation goals of the agency? e.g. State Wildlife Action Plans (SWAPs)? * **Somewhat aligned**

Was a report of the previous year's annual INRMP/Natural Resources Program review submitted to the agency during this reporting period? * **Yes**

What is the level of collaboration/cooperation between Sikes Act partners? * **Satisfactory collaboration/cooperation**

Please answer the following general questions associated with INRMP Actions. Questions followed by an asterisk * are mandatory and must be completed before the datacall can be approved and submitted to DoD.

Do the goals and objectives of the INRMP/Natural Resources Program support other conservation partnerships/initiatives? * **Yes**

Which conservation partnerships/initiatives are supported? * **Partners in Flight, National Military Fish and Wildlife Association (NMFWA), Partners in Amphibian and Reptile Conservation (PARC)**

To what level does the Natural Resources Program/INRMP meet or exceed USFWS expectations? * **Somewhat satisfied**

To what level are Natural Resources Program executions meeting State Fish and Wildlife Agency conservation management expectations? * **Somewhat satisfied**

To what level are Natural Resource program executions meeting NOAA/NMFS conservation management expectations, if applicable? * **N/A Does not apply**

Are Cooperative Agreements used to execute natural resources program requirements? * **No**

Describe any partnership obstacles to INRMP implementation. (Any obstacles that exist within the framework of the partnership. For example: Regulatory or permitting issues) * **There is only 1 NRM at Naval Station Everett who is responsible for 5 INRMPs at locations in Washington, Idaho, and North Dakota.**

5 - Team Adequacy

Is there a Navy professional Natural Resources Manager designated by the Regional Commander/Installation Commanding Officer? * **Yes**

Is there an on-site Navy professional Natural Resources Manager? * **No**

Is there adequate installation staff assigned or available to properly implement the INRMP/Natural Resources Program goals and objectives? * **Insufficient**

The Natural Resources team is adequately trained to implement the goals and objectives of the INRMP. * **Professionals received adequate supplemental training**

FY20 Projects

	1. (FY20) 68742BAT01 : 3 SAR NW Bat (15 Species) Surveys and Monitoring	**2. (FY20) 68967NR015 : IN-HOUSE - SIKES NW NSE Lamoure INRMP**
Does this action meet the goals and objectives of the INRMP? *	Yes - meet or exceed overall INRMP goals and objectives.	Yes - meet or exceed overall INRMP goals and objectives.
Please select the goal(s) that this action supports. *	Ecosystem sustainability	Ecosystem sustainability, No net loss to mission capability
Please select the objective(s) that this action supports. *	Protect TES species and habitats	Ensure consistent land use planning, Protect watersheds and other natural resources
Which Natural Resources Program Area most benefitted from the INRMP action? (Select all the apply) (If other, please describe in the comments) *	None	INRMP-Planned Developments, Updates, & Revisions
If the INRMP action provided an ecosystem integrity benefit, select the ecosystem(s) benefitted and		

	1. (FY20) 68742BAT01 : 3 SAR NW Bat (15 Species) Surveys and Monitoring	2. (FY20) 68967NR015 : IN-HOUSE - SIKES NW NSE Lamoure INRMP
provide additional details in the comment field. If no specific "ecosystem" benefit, then leave blank.		
Does this project support mitigation for a project/action? *	No	No

7 - Support of Installation Mission

Please identify the mission types related to your reporting unit/site. Select all that apply. Do not choose N/A. Please contact Admin to add a mission if it is not available on the list. * **Communications (C4)**

Accomplishments

As a result of this year's annual review, have any additional actions, such as management recommendations related to regulatory drivers (ACOE permits, EFH Issues, etc.), been identified that should be considered for incorporation into the INRMP? * **No**

List the top accomplishment for the Natural Resources Program during this reporting period. * **Provided copy of the revised draft INRMP to the Sikes Act partners and on-site staff at the facility for early review and feedback.**

List the second accomplishment for the Natural Resources Program during this reporting period. * **Coordinated with on-site staff for proposed projects.**

List the third accomplishment for the Natural Resources Program during this reporting period. * **Submitted projects in POM23 cycle and coordinated with USFWS for future cooperative agreement**

APPENDIX D - AGENCY CORRESPONDENCE AND OFFICIAL SPECIES LIST

Enclosure 1

From:	Reinisch, Jerry D
To:	Higgs, Alicia M CIV USN NAVFAC NW SVD WA (USA)
Subject:	[Non-DoD Source] FW: [EXTERNAL] RE: 2020 LaMoure Metrics Meeting
Date:	Monday, September 28, 2020 8:13:22 AM

Alicia
I have included a few additions/corrections for your review. Please call if you have questions.
Thanks
Jerry

From: Becker, Drew N <Drew_Becker@fws.gov>
Sent: Monday, September 28, 2020 10:01 AM
To: Reinisch, Jerry D <jerry_reinisch@fws.gov>
Subject: Re: [EXTERNAL] RE: 2020 LaMoure Metrics Meeting

Thanks for the reminder Jerry to get back with Alicia. It doesn't look like I need to sign so please get this back to Alicia with your below responses as they all make sense to me.

Drew Becker
North Dakota Ecological Services Supervisor
U.S. Fish and Wildlife Service
3425 Miriam Avenue
Bismarck, North Dakota 58501
Office 701-355-8512
Cell 701-319-0127
drew_becker@fws.gov

Our Mission is to w*ork with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people.*

From: Reinisch, Jerry D <jerry_reinisch@fws.gov>
Sent: Wednesday, September 23, 2020 9:08 AM
To: Becker, Drew N <Drew_Becker@fws.gov>
Subject: FW: [EXTERNAL] RE: 2020 LaMoure Metrics Meeting

Drew
After review of the metrics meeting, I would vote to leave our responses as they were last year. I have also noted a few other items from the INRMP text:

Page 1: remote site is Northwest of the main facility.
Page 5: Erosion; road to northest of main facility, flood plain to east
Closer relationship with State and Federal Law Enforcement
Develop spill response plan for location, cooperating agencies

Page 17: Include DEQ inspections/recommendations
Page 23: Consider modifications of grazing and mowing areas
Page 33: Explain who did the assessment, NDDH no longer, now DEQ
Page 35: NWI Wetland Mapper useful from FWS for this section
Page 37: North Dakota Department of Health now Department of Environmental Quality
Page 38: Detail transects completed with historical locations
Summary of proposed projects with projected completion dates should be included.

Thanks
Jerry

-----Original Message-----
From: Higgs, Alicia M CIV USN NAVFAC NW SVD WA (USA) <alicia.higgs@navy.mil>
Sent: Tuesday, September 22, 2020 2:32 PM
To: Reinisch, Jerry D <jerry_reinisch@fws.gov>; Krentz, Steven <steven_krentz@fws.gov>; Schumacher, John D. <jdschumacher@nd.gov>
Cc: Davies, Bethany F <bethany_davies@fws.gov>; Becker, Drew N <Drew_Becker@fws.gov>; Goldstein, Amanda C <amanda_goldstein@fws.gov>; Kunz, Cynthia A CIV USN NAVFAC NW SVD WA (USA) <cindi.kunz@navy.mil>; Senner, Robert CIV USN NAVFAC NW SVD WA (USA) <robert.g.senner1@navy.mil>; Baker, Karin M CTR USN NCTAMS LANT NOR VA (USA) <karin.baker@navy.mil>
Subject: [EXTERNAL] RE: 2020 LaMoure Metrics Meeting

From: Reinisch, Jerry D
To: Higgs, Alicia M CIV USN NAVFAC NW SVD WA (USA); Krentz, Steven; Schumacher, John D.
Cc: Senner, Robert CIV USN NAVFAC NW SVD WA (USA)
Subject: [Non-DoD Source] RE: [EXTERNAL] LaMoure INRMP for Agency Review
Date: Tuesday, October 20, 2020 6:13:12 AM

Alicia
The USFWS sheets were signed and returned. We have no other comments at this time.
Jerry

-----Original Message-----
From: Higgs, Alicia M CIV USN NAVFAC NW SVD WA (USA) <alicia.higgs@navy.mil>
Sent: Tuesday, October 13, 2020 12:17 PM
To: Reinisch, Jerry D <jerry_reinisch@fws.gov>; Krentz, Steven <steven_krentz@fws.gov>; Schumacher, John D. <jdschumacher@nd.gov>
Cc: Senner, Robert CIV USN NAVFAC NW SVD WA (USA) <robert.g.senner1@navy.mil>
Subject: [EXTERNAL] LaMoure INRMP for Agency Review

From:	Schumacher, John D.
To:	Higgs, Alicia M CIV USN NAVFAC NW SVD WA (USA)
Subject:	[Non-DoD Source] RE: LaMoure INRMP for Agency Review
Date:	Monday, November 9, 2020 9:29:58 AM
Attachments:	image001.png

Hi Alicia,

The Department does not have any comments on the LaMoure INRMP. Let me know when you need a signature.

Thanks,
John

J.D. Schumacher
Resource Biologist

701.328.6321 • jdschumacher@nd.gov • gf.nd.gov

NORTH Dakota | Game and Fish
Be Legendary.

From: Higgs, Alicia M CIV USN NAVFAC NW SVD WA (USA) <alicia.higgs@navy.mil>
Sent: Tuesday, October 13, 2020 12:17
To: Reinisch, Jerry D <jerry_reinisch@fws.gov>; Krentz, Steven <steven_krentz@fws.gov>; Schumacher, John D. <jdschumacher@nd.gov>
Cc: Senner, Robert CIV USN NAVFAC NW SVD WA (USA) <robert.g.senner1@navy.mil>
Subject: LaMoure INRMP for Agency Review

Good morning Jerry, Steve, and John,
Attached is the official agency review version of the LaMoure INRMP. It has only a couple slight changes based on legal review from the version that I previously provided to you.

Our current schedule shows the agency review period ending 12/7/20, although I would love to receive your feedback earlier, if you finish early. Our public review period is running slightly behind schedule due to difficulties in payment for the public notice in the local paper. We don't have an exact date yet (will depend on public notice date), but expect public review will also end in early December. If you feel you need more time for your INRMP review in order to review and address any public comments, we can provide extra time. It is very important to us to move forward with a solid INRMP that everyone supports and will be willing to sign.

Our current schedule shows the agency signatures in mid-March, although I'm hoping it will actually be 3 weeks earlier since there is a lot of cushion in the current schedule.

Please let me know if you have any questions. Thank you for your participation and I look forward to your feedback!

_____

Alicia Higgs
Natural Resources Manager
Naval Station Everett
Phone: (425) 304-3464

Enclosure 2

United States Department of the Interior

FISH AND WILDLIFE SERVICE
North Dakota Ecological Services Field Office
3425 Miriam Avenue
Bismarck, ND 58501-7926
Phone: (701) 250-4481 Fax: (701) 355-8513
http://www.fws.gov/northdakotafieldoffice/endspecies/endangered_species.htm

In Reply Refer To: January 23, 2020
Consultation Code: 06E15000-2020-SLI-0112
Event Code: 06E15000-2020-E-00407
Project Name: LaMoure INRMP

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

North Dakota Ecological Services Field Office
3425 Miriam Avenue
Bismarck, ND 58501-7926
(701) 250-4481

Project Summary

Consultation Code: 06E15000-2020-SLI-0112

Event Code: 06E15000-2020-E-00407

Project Name: LaMoure INRMP

Project Type: LAND - MANAGEMENT PLANS

Project Description: Integrated Natural Resources Management Plan for the Naval Radio Transmission Facility LaMoure.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/46.36549692250006N98.33570218772695W

Counties: LaMoure, ND

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. 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.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Whooping Crane *Grus americana* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
North Dakota Ecological Services Field Office
3425 Miriam Avenue
Bismarck, ND 58501-7926
Phone: (701) 250-4481 Fax: (701) 355-8513
http://www.fws.gov/northdakotafieldoffice/endspecies/endangered_species.htm

In Reply Refer To: January 23, 2020
Consultation Code: 06E15000-2020-SLI-0113
Event Code: 06E15000-2020-E-00409
Project Name: LaMoure INRMP - Remote Site

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

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A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

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Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

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- Official Species List

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This species list is provided by:

North Dakota Ecological Services Field Office
3425 Miriam Avenue
Bismarck, ND 58501-7926
(701) 250-4481

Project Summary

Consultation Code: 06E15000-2020-SLI-0113

Event Code: 06E15000-2020-E-00409

Project Name: LaMoure INRMP - Remote Site

Project Type: LAND - MANAGEMENT PLANS

Project Description: Integrated Natural Resources Management Plan for the Remote Site of Naval Radio Transmission Facility LaMoure.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/46.559212381000066N98.63864040211377W

Counties: LaMoure, ND

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. 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.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Whooping Crane *Grus americana* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

APPENDIX E - PROJECT PLANNING ENVIRONMENTAL CHECKLIST

ENVIRONMENTAL CHECKLIST

Project proponent completes all sections. Please print clearly or type. Submit to Environmental Dept. for review.
Any questions Call: 425-304-3470 Everett Environmental

Section 1: General Information

Project# _____

Project Title: _____

Proponent/Department: _____ Phone: _____

Proj. Mgr: _____ Dept: _____ Phone: _____

Prepared by: _____ Date: _____ Phone: _____

Section 2: Project Site Information

Planned Start Date: _____ Planned Completion Date: _____

Project Location

- ☐ Naval Station Everett
- ☐ Smokey Point
- ☐ Naval Radio Station Jim Creek
- ☐ Pacific Beach Resort
- ☐ Bayview
- ☐ Other: _____

Purpose of the project (include any description of operations, functions, and activities associated with the project which will change or occur due to the project):

Describe the location and area of the proposed project:

Excavation, trenching or disturbance of soils:

Total Acreage Developed:		Acres Disturbed:	
Total Length of Trench:		Trench Depth:	
Excavation Area & Depth:		Acres Paved:	

Describe the size and staging location of soil borrow/stock piles:

Describe where excess soil/ fill material will be disposed?:

NumberTrees Removed:		Forested Acres Disturbed:	

Describe laydown areas, locations and duration of use:

Section 3: General Project Questions (Check positive responses.)

- ☐ Is the project a new facility?
- ☐ Has the project area been mapped, labeled, or distinguished?
- ☐ Is additional future development or phases planned?

Provide additional project location data not requested elsewhere:

Section 4: Specific Project Questions (Check positive responses.)

- ☐ Dredging, in-water, or above water construction?
- ☐ Dewatering of a construction site?
- ☐ Direct Impacts to non-DoD lands?
- ☐ Military training exercise or operation on or over non-military property?
- ☐ Facility renovation or alteration?
- ☐ Building demolition, renovation, or retrofit?
- ☐ Installation of electrical equipment, e.g. transformers, switches or capacitors?
- ☐ Paint removal or preparation?
- ☐ Equipment alteration or relocation?
- ☐ Placement of new equipment?
- ☐ Installation, repair or removal of fuel storage tanks?
- ☐ Routine use of fuels or oils?
- ☐ New fuel storage or distribution facilities?
- ☐ New heating units or boilers?
- ☐ Emergency generators or other stationary internal combustion engines?
- ☐ New sources of air emissions (e.g. paint booths, blasting operations)?
- ☐ New drinking water services?
- ☐ Water for fire protection?
- ☐ Disposal of domestic wastewater (e.g. process water, rinsewater, washdowns, pressure washing, etc.)?
- ☐ Increase in outfall water or untreated runoff entering nearby waterways?

Involve Solid wastes such as:

- ☐ Concrete?
- ☐ Asphalt?
- ☐ Topsoil?
- ☐ Electrical equipment?
- ☐ Recyclable materials?

Involve disturbance or use of Hazardous substances such as:

- ☐ Asbestos?
- ☐ Mercury?
- ☐ PCBs?
- ☐ Lead Based Paint?
- ☐ Cleaners or solvents?
- ☐ Other?

- ☐ Pile extraction or driving?
- ☐ Loud and/or sustained noise above 70dB?

This page to be completed and returned by the Environmental Department

ENVIRONMENTAL REQUIREMENTS

Project Title: _____ **Project #** _____

Prepared by: _____ **Date:** _____ **Phone:** _____

Project Location

☐ Naval Station Everett ☐ Smokey Point ☐ Naval Radio Station Jim Creek

☐ Pacific Beach Resort ☐ Bayview ☐ Other: _____

NEPA Required

☐ CATEX ☐ EA ☐ EIS ☐ None

Est. Completion Time and Notes _____

Meetings and Coordination

☐ Site Visit Requested Prior to Construction ☐ Site Visit Requested During Construction

☐ Contractually required Environmental Protection Plan? ☐ Review Specific Environmental Requirements with Contractor?

Additional Project Requirements

☐ Army Corps Permitting Specific Issues? _____

☐ ESA Consultation ☐ Tribal Notification ☐ Storm water ☐ Haz Waste Site Specific Training

☐ Emissions Permits ☐ Section 106/NHPA ☐ EMS Inspection ☐ EQA Inspection

☐ CZMA Determination ☐ Dept. of Ecology Water Quality Certification

Additional Environmental Requirements:

Project suggestions to minimize impacts:

This page to be completed and returned by the Environmental Department

ENVIRONMENTAL REQUIREMENTS

Project Title: _____ **Project #** _____

Prepared by: _____ **Date:** _____ **Phone:** _____

Project Location

- ☐ Naval Station Everett
- ☐ Smokey Point
- ☐ Naval Radio Station Jim Creek
- ☐ Pacific Beach Resort
- ☐ Bayview
- ☐ Other: _____

Environmental Workload, Time line, Details, and Comments:

APPENDIX F - FINDING OF NO SIGNIFICANT IMPACT

DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY

FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR THE ENVIRONMENTAL ASSESSMENT (EA) FOR THE ADOPTION AND IMPLEMENTATION OF AN INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN (INRMP) AT NAVAL RADIO TRANSMISSION FACILITY LAMOURE, LAMOURE COUNTY, NORTH DAKOTA

Pursuant to the Council on Environmental Quality regulations (40 Code of Federal Regulations Parts 1500-1508) implementing the National Environmental Policy Act and Navy regulations (32 CFR Part 775), and Chief of Naval Operations Instruction 5090.1E, the Department of the Navy (Navy) gives notice that an EA has been prepared and an Environmental Impact Statement (EIS) is not required for the adoption and implementation of an INRMP at Naval Radio Transmission Facility (NRTF) LaMoure, North Dakota.

A Notice of Availability (NOA) of the Draft EA was published in the LaMoure Chronicle on November 25, 2020. The Draft EA was made available for public review on the Naval Facilities Engineering Command Northwest website. The public comment period on the Draft EA was from November 25, to December 28, 2020 and no public comments were received. An NOA of the Final EA and FONSI will be published in the LaMoure Chronicle and copies of the documents will be available at https://navfac.navy.mil/NWNEPA.

Proposed Action: The Proposed Action is to adopt and implement an Integrated Natural Resources Management Plan (INRMP) for Naval Radio Transmission Facility (NRTF) LaMoure, North Dakota consistent with the military use of the property and the goals and objectives established in the Sikes Act (16 United States Code Section 670a et seq., as amended). This INRMP will be implemented once it is signed by Commander, Navy Region Northwest and Commanding Officer, Naval Station Everett.

The purpose of the Proposed Action is to comply with statutory requirements under the Sikes Act. The need for the proposed action is to provide management requirements for species listed under the Endangered Species Act (ESA), and meet the requirements of the U.S. Department of Defense and Department of the Navy Instructions.

Existing Conditions: NRTF LaMoure consists of the Main and Remote Sites; both are located in LaMoure County, North Dakota. The Main Site is approximately 1.5 miles to the west of the town of LaMoure along the west bank of the James River. The Remote

Site is 1.6 acres and is located approximately 20 miles northwest of the main facility. The Main Site measures 834.39 acres and is leased by the U.S. Government from three separate entities for a term of April 1, 1970, through June 30, 2069. The majority of the property is undeveloped, consisting of mixed prairie and non-tidal wetlands. Structures on the main site include a storage warehouse, transmitter building, helix house, and a 1,200-foot antenna tower with associated guy cables. The Remote Site is entirely fenced and consists of a block building measuring approximately 200-square feet and an 80-foot radio antenna. The remaining land is maintained as open field.

Alternatives Analyzed: This EA analyzes two alternatives: the No Action Alternative and an Action Alternative (Preferred Alternative) to adopt and implement an INRMP for NRTF LaMoure. Under the No Action Alternative, NRTF LaMoure would have no INRMP. The No Action Alternative would not include management improvements described in the Preferred Alternative, nor provide management strategies for newly-listed threatened and endangered species and their habitats. Under the Preferred Alternative, NRTF LaMoure would adopt and implement an updated ecosystem-based approach to natural resources management that would continue to meet the land use needs of the military mission, comply with the Sikes Act, and initiate actions and projects to meet the natural resources management program goals of the INRMP.

The EA analyzed the potential impacts of the Proposed Action (Preferred Alternative) and No Action Alternative on the quality of the human environment on a programmatic level. As management decisions are made and project plans developed, further NEPA analysis may be necessary.

Environmental Effects: The following is a summary of the environmental consequences of the Proposed Action:

Water Resources. The Preferred Alternative would adopt and implement a water resources management approach based on best available science that identifies current conditions, evaluates impacts of Navy activities, and determines appropriate actions to protect local surface waters, wetlands, and floodplains at NRTF LaMoure. Additionally, the Preferred Alternative would help to ensure that water quality would remain unchanged or potentially improved through invasive species removal, grassland restoration, wetland habitat restoration, mapping of wetlands, and the application of best management practices in Storm Water

Pollution Prevention Plans required for construction projects. Therefore, there will be no significant impacts to water resources.

Biological Resources. The Preferred Alternative would manage biological resources through an ecosystem approach focusing on habitat management to protect terrestrial vegetation and wildlife. Improvements would include conservation of native vegetation and habitat, new wildlife and vegetation surveys, and restoration of habitat. The INRMP would also emphasize use of an environmental review process for proposed actions that could adversely affect biological resources so that impacts could be minimized and resources protected. The Preferred Alternative would have a beneficial effect for threatened and endangered species (TES) and be used as an early planning tool to identify potential impacts of planned and ongoing Navy actions on TES, providing an opportunity to implement measures to avoid or minimize impacts to these resources. The Preferred Alternative would identify projects to assist in conserving and managing TES through species surveys, monitoring, and habitat protection and restoration. Therefore, there will be no significant impacts to biological resources, including TES.

Finding: Based on the analysis presented in the EA and coordination with the U.S. Fish and Wildlife Service and North Dakota Game and Fish Department, the Navy finds that implementation of the proposed action will have no significant impact to the quality of the human environment.

FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR THE ENVIRONMENTAL ASSESSMENT (EA) FOR THE IMPLEMENTATION OF THE INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN (INRMP) AT NAVAL RADIO TRANSMISSION FACILITY (NRTF) LAMOURE, NORTH DAKOTA

The EA prepared by the Navy addressing this action is on file and interested parties may obtain a copy from: Naval Facilities Engineering Systems Command, 1101 Tautog Circle, Silverdale, WA 98315-1101 (Attention: NRTF LaMoure INRMP NEPA Planner).

8 APR 21
Date

S. D. Barnett
Rear Admiral, U.S. Navy
Commander, Navy Region Northwest

APPENDIX G - TRAINING OPPORTUNITIES FOR THE NATURAL RESOURCES MANAGER

Natural Resources Training Opportunities
CECOS - Civil Engineer Corps Officers School Offers many of the trainings required by OPNAV-M 5090.1 for NRMs, such as Natural Resources Compliance, Environmental Protection, and Environmental Negotiation. https://denix.osd.mil/cecos/home/
National Military Fish and Wildlife Association (NMFWA) Annual Meeting Several trainings specific to NRM duties are offered at the annual meetings, such as Climate Adaptation for DOD Natural Resources Managers. https://www.nmfwa.org
The Wildlife Society, Washington Chapter Annual Meeting Offers multiple days of technical sessions as well as trainings and workshops related to wildlife science in Washington State and the region. https://wildlife.org/washington-chapter/
U.S. Army Corps of Engineers – Learning Center Offers trainings on natural resources management, wetlands, and regulatory topics. http://ulc.usace.army.mil/
U.S. Fish and Wildlife Service - National Conservation Training Center Offers trainings on habitat restoration and management, conservation policy, wildlife biology and field techniques, ecological adaptations (climate change), and other topics. http://training.fws.gov/
Natural Resources Conservation Service – National Employee Development Center Offers trainings on wetlands, soils, GIS, and other topics. https://www.nrcs.gov/wps/portal/nrcs/main/national/nedc/training/
Wetland Training Institute, Inc. Offers trainings on wetlands, plant identification, regulatory policy, and permitting. http://www.wetlandtraining.com/
Xerces Society Offers webinars on invertebrates and pollinator conservation. https://www.xerces.org/events/webinars
North Dakota Chapter of The Wildlife Society Offers workshops and trainings on wildlife management and other natural resources topics. https://ndctws.wordpress.com

APPENDIX H - U.S. FISH AND WILDLIFE SERVICE SPECIAL MANAGEMENT CRITERIA

USFWS Special Management Criteria **-** The USFWS uses three criteria to determine if an INRMP provides adequate special management or protection to obviate the need for critical habitat designation. Per USFWS (2015b), the Service will do the following:

1) Assess an INRMP's potential contribution to species conservation, giving due regard to those habitat protection, maintenance, or improvement projects and other related activities specified in the plan that address the particular conservation and protection needs of the species for which critical habitat would otherwise be proposed. Although evaluation will be easier if the species is specifically addressed in the INRMP, that is not a requirement; the requirement is that the species receives a benefit from the INRMP.

Examples of a benefit include: reducing fragmentation of habitat; maintaining or increasing populations; planning for catastrophic events; protecting, enhancing, or restoring habitats; buffering protected areas; and testing and implementing new conservation strategies.

2) Presume that the species-related measures outlined in the INRMP will be funded and implemented unless the USFWS has specific reasons to believe there may be a problem. In such a case, consult with the USFWS on what types of assurances may be needed from the military installation to address these specific problems.

3) Consider whether the INRMP provides assurances that the conservation measures in the plan will be effective. When determining the effectiveness of a conservation effort, the USFWS considers whether the plan includes:

(a) Biological goals (broad guiding principles for the program) and objectives (measurable targets for achieving the goals);

(b) Quantifiable, scientifically valid parameters that will demonstrate achievement of objectives, and standards for these parameters by which progress will be measured;

(c) Provisions for monitoring and, where appropriate, for adaptive management;

(d) Provisions for reporting progress on implementation (based on compliance with the implementation schedule) and effectiveness of the conservation effort (based on evaluation of quantifiable parameters); and

(e) A description of a temporal duration sufficient to implement the INRMP and achieve the benefits of the goals and objectives of the plan.

APPENDIX I - FUNDING CLASSIFICATION AND SOURCES

Department of Defense Funding Classifications

Navy policy requires funding of all DOD Recurring Natural Resources Conservation Management Requirements and Non-Recurring Current Compliance projects. Enclosure 4 of DODI 4715.03 defines the four classes of conservation programs:

Recurring Natural Resources Conservation Management Requirements

These activities are needed to cover the administrative, personnel, and other costs associated with managing the DOD Natural Resources Conservation Program that are necessary to meet compliance with federal and state laws, regulations, EOs, and DOD policies, or in direct support of the military mission. DOD components shall give priority to recurring natural resources conservation management requirements associated with the operation of facilities, installations, and deployed weapons systems. These activities include day-to-day costs as well as annual requirements, including manpower, training, supplies, permits, fees, testing and monitoring, sampling and analysis, reporting and record keeping, maintenance of natural resources conservation equipment, and compliance self-assessments.

Non-Recurring Current Compliance

These projects and activities are needed to support: an installation currently out of compliance; signed compliance agreements or consent order; meeting requirements with applicable federal or state laws, regulations, standards, EOs, or policies; immediate and essential maintenance of operational integrity or military mission sustainment; and projects or activities that will be out of compliance if not implemented in the current program year.

Non-Recurring Maintenance Requirements

These projects and activities are needed to meet an established deadline beyond the current program year and maintain compliance. Examples include: compliance with future deadlines; conservation, GIS mapping, and data management to comply with federal, state, and local regulations, EOs, and DOD policy; efforts undertaken in accordance with non-deadline specific compliance requirements of leadership initiatives; wetlands enhancement to minimize wetlands loss and enhance existing degraded wetlands; and conservation recommendations in Biological Opinions.

Non-Recurring Enhancement Actions Beyond Compliance

These projects and activities enhance conservation resources or the integrity of the installation mission or are needed to address overall environmental goals and objectives, but are not specifically required by law, regulation, or EO, and are not of an immediate nature. Examples include: community outreach activities; educational and public awareness projects; restoration or enhancement of natural resources when no specific compliance requirement dictates a course or timing of action; and management and execution of volunteer and partnership programs.

Funding Sources

Fish and Wildlife Fees

Fish and wildlife fees to hunt or fish are authorized by the Sikes Act. NRTF LaMoure does not anticipate these funds since a hunting and fishing program is not compatible with the installation.

Agricultural/Grazing Outleases or Forestry Program

Revenues from rents on agricultural and grazing outleases on Navy lands are a funding source for natural resources management programs. NRTF LaMoure does not anticipate these funds since there are no forested lands on the installation and these programs are not compatible with the leased installation lands.

Strategic Environmental Research and Development Program and Environmental Security Technology Certification Program

The Strategic Environmental Research and Development Program (SERDP) and Environmental Security Technology Security Program are the DOD's environmental science and technology program, planned and executed in partnership with the U.S. Department of Energy and U.S. Environmental Protection Agency. Investments are made across a broad spectrum of basic and applied research, as well as advanced development to improve DOD's environmental performance, reduce costs, and enhance and sustain mission capabilities. This program promotes collaboration among academia, industry, the military services, and other federal agencies. Due to the competitive process involved with allocation of SERDP Funds, NRTF LaMoure is not expected to receive funds through this source.

Special Initiatives

The DOD or Navy may establish special initiatives to fund natural resource projects. Funding is generally small and available only for a limited number of projects. Streamside Forests is currently the only initiative applicable to NRTF LaMoure. Streamside Forests: Lifelines to Clean Water is a DOD streamside restoration small grants program. Applications and additional information are available on the DENIX website.

Memoranda of Understanding

Memoranda of Understanding (MOU) that the DOD has signed on to provide valuable opportunities for collaboration can benefit both sustainability of the military mission and natural resources management at NRTF LaMoure. Examples of such opportunities are listed below:

- January 2006 MOU between DOD, USFWS and the International Association of Fish and Wildlife Agencies for a Cooperative Integrated Natural Resources Management Program on Military Installations.

- July 2014 MOU between the USFWS and DOD to Promote the Conservation of Migratory Birds. This MOU promotes the conservation of migratory bird populations while sustaining the use of military lands and airspace for testing, training, and operations.
- November 2006 MOU between DOD and U.S. Department of Agriculture Natural Resources Conservation Service. Both agencies signed an MOU agreeing to coordinate activities to preserve land and improve water quality on lands surrounding government-owned military bases.
- 1996 MOU between the U.S. Environmental Protection Agency and DOD for coordinating of Integrated Pest Management activities.
- 1996 cooperative agreement between DOD and The Nature Conservancy for conducting natural resources inventories at installations.

Cooperative Ecosystem Studies Units

The Cooperative Ecosystem Studies Units (CESU) program is a working collaboration among federal agencies, universities, state agencies, non-governmental organizations, and other non-federal institutional partners. The CESU National Network provides multidisciplinary research, technical assistance, and education to resource and environmental managers. Although the overall program is overseen by the U.S. Department of the Interior, one of the participating agencies is DOD.

University Assistance

Universities are an excellent source of research assistance. NRTF LaMoure has not yet partnered with universities to help with specialized needs (e.g. natural resources research).

APPENDIX J - CROSSWALK TO DOD INRMP TEMPLATE

NRFT LaMoure INRMP Crosswalk to the Department of Defense Template	
DoD Template	**NRFT LaMoure INRMP 2020**
Title Page	Title Page
Signature Page	Signature Pages – separate pages for each signatory
Executive Summary	Executive Summary
Table of Contents	Table of Contents
Section 1 – Overview	Section 1 – Overview
1.a. Purpose	1.1– Purpose and Scope
1.b. – Scope	1.1– Purpose and Scope
1.c. – Goals and Objectives	1.3 – Goals and Objectives
1.d. – Responsibilities	1.4 – Responsibilities related to this INRMP
1.d.1. – Installation Stakeholders	1.4 – Responsibilities related to this INRMP
1.d.2. – External Stakeholders	1.5 – External Stakeholder Responsibilities
1.e. – Authority	1.2 – Authority
1.f. – Stewardship and Compliance Discussion	1.7 – Stewardship, Compliance, and Management Strategy
1.g. – Review and Revision Process	1.6 – Review and Revision Process
1.h. – Management Strategy	1.7 – Stewardship, Compliance, and Management Strategy
1.i. – Other Plan Integration	1.8 – Integration with Other Plans
Section 2 – Current Condition and Use	Section 2 – Current Condition and Use
2.a. – Installation Information	2.1 – NRTF LaMoure Installation Information
2.a.1. – General Description	2.1.2 – Location and General Description
2.a.2. – Regional Land Uses	2.1.3 – Regional Land Uses
2.a.3. – Abbreviated History and Pre-Military Land Use	2.1.4 – Abbreviated History and Pre-Military Land Use
2.a.4. – Military Mission	2.1.1 – Military Mission
2.a.5. – Operations and Activities	2.1.5 – Operations and Activities

NRFT LaMoure INRMP Crosswalk to the Department of Defense Template	
DoD Template	**NRFT LaMoure INRMP 2020**
2.a.6. – Constraints Map	2.1.6 – Natural Resource Constraints and Encroachment
2.a.7. – Opportunities Map	2.1.7 – Natural Resource Opportunities
2.b. – General Physical Environment and Ecosystems	2.2 – General Physical Environment
2.c. – General Biotic Environment	2.3 – General Biotic Environment
2.c.1. – Threatened and Endangered Species and Species of Concern	2.3.3 – Federally Listed Species and 2.3.4 Other Species of Concern
2.c.2. – Wetlands and Deep Water Habitats	2.2.6 – Floodplains and 2.2.7 – Wetlands
2.c.3. – Fauna	2.3.1 Fauna
2.c.4. – Flora	2.3.2 Flora
Section 3 – Environmental Management Strategy	3 – Environmental Management Strategy
3.a. – Supporting Sustainability of the Military Mission and the Natural Environment	3.1 – Supporting Sustainability of the Military Mission and the Natural Environment
3.a.1. – Integrate Military Mission and Sustainable Land Use	3.1 – Supporting Sustainability of the Military Mission and the Natural Environment and 5.2 - Achieving No Net Loss
3.a.2. – Define Impact to the Military Mission	2.1.6 – Natural Resource Constraints and Encroachment and 5.2 - Achieving No Net Loss
3.a.3. – Describe Relationship to Range Complex	NA
3.b. – Natural Resources Consultation	3.2 – Natural Resources Consultation
3.c. – NEPA Compliance	3.3 – NEPA Compliance
3.d. –Beneficial Partnerships and Collaborative Resource Planning	3.4 – Beneficial Partnerships and Collaborative Resource Planning
3.e. – Public Access and Outreach	3.5 – Public Access and Outreach
3.e.1. – Public Access and Outdoor Recreation	3.5 – Public Access and Outreach
3.e.2. – Public Outreach	3.5 – Public Access and Outreach
3.e.3. – Encroachment Partnering	3.6 – Encroachment Partnering

NRFT LaMoure INRMP Crosswalk to the Department of Defense Template	
DoD Template	**NRFT LaMoure INRMP 2020**
3.e.4. – State Comprehensive Wildlife Plans	1.8.3 State Wildlife Action Plan
Section 4 – Program Elements	Section 4 – Program Elements
4.a. – Threatened and Endangered Species Management and Species Benefit, Critical Habitat, Species of Concern Management	4.1 – Threatened and Endangered Species, Critical Habitat, Species of Concern
4.b. – Wetlands and Deep Water Habitats	4.5 – Wetlands and Floodplains
4.c. – Law Enforcement of Natural Resources Laws and Regulations	4.4 – Law Enforcement of Natural Resources Laws and Regulations
4.d. – Fish and Wildlife Management	4.2 – Fish and Wildlife Management
4.e. – Forestry Management	4.0 – Program Elements
4.f. – Vegetation Management	4.6 – Vegetation Management
4.g. – Migratory Birds Management	4.3 – Migratory Birds Management
4.h. – Invasive Species Management	4.7 – Invasive Species Management
4.i. – Pest Management	4.8 – Pest Management
4.j. – Land Management	4.9 – Land Management
4.k. – Agricultural Outleasing	4.0 – Program Elements
4.l. – GIS Management, Data Integration, Access, and Reporting	3.7 – GIS Management, Data Integration, Access, and Reporting
4.m. – Outdoor Recreation	4.0 – Program Elements
4.n. – Bird Aircraft Strike Hazard	4.0 – Program Elements
4.o. – Wildland Fire Management	4.10 – Wildland Fire Management
4.p. – Training of Natural Resources Personnel	3.8 – Training of Natural Resources Personnel
4.q. – Coastal/Marine Management	4.0 – Program Elements
4.r. – Floodplains Management	4.5 – Wetlands and Floodplains
4.s. – Other Leases	4.0 – Program Elements
	4.11 – Climate Change Planning and Adaptation

NRFT LaMoure INRMP Crosswalk to the Department of Defense Template	
DoD Template	**NRFT LaMoure INRMP 2020**
Section 5 – Implementation	Section 5 – INRMP Implementation
5.a. – Summary of Project Prescription Process	5.1 – Summary of Project Development Process
5.b. – Achieving No Net Loss	5.2 – Achieving No Net Loss
5.c. - Use of Cooperative Agreements	5.3 –Cooperative Agreements
5.d. – Funding	5.4 – Funding
Appendix 1. Acronyms	Main document, after list of Appendices
Appendix 2. Detailed Natural Resource	4.0 – Program Elements
Appendix 3. List of Projects	Table 5.1
Appendix 4. Surveys	Maintained separately; not within INRMP, but discussed and summarized in it.
Appendix 5. Research Requirements	NA
Appendix 6. Migratory Bird Management	4.3 – Migratory Birds Management
Appendix 7. INRMP Benefits for Endangered Species	4.1 – Threatened and Endangered Species, Critical Habitat, Species of Concern
Appendix 8. Critical Habitat Issues	4.1 – Threatened and Endangered Species, Critical Habitat, Species of Concern