Final
Natural Resources Action Environmental Assessment

Project No.: AMC204638
Contract No.: F41624-03-D-8595
Task Order 0202

Prepared for
US Air Force Center
for Environmental
Excellence

June 2005

CH2MHILL
135 South 84th Street, Suite 325
Milwaukee, Wisconsin 53214

FINAL FINDING OF NO SIGNIFICANT IMPACT
NATURAL RESOURCE ACTIONS ENVIRONMENTAL ASSESSMENT

GRAND FORKS AIR FORCE BASE, NORTH DAKOTA

Introduction

This Finding of No Significant Impact (FONSI) was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969; President's Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA, 40 Code of Federal Regulations (CFR) 1500-1508; and the Environmental Impact Analysis Process, 32 CFR 989. The decision in this FONSI is based on information contained in the *Natural Resource Actions Environmental Assessment (EA), Grand Forks Air Force Base (AFB), North Dakota.* The purpose of the EA is to determine the extent of environmental impacts that might result from implementing natural resource actions at Grand Forks AFB and evaluate whether these impacts, if any, would be significant.

The purpose of the Proposed Action is to control the spread of noxious weeds in accordance with federal and state laws; maintain operational safety by minimizing the potential for bird/wildlife aircraft strikes; and protect restored native prairie habitat at Grand Forks AFB.

Description of Proposed Action and Alternatives

The alternatives analyzed to accomplish the Proposed Action included implementing noxious weed control measures, the Bird/ Wildlife Aircraft Strike Hazard (BASH) Plan, and the Prairie View Nature Preserve (PNVP) Management Guide. The No Action Alternative was carried forward for analysis in accordance with 32 CFR 989.8(d).

To be considered a reasonable alternative, the chosen alternative should be cost-effective; implementable with little administrative effort and short lead times; include several optional management techniques for flexible implementation; be safe to implement; be environmentally sound; avoid or minimize impacts to the natural environment, specifically wetlands; and not be located in floodplains. Furthermore, the alternative should be effective in the control of noxious weeds and both resident and migratory bird species, maintain a healthy prairie habitat, and comply with state and federal noxious weed laws.

The Proposed Action is the only alternative that meets the selection criteria, in addition to having no significant adverse effect on the natural or human environment.

Summary of Findings

The potential impacts to the human and natural environment were evaluated relative to the existing environment. For each environmental resource or issue, anticipated direct and indirect effects were assessed, considering both short- and long-term project effects.

Aside from providing long-term, beneficial effects to airfield operations, implementation of the Proposed Action would result in less than significant impacts to air quality,

vegetation and wildlife, and safety and occupational health. None of the remaining resource areas would be affected.

Overall, the analysis for this EA indicates that the implementation of noxious weed control measures, the BASH Plan, and the PVNP Management Guide as described under the Proposed Action would not result in or contribute to significant negative cumulative or indirect impacts to the resources in the region.

Conclusion

After reviewing the facts and analysis in the EA, the Air Force concludes that the Proposed Action would not have a significant impact, either by itself or considering cumulative impacts. Accordingly, the requirements of NEPA, CEQ, and 32 CFR 989 et seq. have been fulfilled. An environmental impact statement is not necessary and will not be prepared.

A copy of the EA was available at the Grand Forks AFB Library and the Grand Forks Public Library. All interested agencies, groups, and persons were invited to submit written comments on the Draft FONSI and EA from May 19 through June 3, 2005, for consideration by the Grand Forks AFB Environmental Office, to:

Public Affairs Officer, 319 ARW/PA
375 Steen Boulevard
Grand Forks AFB, North Dakota 58205
Telephone: (701) 747-5017
E-mail: PA@grandforks.af.mil

Comments were received from both the U.S. Fish and Wildlife Service and the North Dakota Department of Health. None of the comments required changes to the Proposed Action or the discussion of environmental consequences in the EA.

SIGNED:

_____ **DATE:** 11 Jul 05

JOEL S. REESE, Colonel, USAF
319 ARW/CV, Chairman, Environmental Protection Committee

Architect-Engineering (A-E) Services

Final
Natural Resource Actions Environmental Assessment

CDRL A001D and A001E
Paragraph 9.4.2

Prepared for
Grand Forks Air Force Base, North Dakota 658205-6434

Contract No. F41624-03-D-8595
Task Order 0202
Project No. AMC204638

Prepared By

CH2MHILL

Document No.: GF_FA001DE-elec

June 22, 2005

135 South 84th Street, Suite 325
Milwaukee, Wisconsin 53214

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	June 22, 2005	Final Natural Resource Actions Environmental Assessment and Finding of No Significant Impact (FONSI)

4. TITLE AND SUBTITLE
Grand Forks Air Force Base
Architect-Engineering (A-E) Services
Final Natural Resource Actions Environmental Assessment and Finding of No Significant Impact (FONSI)
Task Order 0202
CDRL A001D and A001E; Paragraph 9.4.2

5. FUNDING NUMBERS
F41624-03-D-8595
AMC204638

6. AUTHOR(S)
CH2M HILL

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
CH2M HILL
135 South 84th Street, Suite 325
Milwaukee, Wisconsin 53214

8. PERFORMING ORGANIZATION REPORT NUMBER
316925.02.07.GF.90.E2

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
HQ AFCEE/ECE
3300 Sidney Brooks, Building 532
Brooks City-Base, Texas 78235-5112

10. SPONSORING/ MONITORING AGENCY REPORT NUMBER
DI-MISC-80711A

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT
Statement A: "Approved for Public release: distribution is unlimited."

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)
This submittal provides the Final *Natural Resource Actions Environmental Assessment* and *Finding of No Significant Impact (FONSI)* for Grand Forks Air Force Base, North Dakota. (Task Order 0202, AMC204638)

14. SUBJECT TERMS
Final *Natural Resource Actions Environmental Assessment and Finding of No Significant Impact (FONSI)*

15. NUMBER OF PAGES
One Volume

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	Unlimited

NSN 7540-01-280-5500

Standard Form 298 (rev. 2-89)
Prescribed by ANSI Std 239-18

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Preface

CH2M HILL is performing Architect-Engineering (A-E) Services to support Natural Resource Liability Asset Management (NRLAM) Assessment and Environmental Assessments at Grand Forks Air Force Base, North Dakota. This work is being conducted under the Air Force Center for Environmental Excellence Contract No. F41624-03-D-8595, Task Order No. 0202 (Project No. AMC204638 and Project No. AMC208892).

Key CH2M HILL project personnel for the Natural Resource Actions Environmental Assessment at Grand Forks Air Force Base completed under this contract are:

- Tim Watkins – Regional Project Manager
- Karin Lilienbecker – Senior Review
- Dave Rodebaugh – Project Planner
- Fawn Elhadidi – Document Manager
- Kim Basial – Technical Editor

For quality control purposes, CH2M HILL staff have reviewed this document. The senior reviewer listed below, by virtue of her signature, has concluded that this document meets or exceeds the deliverable requirements set forth in the Statement of Work.

Karin Lilienbecker — 14 June 05

Karin Lilienbecker — Date

Executive Summary

Introduction

The 319th Air Refueling Wing of the U.S. Air Force (Air Force) has developed noxious weed control measures, a Bird/Wildlife Aircraft Strike Hazard (BASH) Plan (Grand Forks Air Force Base [AFB or Base], 2003a), and the Prairie View Nature Preserve (PVNP) Management Guide (Grand Forks AFB, undated) for Grand Forks AFB, in Grand Forks County, North Dakota. The purpose of this environmental assessment (EA) is to determine whether the Proposed Action, including these activities, would have significant adverse effects on the quality of the social, economic, and environmental resources at or near the Base.

Following are the purposes of and need for the Proposed Action:

- To control the spread of noxious weeds in accordance with federal and state laws
- To maintain operational safety by continuing to minimize the potential for bird/wildlife aircraft strikes in accordance with Air Force regulations
- To protect restored onbase native prairie habitat

Proposed Action and Alternatives

Proposed Action

The Proposed Action includes noxious weed control measures, the BASH Plan (Grand Forks AFB, 2003a), and the PVNP Management Guide (Grand Forks AFB, undated). Accomplishing the objectives of each of these would involve a variety of management techniques. This EA evaluates analyzes the potential impacts of the management techniques included in the Proposed Action.

No Action Alternative

Under the No Action Alternative, current Base management would continue. The No Action Alternative would not meet the purpose and need for the Proposed Action because it would not control noxious weeds currently found at the Grand Forks AFB, address existing BASH, or address PVNP habitat conditions.

Environmental Consequences

This EA evaluates potential effects of the Proposed Action, including indirect and cumulative impacts, on air quality; noise; wastes, hazardous materials, and stored fuels; water resources; biological resources; socioeconomic resources; cultural resources; land use; transportation; airfield operations; safety and occupational health; environmental management; environmental justice; and protection of children. Neither floodplains nor

wetlands would be affected as a result of implementing the Proposed Action. Potential adverse impacts to social, economic, and environmental resources are summarized in the following sections.

Air Quality

Proposed Action

Implementing the Proposed Action would not result in significant impacts to air quality. Short-term emissions of pollutants from equipment used in the application of herbicides and maintenance of equipment, such as mowers and ground sprayers, would occur; however, these emissions are not expected to exceed air quality standards.

No Action Alternative

Implementing the No Action Alternative would not result in air quality impacts.

Biological Resources

Proposed Action

Under the Proposed Action, controlling noxious weeds and managing PVNP could cause both short- and long-term impacts to vegetation at Grand Forks AFB. Each management strategy has been designed to provide long-term benefits to the restoration of vegetative communities historically present at the Base.

The BASH management techniques would result in short- and long-term adverse impacts to bird populations at Grand Forks AFB; however, the impacts are not expected to be significant. The BASH techniques would include direct and indirect measures to decrease bird populations. Techniques identified in the BASH Plan (Grand Forks AFB, 2003a) are recommended for all AFBs with flight operations.

No Action Alternative

With respect to noxious weed control and PVNP management, implementing the No Action Alternative would result in long-term major adverse impacts to biological resources because invasive plant species could become established and the restored PVNP would not be protected.

The No Action Alternative would allow bird populations to increase, potentially resulting in decreased aircraft safety and an increased potential for harm to personnel and aircraft.

Safety and Occupational Health

Proposed Action

By following proper herbicide application procedures and construction techniques, the Proposed Action would not result in short- or long-term adverse impacts to the safety and occupational health of personnel.

No Action Alternative

Implementing the No Action Alternative could affect the safety of flight operations at Grand Forks AFB. In the absence of BASH management techniques, bird populations would be expected to increase, which could interfere with flight operations.

Conclusion

Implementation of the Proposed Action would not result in significant impacts to the social, economic, or environmental resources on or near the Base. An environmental impact statement is not required and will not be prepared. The issuance of a Finding of No Significant Impact is appropriate.

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Acronyms and Abbreviations

AFB	Air Force Base
AFI	Air Force Instruction
Air Force	U.S. Air Force
AMC	Air Mobility Command
Base	Air Force Base
BASH	Bird/Wildlife Aircraft Strike Hazard
Census	U.S. Bureau of the Census (or decennial Census data)
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
DoD	Department of Defense
EA	environmental assessment
EIAP	Environmental Impact Analysis Process
EO	Executive Order
EPA	U.S. Environmental Protection Agency
HAP	Hazardous Air Pollutants
INRMP	Integrated Natural Resources Management Plan
NAAQS	National Ambient Air Quality Standards
NDAC	North Dakota Administrative Code
NEPA	National Environmental Policy Act of 1969
NO_2	nitrogen dioxide
NO_x	nitrogen oxide
O_3	ozone
$PM_{2.5}$	particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10}	particulate matter less than 10 microns in aerodynamic diameter
PMP	Pest Management Plan
PVNP	Prairie View Nature Preserve

SO_2	sulfur dioxide
tpy	tons per year
USC	U.S. Code
UST	underground storage tank
VOC	volatile organic compound

SECTION 1.0

Purpose of and Need for Proposed Action

1.1 Introduction

The 319th Air Refueling Wing of the U.S. Air Force (Air Force) proposes to implement a series of natural resource actions at Grand Forks Air Force Base (AFB or Base), in Grand Forks County, North Dakota (see Figure 1-1; figures are located at the end of each section). Grand Forks AFB would implement the necessary measures to control the spread of noxious weeds in accordance with federal and state laws, maintain operational safety by continuing to minimize the potential for bird/wildlife aircraft strike hazards (BASH), and protect and restore onbase native prairie habitat.

With support of Air Mobility Command (AMC) and the Air Force Center for Environmental Excellence, the Base has prepared this environmental assessment (EA) for the Proposed Action in accordance with regulations implementing the National Environmental Policy Act (NEPA) of 1969 (Public Law 91-190), the President's Council on Environmental Quality (CEQ), 40 Code of Federal Regulations (CFR) §§1500 through 1508, 32 CFR §989 Environmental Impact Analysis Process (EIAP), Air Force Instructions, and Department of Defense (DoD) directives.

The purpose of this EA is to identify potentially significant adverse impacts on the quality of social, economic, and environmental resources and, if found, identify mitigation measures to avoid, minimize, or compensate for such impacts. Timing of this EA is related to the recent development of plans for each of these actions.

1.2 Need for the Action

1.2.1 Noxious Weed Control

The federal Noxious Weed Act (7 U.S. Code [USC] 2801 et seq.) and Executive Order (EO) 13112, Invasive Species, require federal agencies to monitor and control noxious weeds on federal properties. North Dakota Law 63-01.1-01 Control and Eradication of Noxious Weeds requires "every person in charge of or in possession of land in this State, whether as landowner, lessee, renter, or tenant, under statutory authority or otherwise, to eradicate or to control the spread of noxious weeds on those lands." A noxious weed survey of Grand Forks AFB conducted in July 2003 revealed the presence of nine species of noxious weeds infesting a total of 1,706 acres in 17 areas of the Base. The survey targeted unimproved areas of the Base; improved areas are maintained by the Grounds Maintenance contractor. Therefore, the survey did not involve the entire 4,830 acres of land encompassing the Base. However, noxious weeds were identified in all survey areas and the Environmental Management Flight acknowledges that areas not surveyed also contain noxious weeds (Rundquist, 2005). The following noxious weeds were identified during the survey:

- Absinth wormwood (*Artemisia absinthium)*
- Bull thistle (*Cirsium vulgare)*

- Canada thistle (*Cirsium arvense)*
- Field bindweed (*Convolvulus arvensis)*
- Leafy spurge (*Euphorbia esula)*
- Musk thistle (*Carduus nutans*)
- Perennial sowthistle (*Sonchus arvensis*)
- Spotted knapweed (*Centaurea maculosa*)
- Wavyleaf thistle (*Cirsium undulatum*)

Noxious weed control is required to comply with federal and state regulations.

1.2.2 Bird/Wildlife Aircraft Strike Hazard

Air Force Instruction (AFI) 91-202, Mishap Prevention Program, requires that all Air Force, Air Force Reserve, and Air National Guard installations with flight operations to establish a BASH program. A BASH has been identified at Grand Forks AFB and its vicinity because resident and migratory bird species are present. To comply with the AFI, a program is required to minimize bird/wildlife strikes to aircraft.

1.2.3 Prairie Management

Grand Forks AFB developed the Prairie View Nature Preserve (PVNP) to provide the Base community with the opportunity to experience native grassland vegetation that historically existed in the area prior to settlement. The PVNP shall be managed with minimal maintenance to ensure naturally occurring prairie events are implemented. This prairie shall be used for educational events, improve quality of life, and base aesthetics. The PVNP covers an area of 44 acres, and although a grassland of this size can support a variety of species, larger tracks of prairie can be more self-supporting and sustain a higher level of biodiversity. The PVNP needs to be managed to support high quality native grassland vegetation.

1.3 Objectives for the Action

Objectives for the action are to control noxious weeds, reduce the potential for bird/wildlife aircraft strikes, and continue to maintain the restored native prairie at Grand Forks AFB.

1.4 Scope of the Environmental Assessment

This EA documents and analyzes potential environmental and socioeconomic effects associated with the Proposed Action, relative to the No Action condition. Air Force Form 813 is presented in Appendix A.

1.5 Decisions that Must Be Made

The Base Civil Engineer and chairman of the Environmental Protection Committee is responsible for selecting which method(s) should be implemented to control noxious weeds, reduce the BASH, and maintain the PVNP. A decision to take action would result in implementation of the noxious weed control measures, BASH Plan (Grand Forks AFB, 2003a), and PVNP Management Guide (Grand Forks AFB, undated). A decision to take No Action could result in Grand Forks AFB failing to comply with state and federal regulations,

increased risk to the safety of personnel and aircraft resulting from increased BASH, and the loss of a restored native prairie.

1.6 Applicable Regulatory Requirements and Required Coordination

This environmental analysis has been conducted in accordance with CEQ regulations, Title 40 CFR §§1500 through 1508, as they implement the requirements of NEPA, 42 USC §4321 et seq., and the EIAP, as promulgated in 32 CFR §989.

As required by these regulations implementing NEPA, this EA evaluates the direct, indirect and cumulative impacts of the Proposed Action and alternatives. In addition, this EA evaluates the compliance of the Proposed Action with the potential requirements of the following state and federal environmental laws and regulations:

- Noxious Weed Act
- Clean Air Act
- Clean Water Act
- Pollution Prevention Act of 1990
- National Historic Preservation Act
- Archaeological Resources Protection Act
- Endangered Species Act of 1973
- Resource Conservation and Recovery Act
- Occupational Safety and Health Act
- EO 11988 (Floodplain Management)
- EO 11990 (Protection of Wetlands)
- EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations)
- EO 13045 (Protection of Children from Environmental Health Risks and Safety Risks)
- EO 13112 (Invasive Species)

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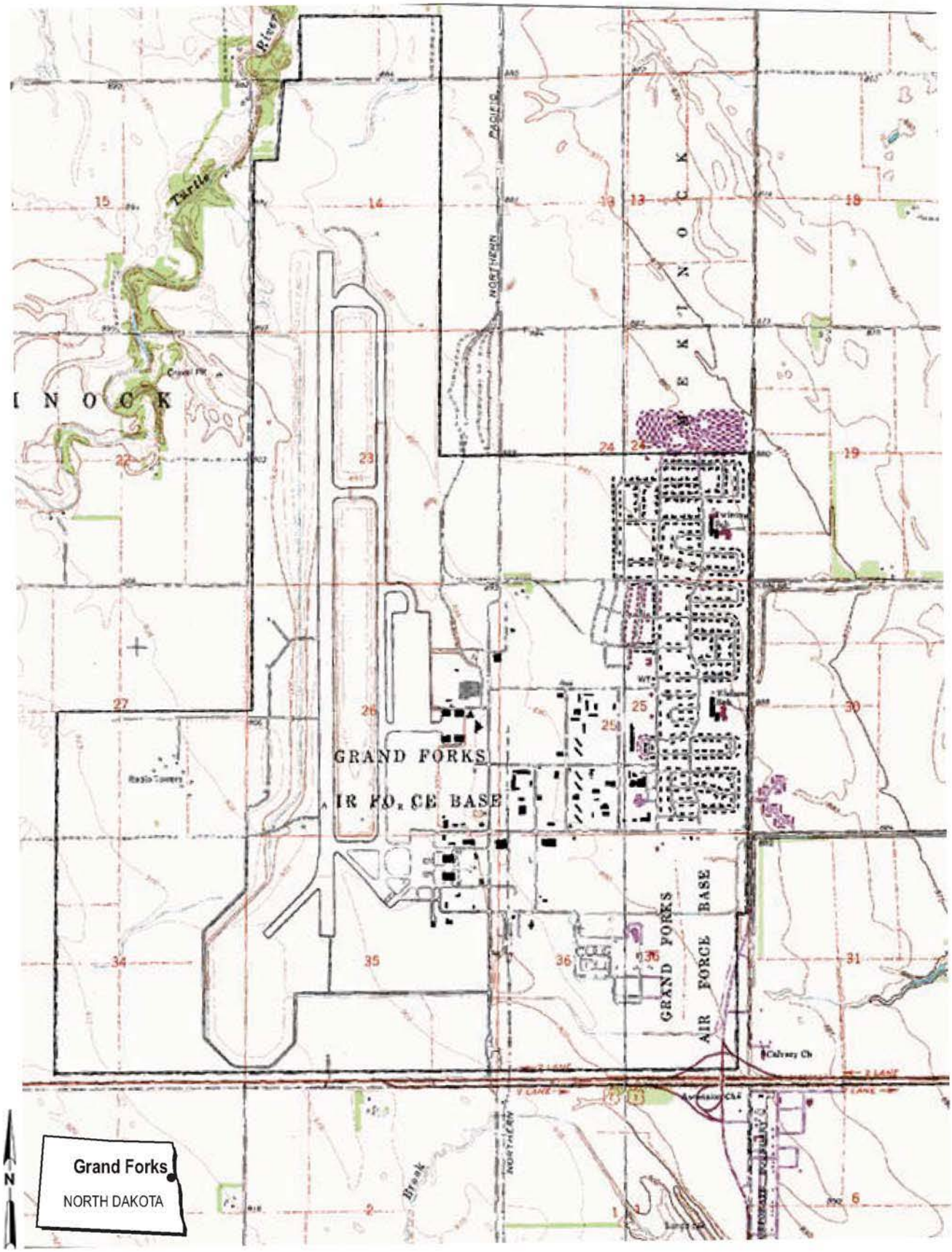

FIGURE 1-1
BASE LOCATION
NATURAL RESOURCE ACTIONS ENVIRONMENTAL ASSESSMENT
GRAND FORKS AIR FORCE BASE, NORTH DAKOTA

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XXXXXX.XX.XX Location Map 6-19-04 mjl

SECTION 2.0

Description of Proposed Action and Alternatives

2.1 Introduction

This section describes the Proposed Action and alternatives analyzed in this EA and the alternatives considered but eliminated from detailed study. Alternatives carried forward for detailed analysis in this EA were identified as meeting the identified purpose of and need for the action. The alternatives eliminated did not fully meet the selection criteria established for the Proposed Action. The No Action Alternative is carried forward for analysis as a baseline against which all other alternatives are compared, in accordance with CEQ regulations (40 CFR 1502.14[d]).

2.2 Selection Criteria for Alternatives

Reasonable alternatives for controlling noxious weeds, reducing BASH, and maintaining a healthy PVNP at Grand Forks AFB should accomplish the following:

- Be low cost, so that they can be implemented with available funding
- Be effective in the control of noxious weeds, resident and migratory bird species, and maintain a healthy prairie habitat
- Be implemented with little administrative effort and short lead times
- Include several optional management techniques for flexible implementation
- Be safe to implement
- Be environmentally sound and avoid or minimize impacts to the natural environment, specifically wetlands, and should not be located in floodplains
- Comply with state and federal noxious weed laws

2.3 Alternatives Considered but Eliminated from Detailed Study

The following alternatives did not meet one or more of the selection criteria and were, therefore, eliminated from detailed impact analysis.

2.3.1 Noxious Weed Control

Noxious weed control could be implemented throughout the Base, including sensitive areas such as wetlands and floodplains. Herbicide application in sensitive areas would require

additional administrative effort and lead time because permits would have to be obtained for work in these areas. The need for the permits arises from regulations that protect wetlands and floodplains as they are recognized for their values as special biotopes and their contribution to regulating the hydrology of watersheds. The alternative of basewide implementation of noxious weed control in wetlands and floodplains does not meet the selection criteria of (1) implementation with little administrative effort and short lead times and (2) be environmentally sound and avoid or minimize impacts to the natural environment and, therefore, was eliminated from further consideration.

2.3.2 Bird/Wildlife Aircraft Strike Hazard

The BASH program could rely solely on killing birds by using guns or pesticides. Killing birds with guns would require manpower to be vigilant and destroy birds either at the times of the largest congregation or during periods when they present the greatest hazard (e.g., during flight operations). Pesticides would have to be applied widely and frequently to achieve the required bird reduction rates, thus potentially affecting other wildlife. Killing the birds is an environmentally inferior method for achieving the goals of BASH reduction. The alternative would rely on a single method to meet the BASH reduction goals. Neither killing birds with guns nor pesticide application would meet the selection criteria of (1) flexible implementation, (2) safe implementation, and (3) being environmentally sound and avoiding or minimizing impacts to the natural environment. Therefore, the alternative was eliminated from further consideration.

2.3.3 Prairie Management

The restored prairie could be vegetated with non-native or commercial crops or built on with structures for uses consistent with the Base General Plan (Grand Forks AFB, 2001). Converting the prairie to other uses would undermine the prairie restoration project and its goals to benefit the Grand Forks AFB community. Furthermore, the alternative would not be consistent with the selection criteria of (1) effectively maintaining a healthy prairie habitat and (2) being environmentally sound and avoiding or minimizing impacts to the natural environment. Therefore, the alternative was eliminated from further consideration.

2.4 Description of Proposed Action and Alternatives

2.4.1 Proposed Action

The Proposed Action includes implementing noxious weed control measures, the BASH Plan (Grand Forks AFB, 2003a), and the PVNP Management Guide (Grand Forks AFB, undated). Accomplishing the objectives of each of these would involve a variety of management techniques.

2.4.1.1 Noxious Weed Control Measures

The noxious weed control measures would be implemented throughout the Base on an as-needed basis. These measures would not be implemented in wetlands or floodplains. The proposed measures include the following actions:

- Prepare areas for proper seeding
- Volunteer tree and debris removal

- Apply Base-approved herbicides (e.g., glyphosate, Roundup Drypack, Roundup Ultra ST, Tordon 22K, and Reward Landscape) to eradicate the nine species of noxious weeds identified in the 2003 Noxious Weed Survey.
- Grade to establish soil bed for planting
- Seed area using native grassland species
- Follow health and safety procedures for herbicide application

2.4.1.2 Bird/Wildlife Aircraft Strike Hazard Plan

The BASH program for Grand Forks AFB consists of a plan (Grand Forks AFB, 2003a) and activities for minimizing BASH. Figure 2-1 shows the areas in which the BASH Plan would be implemented. Plan implementation would accomplish the following:

- Establish a Bird Hazard Working Group and designate responsibilities to its members
- Establish procedures to identify high-hazard situations, alert supervisors and aircrews, and provide guidance and an effective process to limit or discontinue flying operations when warranted
- Establish aircraft and airfield operating procedures to avoid high-hazard situations
- Provide means of disseminating bird hazard information and procedures for bird avoidance to all assigned and transient air crews
- Establish procedures and guidelines to decrease airfield attractiveness to birds
- Provide guidelines for dispersing birds when they congregate on the airfield

Each of the tenant units is tasked with responsibilities for implementing the BASH Plan (Grand Forks AFB, 2003a), which spells out the specific duties for each unit. The following management practices have been incorporated into the Draft Integrated Natural Resources Management Plan (INRMP) (Grand Forks, 2004a) and are the basis for addressing BASH at Grand Forks AFB:

- **Grass height management –** Mowing procedures maintain uniform grass height between 7 and 14 inches near the airfield. Mowing frequency would be as needed to maintain height requirements.
- **Broad-leaf weed control –** Broad-leaf weeds would be kept to a minimum on the airfield. Broad-leaf weeds attract a variety of birds, may produce seeds or berries, and may limit grass growth. Herbicides would be applied as a last resort, after other integrated pest management practices (i.e., mowing and cultivating), as necessary for control of weeds.
- **Planting bare areas –** Bare areas are frequently used by birds as resting sites and should be eliminated on the airfield. Grass would be planted and appropriate irrigation maintained, as necessary.
- **Reducing edge effect –** Edge effect refers to the highly attractive transition zone between two distinct habitat types (i.e., brush to grassland). The airfield would be maintained as uniformly as possible to reduce this effect.

- **Leveling of airfield –** High and low spots on the airfield would be leveled or filled to reduce attractiveness to birds and prevent standing water. Before leveling the airfield, work must be coordinated through the Civil Engineer Squadron's Environmental Flight (319 CES/CEV) to ensure the protection of wetlands.
- **Dead vegetation –** Brush piles, hay bales, and other dead vegetation would be covered or removed as soon as possible.
- **Pest control –** Invertebrates and rodents provide important food sources for many birds. The Civil Engineering Pest Management Section would periodically survey and reduce these pests when required. Control of insects and rodent populations through use of insecticides and rodenticides would be accomplished under the supervision of the Base Pest Management Office and coordinated with the U.S. Environmental Protection Agency (EPA) and with local, state, and federal wildlife agencies to ensure that the BASH Plans do not violate any laws and that required permits are obtained. Control would begin early in the spring and must be coordinated with the approved control section of the Wildlife Management Plan in the INRMP (Grand Forks AFB, 2004a).
- **Drainage ditches –** Ditches would be inspected regularly and kept clear and free of obstacles. Ditch sides would be maintained as steeply as possible to discourage wading birds and emergent vegetation. Upland vegetation would be removed as often as necessary to discourage use by birds. Herbicides would be only be sprayed in the upland portions of the ditches, not directly in the water, and spraying would be coordinated with 319 CES/CEV. Herbicides would be applied in accordance with rates prescribed on the herbicide packaging.
- **Erosion-control vegetation –** Vegetation that is appropriate for the region and BASH reduction would be used (i.e., erosion would not be controlled using plants that produce seeds at heights below 18 inches).
- **Agricultural crop outleasing –** Outleasing of crops would be consistent with BASH reduction. Hay is a suitable crop for runway lateral and approach clearance zones when properly managed.
- **Eliminate roosting sites –** Vegetation management of roost sites would control black-bird and starling roosts where possible. Trees would be pruned to reduce the number of perches available, and entire trees or stands removed if necessary.
- **Remove birds from buildings and hangars –** Pigeons, house sparrows, swallows, and starlings frequently live in buildings and hangars and must be excluded. Denying access by screening windows, closing doors, and blocking entry holes is most effective.

Other methods to be considered are as follows:

- **"Bird-Proof" –** A sticky repellent manufactured by Bird-X would be used. Pest Management would survey bird roosting sites and apply Bird-Proof where maximum numbers of birds would contact it.
- **Pellet guns –** Grand Forks AFB would shoot birds for a short-term solution. Experience shows all birds cannot be removed using this technique. Proper safety equipment is

necessary. A depredation permit is required for all birds except pigeons, cowbirds, grackles, blackbirds, crows, and magpies.

- **Netting –** Grand Forks AFB would install netting under superstructure to exclude pest birds from roosting areas. No gaps or holes should be present for birds to get through.
- **"Flight Control" –** Grand Forks AFB would spray this goose repellent on grass. It is particularly effective in sewage lagoon areas.
- **Trapping and removal –** Grand Forks AFB would use live traps baited with food and water to trap pest birds. Birds could be released away from the hangar area.
- **Design features –** When planning a new hangar, Grand Forks AFB would consider designing structures with the support features located on the outside of the building to greatly reduce bird numbers.
- **Door coverings –** Grand Forks AFB would use netting or plastic strips suspended over the doors to exclude birds and ensure that no tears or holes are present to allow birds to access the hangar.
- **Sharp projections –** Grand Forks AFB would use these in limited areas, such as ledges, overhangs, or small places where birds cannot be allowed.
- **Night harassment –** Grand Forks AFB would use high-pressure air or water to make hangars an undesirable roosting site.
- **Bird nest removal –** Grand Forks AFB would use water or other means to remove nests from hangars and buildings during nest construction season.

2.4.1.3 Prairie View Nature Preserve Management Guide

The PVNP Management Guide (Grand Forks AFB, undated) was developed to ensure the success of the restored native prairie in PVNP, which consists of three types of prairie grasslands: short grass, mixed grass (short and tall grass mixture), and tall grass. Each of these grassland types has been divided into two different prairie management zones: Improved Zone and Minimal Maintenance Zone (see Figure 2-2). The following discussion describes the maintenance techniques for the management zones.

The management issues are similar for each zone, but the techniques used to address the issues may vary. Table 2-1 shows how each of the techniques prescribed in the PVNP Management Guide (Grand Forks AFB, undated) would be used in the two zones.

2.4.2 No Action Alternative

Inclusion of the No Action Alternative is prescribed by CEQ regulations. Although the No Action Alternative does not satisfy the purpose and need for the Proposed Action, it serves as a baseline against which the impacts of the Proposed Action can be evaluated.

2.4.2.1 Noxious Weed Control

Under the No Action Alternative, the Base would not try to control noxious weeds. Invasive species would be allowed to continue propagation. Grand Forks AFB would not

conform to North Dakota State Law 63-01.1-01, Control and Eradication of Noxious Weeds; the federal Noxious Weed Act; or EO 13112, Invasive Species, for controlling noxious weeds.

TABLE 2-1
PVNP Management Guide – Prescribed Maintenance Techniques
Natural Resource Actions Environmental Assessment, Grand Forks Air Force Base, North Dakota

Technique	Improved Zone	Minimal Maintenance Zone
Mowing	Mid-July	Mid-July
	When weeds are taller than Buffalo grass	Tall grass mowed to a height of not less than 4 inches
		No more than one-third of grass cut at one time
Burning	Prescribed burning every 3 years	Spot burning every 3 years
	No burning in Arboretum area or within 25 feet of trees	Alternate burns between spring and fall
		No burning within 25 feet of trees
	Conduct before onset of nesting season	Conduct before onset of nesting season
Haying	Remove litter every 3 to 5 years by haying the area in mid-July	Remove litter every 3 to 5 years by haying the area in mid-July
Tree maintenance	Remove suckers and sprouts; winter train for a single central leader; remove branches from bottom one-third of tree; maintain and install tree guards; ensure that newly planted trees have a 3-foot-diameter ring; water young trees every week when there is less than 1 inch of rain; remove and replace all dead trees; and remove or relocate volunteer trees	Same as under Improved Zone
Watering	Water once a month July to September in early morning; on hot days, light watering in late morning or early afternoon to prevent wilting; soak soil before winter if soil is dry	Same as under Improved Zone
Seed Collecting	N/A	Collect seeds from desired species
		Break up soil and reseed by hand
Interseeding and Reseeding	Interseed and reseed with native grass and forbs	
Herbicide or Mechanical	Remove buckbrush through herbicide or mechanical methods; treat zones for noxious weeds through the use of selective herbicides in spring and fall (see Noxious Weed Control)	Same as under Improved Zone

Source: Grand Forks AFB, undated.

2.4.2.2 Bird/Wildlife Aircraft Strike Hazard

Under the No Action Alternative, Grand Forks AFB would tolerate bird populations until their presence caused safety concerns, at which point the birds would be controlled by lethal means.

2.4.2.3 Prairie Management

Under the No Action Alternative, Grand Forks AFB would not actively manage the restored native prairie habitat at PVNP.

2.5 Description of Past and Reasonably Foreseeable Future Actions Relevant to Cumulative Impacts

This EA identifies actions that have been conducted in the past, are ongoing or in the planning stages, and future actions that are related to the Proposed Action. Details of the actions that have the potential to interact with the Proposed Action are included in the cumulative analysis in Section 4.15, Indirect and Cumulative Impacts.

2.6 Identification of Preferred Alternative

The Air Force's Preferred Alternative for this EA is to implement the Proposed Action as described in Section 2.4.1. This alternative best meets the selection criteria.

2.7 Comparison of the Environmental Impacts of Alternatives

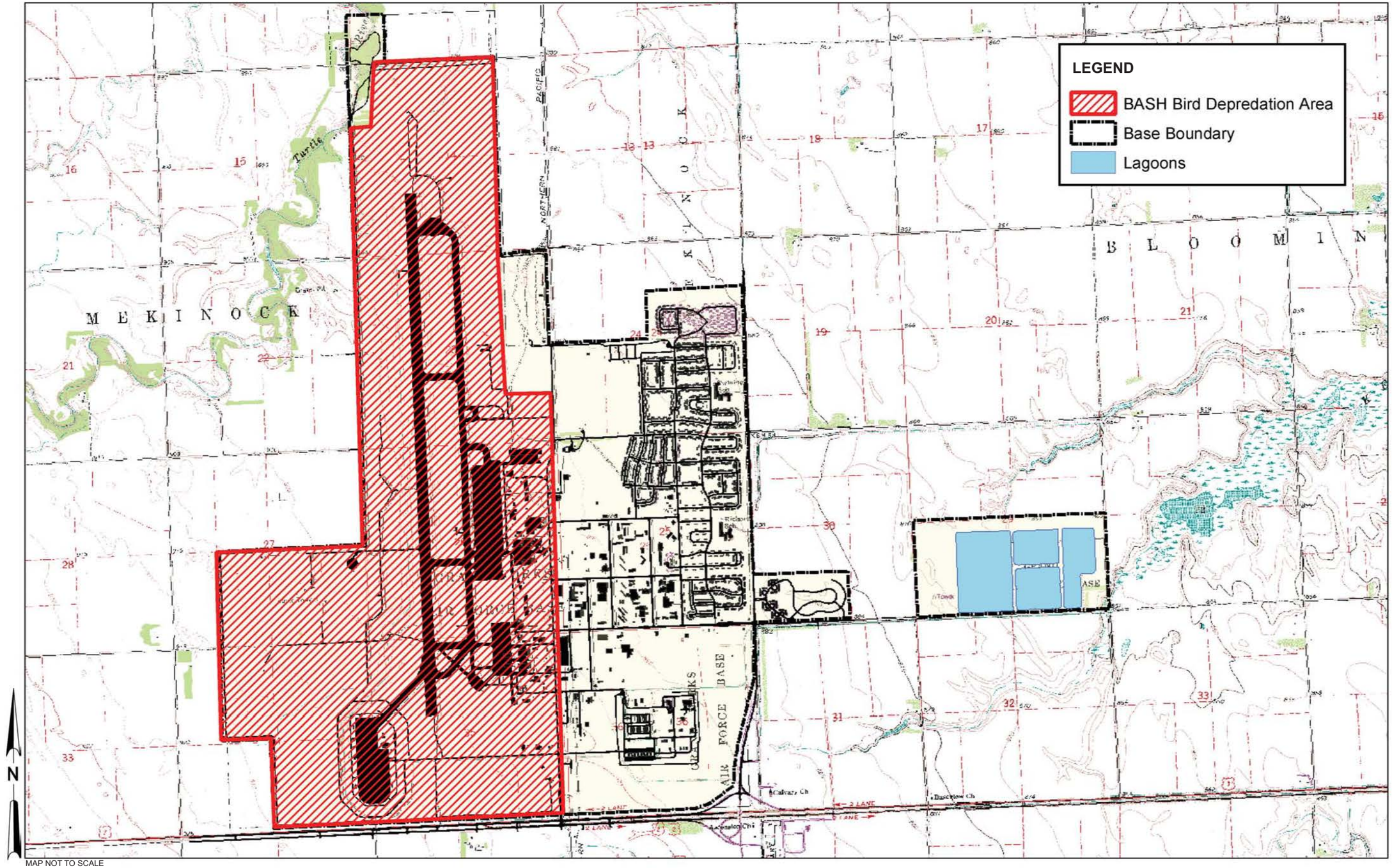
Table 2-2 compares the environmental effects of the alternatives described above. Detailed descriptions of potential impacts to social, economic, and environmental resources are found in Section 4.0, Environmental Consequences.

TABLE 2-2
Summary of Potential Social, Economic, and Environmental Impacts
Natural Resource Actions Environmental Assessment, Grand Forks Air Force Base, North Dakota

	Environmental and Socioeconomic Consequences	
Resource	**Proposed Action**	**No Action**
Air Quality	Short-term, minor adverse effects	No effects
Noise	No effects	No effects
Wastes, Hazardous Materials and Stored Fuels	No effects	No effects
Water Resources		
Surface Water	No effects	No effects
Groundwater	No effects	No effects
Floodplains	No effects	No effects
Wetlands	No effects	No effects
Biological Resources		
Vegetation and Wildlife	Short-term, minor adverse effects resulting from destruction of nests and depredation of birds; destruction of native plants by herbicides; long-term, major beneficial effects from controlling invasive plants	Long-term, major adverse effects resulting from noxious weeds, bird/wildlife aircraft strikes, and more extensive use of depredation as control method

TABLE 2-2
Summary of Potential Social, Economic, and Environmental Impacts
Natural Resource Actions Environmental Assessment, Grand Forks Air Force Base, North Dakota

Resource	Environmental and Socioeconomic Consequences	
	Proposed Action	**No Action**
Federal and State-listed Threatened or Endangered Species	No effects	No effects
Socioeconomic Resources	No effects	No effects
Cultural Resources	No effects	No effects
Land Use	No effects	No effects
Transportation Systems	No effects	No effects
Airspace/Airfield Operations	Long-term, major beneficial effects from controlling BASH	Long-term, major adverse effects due to potential for BASH
Safety and Occupational Health	Short-term, minor adverse effects from exposure to herbicides and smoke from prescribed burning	Long-term, major adverse effects as a result of not reducing potential for BASH
Environmental Management		
Pollution Prevention	No effects	No effects
Geology and Soils	No effects	No effects
Environmental Justice and Protection of Children	No effects	No effects



MAP NOT TO SCALE

FIGURE 2-1
BASH PROGRAM AREAS
NATURAL RESOURCE ACTIONS ENVIRONMENTAL ASSESSMENT
GRAND FORKS AIR FORCE BASE, NORTH DAKOTA

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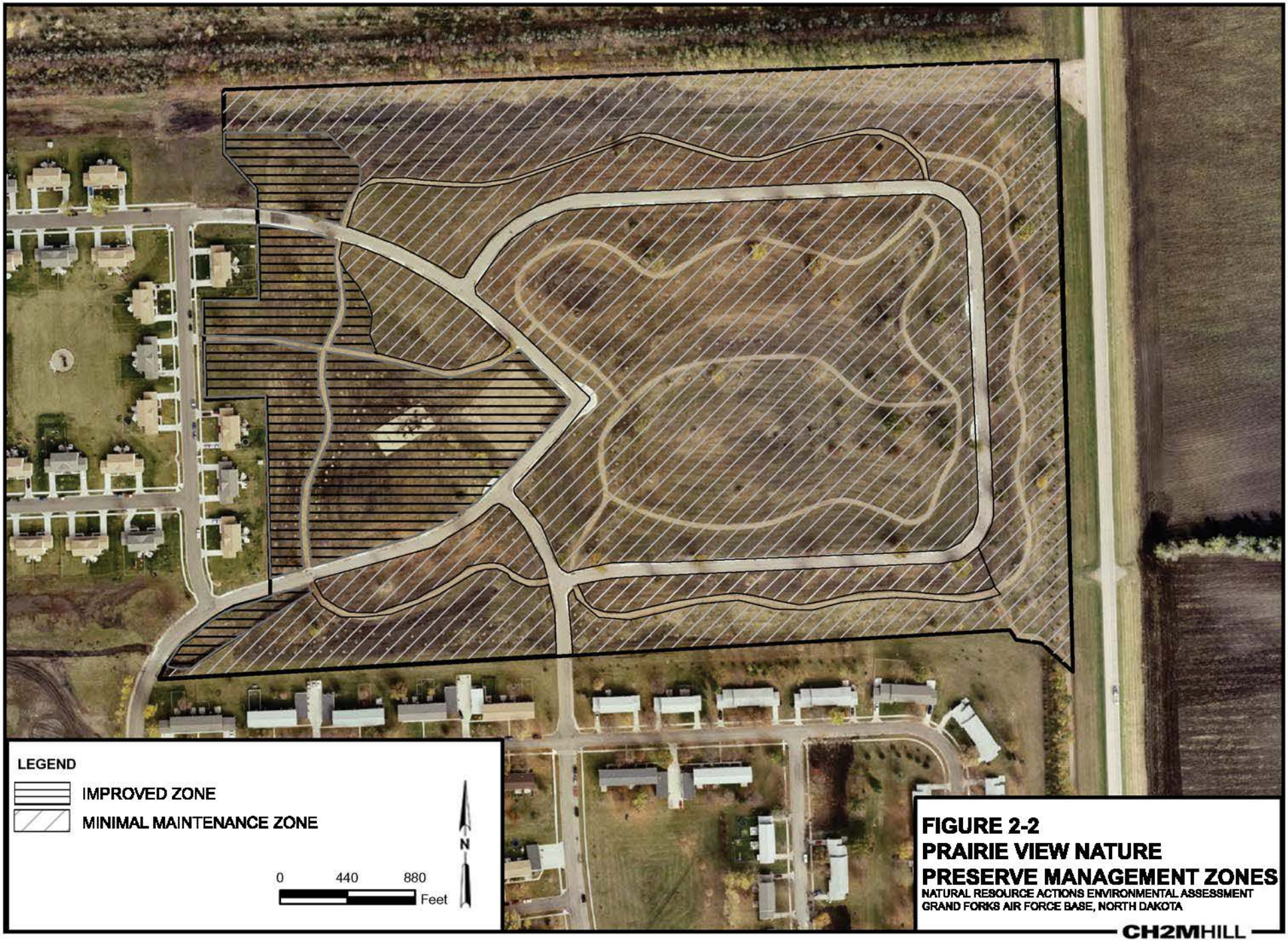

FIGURE 2-2
PRAIRIE VIEW NATURE PRESERVE MANAGEMENT ZONES
NATURAL RESOURCE ACTIONS ENVIRONMENTAL ASSESSMENT
GRAND FORKS AIR FORCE BASE, NORTH DAKOTA

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SECTION 3.0

Affected Environment

3.1 Introduction

This section describes the relevant environmental conditions at Grand Forks AFB for resources that would be potentially affected by implementation of the Proposed Action and alternatives described in Section 2.0. In compliance with guidelines contained in CEQ regulations, the description of the affected environment focuses on those resources potentially subject to impacts.

3.2 Air Quality

3.2.1 Regulatory Requirements

The Clean Air Act (42 USC §7401 et seq., as amended) requires EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The Clean Air Act established two types of national air quality standards: primary and secondary. Primary standards set limits to protect public health with an adequate margin of safety, including the health of sensitive populations such as asthmatics, children, and elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

The EPA Office of Air Quality Planning and Standards has set NAAQS for six principal pollutants, called criteria pollutants. These are ozone (0_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide ($S0_2$), lead, and particulate matter less than 10 microns in diameter (PM_{10}) and less than 2.5 microns in diameter ($PM_{2.5}$). Most ozone is a result of volatile organic compounds (VOC) and nitrogen oxides (NO_x) reacting with sunlight. Units of measure for the standards are parts per million by volume, milligrams per cubic meter of air, and micrograms per cubic meter of air. Areas that meet the NAAQS for a criteria pollutant are designated as being in attainment; areas not meeting NAAQS are designated as nonattainment areas for specified pollutants.

The North Dakota Air Quality Standards (North Dakota Administrative Code [NDAC] Title 33) sets air quality standards and the North Dakota Hazardous Air Pollutants (HAP) Emission Standards (NDAC Title 33) establishes standards for hazardous air pollutants for the state. Provisions for the control of air pollution in the state are provided in the North Dakota Air Pollution Control Act (NDAC Title 23). The North Dakota Ambient Air Quality Standards are more stringent than the federal NAAQS. I n addition to the six NAAQS, North Dakota also has a standard for hydrogen sulfide.

3.2.2 Existing Conditions

Grand Forks AFB is located in EPA Air Quality Control Region VIII. Data from the North Dakota Department of Health air quality monitoring survey showed that the ambient

quality in North Dakota is generally good. The entire North Dakota Air Quality Control Region (including Grand Forks County) is in attainment for all NAAQS criteria pollutants.

Prevention of significant deterioration (PSD) regulations (40 CFR §52.21) establish air quality levels that cannot be exceeded by major stationary emission sources in specified geographic areas. Grand Forks AFB is located in a PSD Class II area, which means that the addition of a major source or a significant increase in emissions from stationary sources would be subject to limits under PSD regulations. A significant increase in emissions would include 100 tons per year (tpy) of CO; 40 tpy of NO_x, VOCs, or SO_x; or 15 tpy of PM_{10}.

An air emissions survey, conducted for Grand Forks AFB in 2001, found only minor levels of HAPs generated onbase and actual emissions below PSD air quality levels (Air Force, 2002). However, the Base is a major stationary source because the potential to emit for NO_x and CO is more than 100 tpy. The 2001 emissions inventory from the North Dakota Department of Health Title V Permit for Grand Forks AFB is presented in Table 3-1.

TABLE 3-1
Air Pollutant Emissions for 2001 at Grand Forks AFB
Natural Resource Actions Environmental Assessment, Grand Forks Air Force Base, North Dakota

Emissions	PM_{10}	NO_x	SO_x	CO	VOC	HAP
Actual Stationary Sources	1.4	29.8	1.4	12.7	18.8	2.2
Potential to Emit	33.3	422.0	31.6	132.0	77.0	6.6

Source: Air Force, 2002

Note: Emissions are listed in tons per year (tpy).

3.3 Noise

Federal agencies must comply with the Noise Control Act of 1972 (42 USC §4901 et seq.), which establishes a policy to promote an environment free from noise harmful to the health and welfare of people. The range of ambient noise in the United States varies up to 50 decibels A-weighted (dBA), based on a number of different factors (EPA, 1974). Some of the factors are distance from major thoroughfares and airports, population density, and time of day. Noise is any unwanted sound that disrupts normal activities or otherwise reduces the quality of the environment. It ranges from the threshold of human hearing at 10 dBA to 80 dBA, which most residents would find annoying. Ground-generated noise attenuates approximately 6 decibels for every doubling of distance from the noise source.

The primary source of onbase noise is fixed-wing aircraft operations. Other sources include vehicular traffic and construction activities. The number of daily aircraft operations directly affects the level of noise at Grand Forks AFB. The Air Force developed the Air Installation Compatible Use Zone (AICUZ) Program (AFI 32-7063) to protect Air Force installations from incompatible land use and to assist local, state, and federal officials in protecting and promoting public health, safety, and welfare by providing information on aircraft accident potential and noise.

3.4 Wastes, Hazardous Materials, and Stored Fuels

Hazardous materials include, but are not limited to, hazardous substances, hazardous wastes, or any materials that pose a potential hazard to human health and safety or the environment due to their quantity, concentration, or physical and chemical properties. Hazardous wastes are products characterized by their ignitability, corrosiveness, reactivity, and toxicity. Hazardous waste includes any waste which, depending on its quantity, concentration, or physical/chemical/infectious characteristics, may either (1) cause or significantly contribute to an increase in mortality, serious irreversible illness, or incapacitating reversible illness; or (2) pose a substantial threat to human health or the environment. Hazardous materials (e.g., petroleum fuels, flammable solvents, paints, corrosives, pesticides, and cleaners) are used and managed through the hazardous materials pharmacy program. There are no known hazardous materials located in the areas to be affected by the Proposed Action.

3.4.1 Hazardous Waste

Grand Forks AFB is classified as a small-quantity hazardous waste generator, greater than 100 but less than 1,000 kilograms per month. Grand Forks AFB does not maintain a permitted hazardous waste storage facility. All wastes are stored in containers and may be accumulated for as long as 180 days at the central accumulation site, located at Base Supply. The Grand Forks AFB Hazardous Waste Management Plan (Plan 7042) assigns organizational responsibilities for the handling of hazardous waste (Grand Forks AFB, 2004c).

3.4.2 Solid Waste Management

Grand Forks AFB has a mandatory recycling program to facilitate management of non-hazardous solid waste from military family housing, dormitories, industrial shops, offices, tenants, and contractors. Recyclables are taken to the city of Grand Forks for processing. Municipal waste generated at Grand Forks AFB is disposed of at the Grand Forks Municipal Landfill, approximately 12 miles from the Base.

Grand Forks AFB also operates a land treatment facility (IT-183) for the remediation of petroleum-contaminated soils. Onbase petroleum-contaminated soils, caused by spills, are encountered while excavating for various subsurface repairs, or while replacing or removing underground storage tanks (UST) and piping.

3.4.3 Installation Restoration Program

The Installation Restoration Program at Grand Forks AFB was initiated in 1984. Grand Forks AFB is not listed on EPA's National Priorities List for site cleanup (Grand Forks AFB, 2004a).

In 1993, the seven existing Installation Restoration Program sites and 48 newly identified areas of concern were grouped together and reclassified as 20 solid waste management units. All solid waste management units are subject to Resource Conservation and Recovery Act Corrective Action and are regulated by the Base's Resource Conservation and Recovery Act Corrective Action Permit.

3.4.4 Underground Storage Tanks

Gasoline, diesel fuel, heating fuel, JP-8, and oil/water separator-recovered oils are stored in 39 USTs at Grand Forks AFB. Twenty regulated USTs include three gasoline tanks, eight diesel tanks, three JP-8 tanks, and six oil/water separator product recovery tanks. Deferred USTs include 14 JP-8 tanks, of which nine are no longer in use and are programmed for removal. Six USTs that are exempt from regulation include one heating oil tank, four emergency spill containment tanks, and one hydraulic oil recovery tank.

3.4.5 Aboveground Storage Tanks

Gasoline, diesel fuel, heating oil, JP-8, and used oil are stored in 66 aboveground storage tanks. The majority of petroleum is JP-8 stored in seven tanks with a capacity of 3,990,000 gallons for the hydrant fuel system. Diesel fuel is stored in 51 tanks, primarily for emergency generators. Other tanks include heating oil stored in two tanks; gasoline stored in two tanks; and used oil stored in four tanks. All aboveground storage tanks have secondary containment. The seven hydrant fuel system tanks are each contained by a concrete dike system. Runway deicing fluid (potassium acetate) is stored in two 5,000-gallon tanks, and aircraft deicing fluid (propylene glycol) is stored in a 20,000-gallon tank (Type I) and a 4,000-gallon tank (Type IV).

3.4.6 Pesticides

The 2003-2004 Pest Management Plan (PMP) contains a summary of pest problems and control procedures at Grand Forks AFB (Grand Forks AFB, 2003b). It also addresses the administration of the pest management program and the standards for Air Force, DoD employees, and civilian contractors who are tasked with pesticide applications. Laws governing the use of pesticides at Grand Forks AFB include the U.S. Federal Insecticide, Fungicide, and Rodenticide Act; DoD Directive 4150.7, DoD Pest Management Program; AFI 32-1053, Pest Management Program; and the North Dakota Department of Agriculture Pesticide Act, Chapter 4-35.

Grand Forks AFB requires all applicators to be certified to apply pesticides (herbicides). Air Force and DoD personnel are required to obtain a Certificate of Competency and Pesticide Applicator for pest management. Civilian contractors must operate in compliance with all state and local regulations and must comply with all applicable parts of Title 29, CFR, Occupational Safety and Health Standards, Part 1910; Title 29, CFR, Safety and Health Standards for Federal Service Contracts, Part 1925; Title 40, CFR, Environmental Protection Agency, Parts 150-189; and Title 49, CFR, Hazardous Materials Regulations, part 171, while at Grand Forks AFB, to ensure safe working conditions for contract personnel and a safe environment for occupants of Grand Forks AFB.

The PMP (Grand Forks AFB, 2003b) requires that all pesticides used at Grand Forks AFB be approved for use in North Dakota by the Department of Agriculture. Among other requirements, the plan requires that all pest management vehicles be used solely in the support of pest management activities, and that those vehicles provide locked storage for the safe handling, storage, and transport of pesticides. It also provides that spill containment and appropriate cleanup materials will be present at the pesticide storage site, during pesticide transport, and at the loading site to prevent environmental contamination resulting from a spill. Disposal of the empty containers would be in accordance with label directions.

Rinsing of spray equipment is not recommended under common practice because it causes a waste stream. The Pest Management Shop has separate sprayers for each insecticide and herbicide.

Grand Forks AFB constructed a 2,400-square-foot pest management facility in 1996 in accordance with the guidelines contained in the Military Handbook 1028-A, Pest Management Facilities. The shop consists of chemical storage rooms and mixing rooms. The shop has reduced-pressure backflow-prevention devices so that water hoses can be used to fill pest control equipment; 4-inch curbing in the mixing room to contain any spills; spill kits; and has no floor drain in the interior areas to preclude the potential for environmental contamination from accidental spills.

3.5 Water Resources

Water resources include both surface water and groundwater. Surface water includes all the lakes, rivers, streams, and wetlands within a watershed. Groundwater includes subsurface aquifers. The Clean Water Act of 1972 is the primary federal law that protects the waters of the United States. Since 1972, additional regulations have been enacted to meet the objective of maintaining and restoring the integrity of those water bodies. The National Pollutant Discharge Elimination System permit program establishes federal limits on discharge of pollutants to surface waters.

3.5.1 Surface Water

Figure 3-1 displays the surface water resources located on Grand Forks AFB. The Base falls entirely within the watershed boundaries of the Turtle River. The Turtle River watershed includes 311 square miles. Both the northern and southern branches of the Turtle River originate approximately 10 miles west of Grand Forks AFB. The northern branch flows northeastward to the Red River and crosses the northwestern corner of the Base. The Turtle River joins the Red River approximately 25 miles northeast of Grand Forks AFB. The Turtle River is a fourth order tributary to the Red River and accounts for only 1.5 percent of the total discharge to the Red River.

The Turtle River has a Class II stream designation from the North Dakota Department of Health, which means that the water is the same overall quality as Class I, but that it may require additional treatment to meet the requirements of drinking water. Currently, there is no drinking water use of the Turtle River. Streams in this category may be intermittent, making them less beneficial for uses such as municipal water, fish life, or irrigation.

Surface water impoundments on Grand Forks AFB include the sewage treatment lagoons, the dormitory reflection pond, and the impoundment in the fire training area.

3.5.2 Stormwater

Four ditches convey stormwater from a variety of individual stormwater outlets at the Base. The ditches discharge at the property boundary to receiving waters in the immediate vicinity of the facility, under an approved National Pollutant Discharge Elimination System permit (General Permit No. NDR02-0314, April 1, 2000). The north and south ditches collect stormwater and discharge to Kelly's Slough, which is approximately 2 miles east of Grand

Forks AFB. The west and northwest ditches collect stormwater and discharge to the Turtle River.

3.5.3 Groundwater

Groundwater in Grand Forks County occurs in unconsolidated glacial drift aquifers, and in rocks of Cretaceous and Ordovician age underlying the glacial deposits. The Emerado Aquifer is a major glacial drift aquifer underlying Grand Forks AFB approximately 50 to 75 feet below ground surface.

The principal bedrock aquifer in the area is the Dakota Aquifer, which is a widespread regional aquifer present in most of the Great Plains states. The aquifer is comprised of Lower Cretaceous strata, which are primarily the Fall River and Lakota Formations in the vicinity of Grand Forks AFB. Wells tapping the Dakota Aquifer in the vicinity of Grand Forks AFB are generally in the 100- to 200-foot depth range.

Grand Forks AFB does not contain any potable water wells, but does obtain 20 percent of its potable water from groundwater sources via the Agassiz Water Users Association. The remainder of the Base's potable water needs are supplied through the City of Grand Forks, which intakes its water from the Red River and Red Lake River.

3.5.4 Floodplains

The shape of the Red River Valley has resulted from past glacial activity. The floodplain is poorly defined and floods are frequent. Flooding usually lasts only for a short period because of a vast network of drainage ditches and channelized streams. The Red River has several basin characteristics that make it susceptible to flooding, including an undersized main channel in relation to its floodplain, a small main channel gradient, and a northerly flow that synchronizes flooding with the northerly progression of the spring thaw. Floods typically occur during late spring resulting from quick temperature rise, spring rains, snowmelt, and soil-moisture content held over from the fall. Floods in the Red River Valley can be severe, such as one in early 1997, which caused the evacuation of the entire City of Grand Forks.

Review of the National Flood Insurance Rate Map indicates that a small portion of the Turtle River's 100-year floodplain is located in the extreme northwest corner of Grand Forks AFB where the river crosses the Base's boundary.

3.5.5 Wetlands

Wetlands on Grand Forks AFB occur in stormwater drainage ways, low-lying depressions, and potholes. Wetlands are concentrated in drainage ways leading from the wastewater treatment lagoons to Kelly's Slough National Wildlife Refuge. The wetlands located immediately east of the Base contain extensive emergent marshes. The majority of other wetland areas occur in the north-central portions of the Base at the end of the airfield and southwest of the airfield, while the remaining areas are near the eastern boundary and southeastern corner of the Base.

According to the 2004 wetland inventory conducted at the Grand Forks AFB, 191 wetland areas were discovered on Base property, comprising approximately 300 acres. The majority of the wetlands are less than 1 acre. Palustrine wetlands compose the majority of the total at

approximately 297 acres. Lacustrine wetlands associated with the Base sewage lagoons, but not the lagoons themselves make up approximately 3 acres. The remaining 3 acres are riverine wetlands found in the northwest corner of the Base near the Turtle River (Grand Forks AFB, 2004d).

The wetland areas located during the 2004 survey were not submitted to the U.S. Army Corp of Engineers for jurisdictional review under Section 404 of the Clean Water Act. However, during a previous survey in 2000, 33 wetlands, comprising 12.2 acres, were delineated west of the runway and were deemed jurisdictional by the U.S. Army Corp of Engineers. Development in or near any potential wetland area should include coordination with the North Dakota State Water Commission and the U.S. Army Corps of Engineers. Any approved construction requires compliance with the "No-Net-Loss" policy.

In addition, stormwater drainage ways and low-lying depressions on Grand Forks AFB generally have extensive, although intermittently localized palustrine emergent marsh and palustrine scrub-shrub wetland habitat. This is due to the decrease in elevation compared to the relatively flat terrain surrounding the Grand Forks AFB and the heavy clay soils that prevent rapid water absorption. These stormwater drainage ways and low-lying depressions were not included during the February 2000 *Final Wetland Identification and Jurisdictional Report* (Grand Forks AFB) and, as mentioned previously, the jurisdictional status of these areas with regard to Section 404 of the Clean Water Act is not known. Species most commonly associated with these emergent marsh and scrub-shrub wetland areas include cattail (*Typha latifolia* and *Typha angustifolia*), water smartweed (*Polygonum coccineum*), spike rush (*Eleocharis* sp.), water dock (*Rumex pseudonatronatus*), soft rush (*Juncus effusus*), Indianhemp dogbane (*Apocynum cannabium*), sedge (*Carex* sp.), reed canary grass (*Phalaris arundinacea*), willow (*Salix exigua*), and cottonwood (*Populus deltoides*) (Grand Forks AFB, 2004d).

3.6 Biological Resources

Grand Forks AFB is in the Bluestem Prairie region of the Northern Great Plains physiographic region (Grand Forks AFB, 2003a). This tallgrass prairie community originally covered eastern North Dakota southward to South Dakota and Nebraska. The physiographic region and land management practices have influenced the occurrence of vegetation, wildlife, and threatened and endangered species.

3.6.1 Vegetation

Prior to land acquisition for development of Grand Forks AFB in 1956 by the DoD, the land was intensively cultivated for agricultural production. Many of the unimproved areas remain in cultivation under agricultural outleases for hay. There are no known remnants of the tallgrass prairie on Grand Forks AFB.

When the initial construction of the Base was completed in the 1950s, smooth brome (*Bromis inermis*) and Kentucky bluegrass (*Poa pratensis*) were planted in the developed areas. Leafy spurge (*Euphorbia esula*) and Russian thistle (*Salsola tragus*) are noxious weeds that are common in some areas.

The dominant trees on Grand Forks AFB are elm (*Ulmus Americana*), eastern cottonwood (*Populus deltoids*), and green ash (*Fraximus pennsylvanica lanceolata*). Understory vegetation includes the highly invasive and exotic species European buckthorn (*Rhamnus cathartica*) and Russian olive (*Elaeagnus angustifolia*), common chokecherry (*Promos virginiana*), and wood rose (*Rosa woodsii*). Common forbs include wood nettle (*Laportea canadensis*), stinging nettle (*Urtica dioica*), and beggar ticks (*Bidens frondosa*) (Grand Forks AFB, 2004c).

3.6.2 Wildlife

In general, Grand Forks AFB supports a good diversity of wildlife species, given its location within an agricultural matrix. The western, less developed, portions of the Base appear to support larger species, such as deer and fox, compared to the more developed and manicured areas in the central and eastern portions of the Base. Nuisance wildlife species at Grand Forks AFB include Richardson's ground squirrel (*Spermophilus richardsonii*) and whitetail jackrabbit (*Lepus townsendi*).

Abundant wildlife habitats and wildlife populations occur on Kelly's Slough National Wildlife Refuge, which is 3 miles northeast of Grand Forks AFB and Turtle Creek State Park, which is 5 miles west of Grand Forks AFB.

3.6.3 Threatened and Endangered Species

According to the INRMP (Grand Forks AFB, 2004a), no federally threatened or endangered species are known to occur at Grand Forks AFB. However, two federally listed threatened species are known to occur in Grand Forks County: the bald eagle (*Haliaeetus leucocephalus*) and gray wolf (*Canis lupus*). A bald eagle was observed in flight over an area west of the Grand Forks AFB airfield's flightline during the winter of 2003/2004. In addition, a bald eagle was observed to be using the sewage lagoons as hunting grounds in October and November 2003. As part of the Stormwater Control Structures and Devices Environmental Assessment (CH2M HILL, 2005), the U.S. Fish and Wildlife Service North Dakota Field Office was contacted and confirmed that the information on the federally listed species was still valid.

The Biological Survey Update that was recently conducted for the Base, during three field surveys in July and December 2003 and in June 2004, documented several state species of concern at Grand Forks AFB. State-listed rare plant species were found onbase in June 2004 during a biological inventory update. The Base supports 21 state-listed bird species, two state-listed orchids, one state-listed mammal, and one state-listed amphibian, including the following:

- Small yellow lady's slipper (*Cypripedium parviflorum*) and large yellow lady's slipper (*Cypripedium calceolus*), listed as State Imperiled to State Vulnerable and State Imperiled, respectively
- Ferruginous hawk (*Buteo regalis*), green heron (*Butorides virescens*), pileated woodpecker (*Drycopus pileatus*), and white-throated sparrow (*Zonotrichia ablicollis*), listed as Rare by the state

Most state-listed birds are grassland species observed using the unimproved prairie areas of the Base. Current INRMP goals include habitat improvement projects for these species

(Grand Forks AFB, 2004a). Exceptional natural areas include the Turtle River and the adjacent lowland woodland community. These community areas are rare in the state, as identified by the Natural Heritage Inventory.

3.7 Socioeconomic Resources

Socioeconomic conditions in Grand Forks County could be affected if a Proposed Action caused changes in the rate of population growth, demographic characteristics, or employment. In addition to these characteristics, populations of special concern, as addressed by EO 12898 and EO 13045 (Environmental Justice and Protection of Children), are identified and analyzed in Sections 3.14 and 4.14. The local housing market, schools, community services, and infrastructure will not be evaluated because no personnel changes are associated with the Proposed Action that would affect demand for these services.

3.7.1 Population

Grand Forks County had a 6.5 percent decrease in population from the 1990 Census of 70,683 to a population of 66,109 at the 2000 Census. The median age was 29.2 years. The City of Grand Forks had a 2000 Census population of 49,321, which was a 0.2 percent decrease from the 1990 population of 49,425. The countywide population declined during this period as a result of two major events: a citywide flood that occurred in the City of Grand Forks and the deactivation of the 321st Missile Group in 1997, following a 1995 Base Realignment and Closure Commission decision to realign the ICBMs from the 321st Missile Group missile complex to Malmstrom AFB, Montana. Grand Forks County had 10.3 percent of the total population in North Dakota in 2000. The state population grew by 0.5 percent between 1990 and 2000 (U.S. Census Bureau, 2003).

In 2004, approximately 3,650 individuals lived on Grand Forks AFB, in 1,358 family housing units and 613 dormitory rooms provided for military service members and their families.

3.7.2 Income and Employment

Total personal income for 2001 in Grand Forks County was $1.69 billion and per capita income was $26,031, while the State of North Dakota had a per capita income of $29,248 (Bureau of Economic Analysis, 2003). Grand Forks AFB is the third-largest employer in Grand Forks County, with approximately 2,624 active duty military employees and 347 civilian employees in 2004.

In 2000, Grand Forks County had a labor force of 37,211, from a population of 52,229 persons 16 years and older (U.S. Census Bureau, 2003). The civilian labor force was 94 percent and the military labor force was 6 percent of the total labor force. Average monthly unemployment in both Grand Forks County and North Dakota was 3.5 percent in 2003 (North Dakota Job Service, 2003).

3.8 Cultural Resources

Cultural resources consist of historic properties, which include both archeological resources (prehistoric and historic) and architectural resources that are eligible for inclusion in the National Register of Historic Places, as well as traditional cultural properties, which may

include archeological sites, buildings, prominent topographic features, objects, habitats, plants, animals, and minerals that hold importance or significance to Native Americans or other ethnic groups in the persistence of traditional culture.

Such resources are protected under several laws, including the Native American Graves Protection and Repatriation Act and the National Historic Preservation Act. Section 106 of the National Historic Preservation Act requires federal agencies with jurisdiction over a federal or federally assisted or federally licensed undertaking to consider the effects of that undertaking on properties that are listed eligible for listing on the National Register of Historic Places and to provide an opportunity for comment and consultation with the State or Tribal Historic Preservation Officer. The action must also comply with AFI 32-7065, Cultural Resources Management.

3.8.1 Archeological Resources

The 2004 Integrated Cultural Resources Management Plan developed for Grand Forks AFB includes a synopsis of previous cultural resources surveys and architectural inventories conducted, and outlines and assigns responsibilities for the management and preservation of cultural resources at the Base (Grand Forks AFB, 2004a). The Integrated Cultural Resources Management Plan indicates that Grand Forks AFB has completed its inventory and identification of archeological resources under Section 110 of the National Historic Preservation Act and that no new inventory efforts are needed.

Two archeological surveys have been conducted at Grand Forks AFB. In 1989, a survey of 235 acres was conducted, identifying two archeological sites and three isolated finds (Artz, 1989). In 1995 and 1996, an intensive (Class III) archeological survey was conducted of 740 acres of the Base (AMC, 1996a).

In addition, according to the Integrated Cultural Resource Management Plan, evidence of paleosols was found within the terraces of the Turtle River. This area retains a potential for buried archeological sites.

3.8.2 Historic Architectural Resources

Historic architectural surveys have been completed for Grand Forks AFB. One building under the jurisdiction of AMC, Building 714, is eligible for inclusion in the National Register of Historic Places for its association with the Cold War. Several other buildings, including 313, 606, 703, 704, 705, and 706, were determined not to be eligible by the Air Force, but the State Historical Society of North Dakota did not concur. Pending agreement between the Air Force and State Historical Society or a decision by the Keeper of the National Register, seven of those eight buildings would be considered potentially eligible for management purposes. Building 306 was identified for demolition in a draft Programmatic Agreement regarding the dismantling of the 321st Missile Group. The mitigation measures for the demolition of Building 306 are contained in a Memorandum of Agreement between the Air Force and the State Historical Society.

Buildings 313, 703, 704, 705, 706 and 707 are located south of Steen Boulevard in the southeast corner of Grand Forks AFB. Building 606 is centrally located north of Charlie ramp and east of the airfield.

3.8.3 Traditional Cultural Properties

Grand Forks AFB has not identified any onbase Native American sacred sites or properties of traditional religious and cultural importance. During the development of the 2003 Integrated Cultural Resources Management Plan, Grand Forks AFB sent letters to the Fort Berthold Reservation, the Fort Totten Reservation, the Standing Rock Reservation, the Turtle Mountain Band of Chippewa, and the Indian Affairs Commission to inquire whether there are any known sacred sites or other culturally sensitive areas on Grand Forks AFB. To date, no new information has been acquired.

3.9 Land Use

Grand Forks AFB land use plan lists 10 specific land uses. The predominant land use at Grand Forks AFB is airfield, accounting for nearly 42 percent of the Base's total area. The next largest land use is open space. Together, open space and airfield land uses account for nearly two-thirds of the Base's total land area.

3.10 Transportation Systems

The existing roadway systems in Grand Forks County provide ready access to Interstate 29 and the regional highway systems. There are two entrances to the Base. The primary entrance is the main gate, which handles most offbase traffic and provides access to Steen Boulevard, the primary east-west roadway. The south gate connects U.S. Highway 2 to Eielson Street. Onbase traffic is characterized as slight, except during rush hours in the morning and afternoon.

3.11 Airspace/Airfield Operations

Grand Forks AFB has one runway, which is 12,350 feet long. The primary unit that utilizes the airfield is the 319th Air Refueling Wing. No other tenants units use the airfield. There are about 18,000 landings and takeoffs per year at the airfield. The KC-135 is the predominant type of aircraft that uses the airfield. A small percentage of transient aircraft, from jet fighters to C-5 Transports, use the Grand Forks airfield annually.

3.12 Safety and Occupational Health

Safety and occupational health is managed by BioEnvironmental. Safety and occupational health issues relevant to the Proposed Action include exposure of Base personnel, contractors, and residents to herbicides; the inhalation of smoke from prescribed burning; and the operation of equipment (e.g., graders, mowers).

3.13 Environmental Management

The environmental office (319 CES/CEV) manages the environmental programs in accordance with all applicable federal, state, local, DoD, and Air Force regulations, standards, and laws that apply to Grand Forks AFB.

3.13.1 Pollution Prevention

The pollution prevention program at Grand Forks AFB sets objectives for the reduction of air, land, surface water, and groundwater pollution at the Base. The Base's pollution prevention program focuses on eight subject areas: ozone-depleting chemicals, EPA-17 industrial toxic pollutants, hazardous waste, municipal solid waste, green procurement of environmentally friendly products, energy conservation, air and water pollutant reduction, and training.

Some of the pollution prevention program strategies presented to achieve these objectives include source reduction (defined by the federal Pollution Prevention Act as any practice that reduces the amount of any hazardous substance, pollutant, or contaminant released into the environment prior to recycling, treatment, and disposal) and waste recycling (defined as minimizing the generation of waste by recovering usable products that might otherwise become waste).

3.13.2 Geology

Grand Forks County is located near the eastern edge of the Williston Structural Basin. The bedrock strata, underlying the county, dip gently to the west, toward the center of the basin.

Surficial deposits at Grand Forks AFB are comprised of late Wisconsin glacial drift and are approximately 225 feet thick beneath the Base. The glacial deposits beneath the Agassiz Lake Plain consist of up to 95 feet of clay and silt-rich lake deposits, underlain by glacial till containing isolated deposits of sand and gravel. The glacial deposits are underlain by the sandstones, siltstones, and shales of the Lower Cretaceous Fall River and Lakota Formations, which in turn are unconformably underlain by the limestones and dolomites of the Ordovician Red River Formation. The oldest and deepest rocks underlying the area are Precambrian igneous and metamorphic granites, schists, and greenstones. The depth to these rocks is several hundred feet in eastern Grand Forks County, and increases rapidly to more than 2,000 feet in the western portion of the county.

3.13.3 Soils

The soils at Grand Forks AFB generally formed in glaciolacustrine deposits overlying glacial till.

The following information was taken from the May 1981 Soil Survey of Grand Forks County, North Dakota, by the U.S. Department of Agriculture, Soil Conservation Service, in cooperation with the North Dakota Agricultural Experiment Station (Doolittle et al., 1981). The six soils associations encompassing Grand Forks AFB are as follows: Antler-Gilby-Svea, Glyndon-Garden, LaDelle-Cashel, Bearden-Antler, Ojata and Wyndmere-Tiffany-Arveson. Grand Forks AFB is within prime and unique farmlands. This land is designated as prime farmland and is subject to the requirement of the Farmland Protection Policy Act.

3.14 Environmental Justice and Protection of Children

3.14.1 Environmental Justice

EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, February 1994) requires each federal agency to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high human health or environmental effects of its programs, policies, and activities on minority populations and low income populations." According to the President's Council on Environmental Quality (1997), a minority population can be described as being composed of the following population groups – American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic – and exceeding 50 percent of the population in an area or the minority population percentage of the affected area is significantly greater than the minority population percentage in the general population.

The U.S. Census Bureau defines the national poverty thresholds, which are measured in terms of household income dependent upon the number of persons within the household. Individuals falling below the poverty threshold ($17,524 for a household of four in 2000) are considered low-income individuals. Census tracts where at least 20 percent of the residents are considered poor are known as poverty areas (U.S. Census Bureau, 1995).

The project areas are within Census Tract 119, which covers the entire Base. Table 3-2 presents characteristics of the population in Census Tract 119. Census tract data indicate that there are no concentrations of low-income or minority populations near the boundaries of Grand Forks AFB, and that there are very few residences located near the project areas.

TABLE 3-2
Population Characteristics of Census Tract 119
Natural Resource Actions Environmental Assessment, Grand Forks Air Force Base, North Dakota

Population Characteristic	Number	Percent
White	3,907	80.9
African American	406	8.4
American Indian and Alaska Native	43	0.9
Asian	117	2.4
Native Hawaiian and Other Pacific Islander	15	0.3
Hispanic[a]	289	6.0
Two or More Races	215	4.4
Other Race	129	2.7
Total Population	**4,832**	**100**
Income in 1999 Below Poverty Level	181	4.2

[a]Hispanic population is not included in the calculation of totals because of multi-race reporting.

Source: U.S. Census, 2000

3.14.2 Protection of Children

On April 21, 1997, the President issued EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, which seeks to protect children from disproportionately incurring environmental health or safety risks that might arise as a result of government policies, programs, activities, and standards.

Children are present at Grand Forks AFB as residents of family housing and as users of recreational and community facilities. The Base routinely takes precautions for their safety by a number of means including, but not limited to, the use of fencing, limitations on access to certain areas, and provision of adult supervision. Children do not have access to the airfield.

LEGEND

- Drainage Ditch
- Wetlands
- Floodplain
- Installation Area
- Sewage Lagoons

N

0 2,600 5,200 Feet

FIGURE 3-1
SURFACE WATER RESOURCES
NATURAL RESOURCE ACTIONS
ENVIRONMENTAL ASSESSMENT
GRAND FORKS AIR FORCE BASE, NORTH DAKOTA

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SECTION 4.0

Environmental Consequences

4.1 Introduction

This section presents the potential environmental consequences of implementing the Proposed Action and alternatives. The potential impacts to the human and natural environment were evaluated relative to the existing environment described in Section 3.0. For each resource category and for both the Proposed Action and No Action Alternative, noxious weed control, BASH, and prairie management are addressed separately.

4.2 Air Quality

4.2.1 Proposed Action

Emissions from fuel-burning internal combustion engines (e.g., ground sprayers) could temporarily increase the levels of some criteria pollutants, including CO, NO_2, O_3, PM_{10}, and non-criteria pollutants, such as VOCs. These increases would be minor and temporary. The Proposed Action would not cause any net increase in emissions from stationary sources, or major modifications to an existing major source that would be subject to PSD requirements.

The Clean Air Act General Conformity Rule (40 CFR Parts 6, 51, and 93) requires federal agencies to make written conformity determinations for federal actions in or affecting nonattainment or maintenance areas. Proposals for federal actions must include evaluations of potential changes in direct and indirect air emissions caused by the actions and must determine whether the actions conform to applicable state and federal implementation plans. The General Conformity Rule is not applicable to the Proposed Action or alternatives because the Grand Forks AFB region is in attainment for all criteria pollutants.

4.2.1.1 Noxious Weed Control

The Proposed Action would not cause significant impacts to air quality. The Proposed Action would result in short-term emissions of pollutants from equipment used in the application of herbicides, grading, or maintenance (e.g., ground sprayers, graders, mowers).

4.2.1.2 Bird/Wildlife Aircraft Strike Hazard

No significant impacts to air quality are anticipated as a result of the Proposed Action.

4.2.1.3 Prairie Management

The prairie management measures are not anticipated to result in significant impacts to air quality. The Proposed Action includes the use of a prescribed burn to convert dead dry plant material into useable micro nutrients, and to control noxious weeds and woody plants. Short-term minor adverse impacts to air quality would result from the prescribed burning. However, these impacts can be attenuated by burning during favorable climatic conditions,

as determined by temperature, relative humidity, wind speed and direction, and atmospheric stability (U.S. Forest Service, 1989).

4.2.2 No Action Alternative

The No Action Alternative would not result in air quality impacts.

4.3 Noise

4.3.1 Proposed Action

The Proposed Action would not result in significant noise impacts.

4.3.2 No Action Alternative

The No Action Alternative would not result in noise impacts.

4.4 Wastes, Hazardous Materials, and Stored Fuels

4.4.1 Proposed Action

Activities that would involve ground disturbance are grading and preparation of surface soils for planting. The activities would only occur within the top three feet of the ground. Grading and soil preparation would not occur in contaminated areas and, therefore, would neither affect nor be affected by the 20 solid waste management units or the land treatment facility (IT-183) for petroleum-contaminated soil. Furthermore, the activities would not affect the fuel storage tanks.

4.4.1.1 Noxious Weed Control

The Statement of Work calls for the use of herbicides to control invasive species (see Section 4.5.1 for additional details). Herbicides are hazardous materials and, if used in a careless manner, can have harmful effects to human health and the environment. Herbicide spills and misuse of herbicides are two key avenues for exposing people, wildlife, and the environment to toxic chemicals. However, if herbicides are used according to label directions and a licensed applicator is employed to apply the herbicide, then toxic effects are not likely to occur to humans or animals.

The PMP (Grand Forks AFB, 2003b) details requirements associated with controlling pests at Grand Forks AFB. It includes requirements for certification of applicators; spill prevention and containment measures; hazard communications; storage, handling, and disposal of herbicide containers; and recordkeeping in accordance with federal and state laws.

Implementing the Proposed Action would not result in long-term impacts to wastes, hazardous materials, or stored fuels.

4.4.1.2 Bird/Wildlife Aircraft Strike Hazard

Implementing the Proposed Action would not result in long-term impacts to wastes, hazardous materials, or stored fuels.

4.4.1.3 Prairie Management

Selective herbicides would be used to control noxious weeds in the PVNP. As mentioned in Section 4.4.1.1, the potential for environmental exposure and human health risks is associated with spills and mishandling. If applied and handled according to product labeling, then the potential for adverse effects is negligible.

Implementing the Proposed Action would not result in long-term impacts to wastes, hazardous materials, or stored fuels.

4.4.2 No Action Alternative

The No Action Alternative would not result in impacts to wastes, hazardous materials, or stored fuels.

4.5 Water Resources

4.5.1 Surface Water

4.5.1.1 Proposed Action

Noxious Weed Control. The noxious weed control measures are not anticipated to result in significant impacts to surface water quality. The Proposed Action would not directly affect surface waters because grading, mowing, and herbicide application would occur only in upland areas.

Bird/Wildlife Aircraft Strike Hazard. The Proposed Action would not result in significant impacts to surface water quality.

Prairie Management. The Proposed Action would not result in significant impacts to surface water quality.

4.5.1.2 No Action Alternative

The No Action Alternative would have no direct effects on surface water quality.

4.5.2 Groundwater

4.5.2.1 Proposed Action

Noxious Weed Control. The proposed noxious weed control measures are not anticipated to result in significant impacts to groundwater. All herbicides to be utilized have been previously approved by the Grand Forks AFB Hazardous Materials Pharmacy, Environmental Flight, BioEnvironmental, and Safety. When applied according to recommendations and the proposed measures, herbicides would not result in impacts groundwater.

Bird/Wildlife Aircraft Strike Hazard. Implementation of the BASH Plan (Grand Forks AFB, 2003a) would not result in impacts to groundwater.

Prairie Management. Implementation of the PVNP Management Guide (Grand Forks AFB, undated) would not result in significant impacts to groundwater.

4.5.2.2 No Action Alternative

The No Action Alternative would have no direct impact on groundwater.

4.5.3 Floodplains

4.5.3.1 Proposed Action

The Proposed Action would not occur in floodplains; therefore, no significant impacts to floodplains are anticipated.

4.5.3.2 No Action Alternative

The No Action Alternative would have no impact on floodplains.

4.5.4 Wetlands

4.5.4.1 Proposed Action

The Proposed Action would be implemented only in upland areas, according to label directions, and with prior approval of the Environmental Flight. Therefore, no significant impacts to wetlands are anticipated.

4.5.4.2 No Action Alternative

The No Action Alternative would have no impact on wetlands.

4.6 Biological Resources

4.6.1 Vegetation

4.6.1.1 Proposed Action

Noxious Weed Control. The Proposed Action is not anticipated to have significant long-term adverse impacts on vegetation. The noxious weed control measures have the potential for short-term adverse effects on existing vegetation at Grand Forks AFB. However, these effects would be outweighed by the long-term beneficial effects on vegetation from implementing the Proposed Action, including the restoration of native plant species to Grand Forks AFB, control of noxious weeds, and return of the hay lease management units to productive use.

The use of herbicides on noxious weeds has the potential for harming both target and non-target plant species. This would be a short-term impact, because planting of native species would be conducted to re-establish vegetative cover in the management areas.

Bird/Wildlife Aircraft Strike Hazard. The BASH management techniques would result in short- and long-term adverse impacts to bird populations at Grand Forks AFB. However, the impacts are not expected to be significant. The BASH techniques would include modification, or in some cases destruction, of limited bird habitats and both lethal and non-lethal measures to decrease bird populations. Similar habitat to that found near Grand

Forks AFB is available at locations away from the Base; therefore, displaced individuals could be assimilated into those habitats. Techniques identified in the BASH Plan (Grand Forks AFB, 2003a) are recommended for all AFBs with flight operations, and have not been shown to cause significant impacts to bird populations.

Prairie Management. The proposed prairie management measures have the potential for short-term, minor impacts to vegetation; however, the impacts are not anticipated to be significant. Long-term benefits of PVMP Management Guide implementation would outweigh the short-term adverse impacts.

The PVNP Management Guide recommends several techniques for managing vegetation at the PVNP. These techniques include mowing, burning, haying, tree maintenance, watering, seed collecting, interseeding and reseeding, using herbicides, and mechanical controls. All of these techniques, except for burning and herbicide controls, are normal maintenance activities and would not have any long-term adverse impacts on vegetation.

Burning and the use of herbicides have a potential for short-term adverse impacts to vegetation if improperly used. Fire has the potential to harm trees in the PVNP arboretum if the minimum fire distances are not maintained. Similarly, if fire management practices are not adhered to, the potential for the fire to spread to surrounding areas is possible. The potential for adverse impacts could be minimized if a prescribed burn plan were developed and an experienced contractor hired to implement the plan.

Herbicides also have the potential to impact non-target plants. The PVNP is a relatively small area that has been planted with a variety of native prairie grasses; therefore, the method of applying herbicides is an important consideration. Handheld sprayers, backpack sprayers, and foam roller applicators are recommended for use in the PVNP. These types of applicators allow for spraying individual weeds, and a high level of control when the product label recommendations are followed and a licensed applicator is employed to apply the herbicide.

4.6.1.2 No Action Alternative

Noxious Weed Control. The No Action Alternative would not address the purpose and need for addressing noxious weeds. Invasive plant species would continue to compete with native grass and plant species, would limit the ability of Grand Forks AFB to lease lands to area farmers for haying, and could limit the success of the PVNP as a native prairie interpretive park.

The No Action Alternative would not allow for conformity to state and federal laws regarding the control of noxious weeds. Selection of the No Action Alternative would have long-term adverse impacts on the native vegetation at Grand Forks AFB.

Bird/Wildlife Aircraft Strike Hazard. The No Action Alternative would not cause adverse impacts to vegetation at Grand Forks AFB.

Prairie Management. The No Action Alternative has the potential to impact the restored native prairie grasses at the PVNP. This alternative would not address the advance of invasive plant species or meet requirements of state and federal regulations for controlling noxious weeds.

4.6.2 Wildlife

4.6.2.1 Proposed Action

Noxious Weed Control. Implementation of the noxious weed control measures would not significantly impact wildlife resources. No Base-approved herbicides were shown to be highly toxic to wildlife. None of the information reviewed for this EA indicates any long-term adverse impacts on wildlife as a result of the proper use of these herbicides.

Bird/Wildlife Aircraft Strike Hazard. The Proposed Action could result in short-term and long-term adverse impacts to birds at Grand Forks AFB. The techniques identified in the BASH Plan (Grand Forks AFB, 2003a) are recommended for all AFBs with flight operations, to reduce bird and animal populations near the flightline. These techniques are devised to condition resident bird species to inhabit areas away from the airfield. When these passive techniques fail to dissuade birds from nesting, roosting, or using the air space around the airfield, Base personnel are afforded the opportunity to use active measures, including lethal and non-lethal means, to harass nuisance birds.

The U.S. Fish and Wildlife Service must issue a depredation permit before any birds can be taken. This permit details the numbers and types of birds that can be taken at the Base. Grand Forks AFB renewed their depredation permit in 2005. This permit allows the Base to use lethal controls in addressing BASH. Grand Forks AFB personnel only use lethal means when all other alternative methods fail.

Prairie Management. The Proposed Action would not have long-term adverse impacts on wildlife.

4.6.2.2 No Action Alternative

Noxious Weed Control. The No Action Alternative would not have long-term adverse impacts on wildlife.

Bird/Wildlife Aircraft Strike Hazard. The No Action Alternative could allow bird populations to increase until they become a nuisance, at which time they would be depredated. This alternative could allow bird populations to increase to the point that their presence might affect safe flight operations at Grand Forks AFB. This alternative would also fail to meet Air Force regulations requiring implementation of a BASH program.

Prairie Management. The No Action Alternative would not have long-term adverse impacts on wildlife.

4.6.3 Threatened and Endangered Species

4.6.3.1 Proposed Action

No state-protected or federally protected threatened or endangered species would be affected by the Proposed Action.

4.6.3.2 No Action Alternative

The No Action Alternative would not affect state-protected or federally protected threatened or endangered species.

4.7 Socioeconomic Resources

4.7.1 Proposed Action

None of the activities included in the Proposed Action would have adverse impacts on the socioeconomic resources at Grand Forks AFB or the surrounding region. No change in population or the permanent workforce would result from the Proposed Action. The employment of contractors to apply herbicides, and conduct controlled burns would have a minor beneficial effect on that sector of the regional economy.

4.7.2 No Action Alternative

The No Action Alternative would not add any value to the regional economy.

4.8 Cultural Resources

4.8.1 Proposed Action

The Proposed Action would not affect Cultural Resources identified at Grand Forks AFB. No ground disturbing activities are anticipated to occur in the paleosols areas on the terraces of the Turtle River, where there is a potential for archeological sites. None of the historic structures would be affected by the Proposed Action. Prescribed burning would not threaten these structures because proper fire management procedures would be used and the prescribed burn would not occur when unfavorable climatic conditions exist that could lead to uncontrolled fires.

4.8.2 No Action Alternative

The No Action Alternatives would not affect any known cultural resources.

4.9 Land Use

Neither the Proposed Action nor the No Action Alternative would result in any changes to land use or related impacts.

4.10 Transportation Systems

Neither the Proposed Action nor the No Action Alternative would affect transportation systems at or near Grand Forks AFB.

4.11 Airspace/Airfield Operations

4.11.1 Proposed Action

4.11.1.1 Noxious Weed Control

The Proposed Action would not have long-term adverse impacts on airspace or airfield operations.

4.11.1.2 Bird/Wildlife Aircraft Strike Hazard

The Proposed Action would have long-term beneficial impacts on airspace and airfield operations at Grand Forks AFB. Base personnel would have a full compliment of techniques available to them to discourage birds from utilizing the airfield. These actions would increase flight safety for aircraft and personnel, and help to maintain normal flight operations.

4.11.1.3 Prairie Management

Prescribed burning has the potential to adversely affect airspace/airfield operations if proper burning practices are not followed. To minimize this possible impact, the prescribed burn would not occur when unfavorable climatic conditions exist. If proper precautions are followed and weather forecasts are checked, there would be no impacts to airspace and airfield operations.

4.11.2 No Action Alternative

4.11.2.1 Noxious Weed Control

The No Action Alternative would have no impact on airspace and airfield operations.

4.11.2.2 Bird/Wildlife Aircraft Strike Hazard

The No Action Alternative could allow bird populations to increase until they become a nuisance and then they would be depredated. This alternative could allow bird populations to increase to the point that their presence might affect safe flight operations at Grand Forks AFB. This alternative would also fail to meet Air Force regulations requiring implementation of a BASH program.

4.11.2.3 Prairie Management

The No Action Alternative would have no impact on airspace and airfield operations.

4.12 Safety and Occupational Health

4.12.1 Proposed Action

4.12.1.1 Noxious Weed Control

By following proper herbicide application procedures and construction techniques, the Proposed Action would not result in short- or long-term adverse impacts to the safety and occupational health of personnel. Exposure to herbicides is minimized when the proper

personal protection equipment is employed during application activities. The product label should be consulted prior to application to ensure that all precautions regarding the particular product are being adhered to. The use of licensed applicators also reduces the risk of exposure, because those individuals are typically trained on the safe use and application of Base-approved herbicides. People can also be exposed to herbicides from spray drift or by entering a treated area before the product has dried or has been absorbed by the plants. These exposures can be limited if proper precautions are taken, including posting notices before or after application.

4.12.1.2 Bird/Wildlife Aircraft Strike Hazard

Implementing the No Action Alternative could affect the safety of flight operations at Grand Forks AFB. In the absence of BASH management techniques, bird populations would be expected to increase, which could interfere with flight operations.

4.12.1.3 Prairie Management

The Proposed Action includes the use of mowers, prescribed burning, and selective herbicides. Proper operation of mowers by qualified personnel and proper application of herbicides and sound fire management would minimize potential for impacts to human safety and occupational health.

4.12.2 No Action Alternative

4.12.2.1 Noxious Weed Control

The No Action Alternative would not have any impacts on safety and occupational health.

4.12.2.2 Bird/Wildlife Aircraft Strike Hazard

The No Action Alternative could allow bird populations to increase until they become a nuisance and then they would be depredated. This alternative could endanger the health and safety of aircraft and personnel by allowing bird populations to increase to the point that their presence might affect safe flight operations at Grand Forks AFB. This alternative would also fail to meet Air Force regulations requiring implementation of a BASH program.

4.12.2.3 Prairie Management

The No Action Alternative would not have long-term adverse impacts on safety and occupational health.

4.13 Environmental Management

4.13.1 Proposed Action

None of the activities included in the Proposed Action would result in significant impacts to soils from erosion and runoff, appreciably increase the generation and disposal of wastes, or affect environmental management on Grand Forks AFB. Empty herbicide containers and unused herbicides would be temporarily stored and properly disposed of, in accordance with existing procedures for hazardous wastes at Grand Forks AFB.

4.13.2 No Action Alternative

The No Action Alternatives would not result in impacts to environmental management at Grand Forks AFB.

4.14 Environmental Justice and Protection of Children

4.14.1 Proposed Action

The alternatives described in this document would not disproportionately affect minority populations or low-income populations. The EO regarding protection of children recognizes the special vulnerability of children's health and safety.

4.14.1.1 Noxious Weed Control

By following proper herbicide application procedures and standards, implementation of the Proposed Action is not anticipated to have significant impacts on children at or near Grand Forks AFB. Herbicides would be applied to areas that are accessible to children at Grand Forks AFB. Children are inquisitive and may be drawn to areas that are being treated for noxious weeds. There are no physical structures in these areas that would bar a child's entrance. Therefore, children may be able to enter an area that has been treated and be exposed to herbicides. Warning signs would be posted indicating that an area has been treated and that no one should enter until the time recommended on the product label has passed.

4.14.1.2 Bird/Wildlife Aircraft Strike Hazard

The Proposed Action would not have any impacts on children on or near Grand Forks AFB.

4.14.1.3 Prairie Management

By following proper herbicide application procedures and standards, implementation of the Proposed Action is not anticipated to have significant impacts on children at or near Grand Forks AFB. Similar to the discussion in Section 4.14.1.1, children can be exposed to herbicides if they enter the area immediately after herbicide treatment. Precautions would be taken to avoid exposing children to harmful chemicals. Signs would be installed indicating that herbicides have been used and that people should avoid entering the area until the proper time has lapsed.

4.14.2 No Action Alternative

The No Action Alternatives pose no threats to children at or near Grand Forks AFB.

4.15 Indirect and Cumulative Impacts

The CEQ regulations state that the cumulative effects analysis within an EA should consider the potential environmental impacts resulting from "the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR §1508.7).

Cumulative effects are likely to arise when a relationship exists between a Proposed Action and other actions expected to occur in a similar location or during a similar period. Actions overlapping with or in proximity to the Proposed Action would be expected to have more potential for a relationship than those more geographically separated. Similarly, actions that coincide in time would tend to offer a higher potential for cumulative effects.

The scope of the cumulative effect analysis involves both the geographic extents of the effects and the time frame in which the effects could be expected to occur. Actions occurring in or adjacent to the region are considered relevant for cumulative effect analysis.

Recently, Grand Forks AFB has completed NEPA documents for actions that, if implemented, would result in both beneficial and adverse impacts to environmental resources. Individually, these projects do not result in significant adverse effects to resources at Grand Forks AFB, Grand Forks County, or the region at large. In combination, there is some accumulation of impacts, but the overall effect to resources is still considered to be minimal. The Proposed Actions covered under those NEPA documents are discussed below.

Grand Forks AFB has proposed to construct a fire station and air traffic control and radar approach control facilities. These facilities are needed to replace older, inadequate facilities now in place. The Proposed Actions would have minor short-term adverse impacts on air quality, soils, water resources, transportation, and environmental management. They would also provide long-term, beneficial impacts to health and safety and short-term, beneficial impacts to income and employment for the area.

Grand Forks AFB has proposed to construct flow control structures and sampling points in four stormwater drainages ditches that discharge to either the Turtle River or the Kelly's Slough National Wildlife Refuge. These structures would be constructed in order to prevent potential impacts to surface water bodies and to allow for safer access to the ditches for sampling purposes. Portions of the stormwater ditch would be filled in as a result of the construction of the flow control devices. These ditches were identified as wetlands in a 2004 wetland inventory of Grand Forks AFB. This action would reduce the amount of deicing fluids, and other fluids used in the maintenance of aircraft, being discharged offbase. This action would ensure long-term benefits to surface water quality, but would have long-term, minor adverse impacts on wetlands.

Grand Forks AFB has proposed to purchase or lease equipment and to make infrastructure modifications for the collection and disposal of deicing and anti-icing fluid left on the ramp after spraying aircraft. This action would entail modifying storm drains by installing catch basins. Further, a Ramp Ranger T750 Collection Unit or similar vacuum unit and a bulk storage tank would be purchased or leased to collect and store recovered fluids until it disposed of offbase. This action, if implemented, would reduce the amount of deicing and anti-icing fluids that would be discharged to the drainage ditches and minimize impacts to surface water quality.

The potential adverse impacts to resources of interest in this EA are short-term and minor. The Proposed Actions would be limited to the unimproved areas of the Base and would not cause long-term, adverse impacts to resources of Grand Forks AFB, Grand Forks County, or the State of North Dakota. Beneficial impacts to vegetation would result from implementing the Proposed Actions.

The analysis for this EA indicates that the Proposed Action would not result in, or contribute to, significant negative cumulative impacts to the resources of the region.

4.16 Unavoidable Adverse Impacts

Unavoidable adverse impacts are likely to occur if the Proposed Action is not implemented. Unrestrained growth of noxious weeds would eventually crowd out native species, increase soil erosion, and eliminate the potential for land leases to local farmers. Bird populations would continue to flourish in the area of flight operations and heighten the danger to personnel and aircraft. Without the proper management techniques, the restored prairie at PVNP would become overrun by noxious weeds, and its value for education purposes would be jeopardized.

The Proposed Action would result in short-term, adverse impacts to native plant species and onbase resident and migratory bird populations. However, these impacts are negligible in comparison to the benefits of implementing the Proposed Action.

4.17 Relationship between Short-term Uses and Enhancement of Long-term Productivity

Short-term uses would be those associated with the implementation of the noxious weed control measures, BASH Plan (Grand Forks AFB, 2003a), and the PVNP Management Guide (Grand Forks AFB, undated). Implementation of the Proposed Action would not sacrifice long-term productivity of the environment for short-term uses. The long-term enhancement of productivity would be those effects associated with the control of noxious weeds, the benefits associated with renewed opportunities for land leases for haying purposes; control of BASH; healthy, increased operational safety of personnel and aircraft; biologically diverse restored prairie in the PVNP; and a healthy interpretive prairie for the edification of the community at Grand Forks AFB. No loss of long-term productivity is expected to occur.

4.18 Irreversible and Irretrievable Commitment of Resources

An irreversible effect would result from the use of resources that cannot be replaced within a reasonable time. An irretrievable effect would result from loss of resources that cannot be restored as a result of the Proposed Action.

SECTION 5.0

List of Preparers

The following CH2M HILL employees contributed to the preparation of this EA.

Name	Education	Experience	Role
David Rodebaugh	M.S., Urban and Regional Planning	10 years	Environmental Planner, EA Task Manager
Karin Lilienbecker	M.S., Biology	11 years	Environmental Planner
Virginia Farris	B.A., Psychology	20 years	NEPA Senior Reviewer
Christine Roberts	M.C.P., Architecture and Urban Planning	14 years	NEPA Senior Reviewer
Doug Malik	M.S., Civil Engineering	25 years	Project Manager
Tim Watkins	M.S., Fisheries and Wildlife Biology	16 years	Project Manager

SECTION 6.0

List of Agencies and Persons Consulted and/or Provided Copies

The following Grand Forks AFB personnel were consulted during the preparation of this EA:

- Diane Strom, Environmental Protection Specialist, NEPA/EIAP Program, 319 CES/CEV
- Kristen Rundquist, Air Programs/Natural Resources Manager, 319 CES/CEV
- Stephen Braun, Asbestos, Lead Base Paint, UST/AST Program Manager, 319 CES/CEV
- Christopher Klaus, Water Programs Manager, 319 CES/CEV
- Gary L. Johnson, Ground Safety Manager, 319 ARW
- Chris Knauf, Capt, USAF, Chief of Flight Safety, 319 ARW
- Everett Crouse, Airfield Manager, 319 OSS/OSAA
- Jeremy Miniter, Bioenvironmental Engineering, 319 ADS/SGGB
- Mark Hanson, Chief, General Law, 319th ARW/JA
- Linda Fugelstad, Pollution Prevention and Recycling Program, 319 CES/CEV

Copies of this EA were placed in the Grand Forks AFB Library and in the Grand Forks Public Library for public review and comment.

In addition, the following agencies and persons were provided copies of this EA for review and comment:

- Mr. Bill Bicknell, Biologist
  U. S. Fish and Wildlife Service
  North Dakota Field Office
  3425 Miriam Avenue
  Bismarck, North Dakota 58501-7926
- Mr. Dave Glatt, Section Chief
  North Dakota Department of Health
  Environmental Health Section
  1200 Missouri Avenue
  Bismarck, North Dakota 58506-55208
- Mr. Merlen E. Paaverud
  State Historic Preservation Officer
  State Historical Society of North Dakota
  North Dakota Heritage Center
  612 East Boulevard Avenue
  Bismarck, North Dakota 58505-0830
- Dr. Terry Dwelle, State Health Officer
  North Dakota Department of Health
  600 East Boulevard Avenue, Dept. 301
  Bismarck, North Dakota 58505-0200
- Mr. Dean Hildebrand, Commissioner
  North Dakota Game and Fish
  100 North Bismarck Expressway
  Bismarck, North Dakota 58505-5095

Comments received are included in Appendix B. None of the comments required changes to the Proposed Action or the discussion of environmental consequences (see Section 4.0). The Notice of Availability is included in Appendix C.

SECTION 7.0

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Appendix A
Air Force Form 813

REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS

Report Control Symbol RCS: 04-165

INSTRUCTIONS: *Section I to be completed by Proponent; Sections II and III to be completed by Environmental Planning Function. Continue on separate sheets as necessary. Reference appropriate item number(s).*

SECTION I - PROPONENT INFORMATION

1. TO *(Environmental Planning Function)*	2. FROM *(Proponent organization and functional address symbol)*	2a. TELEPHONE NO.
319 CES/CEVA	319 CES/CEV	7-4590

3. TITLE OF PROPOSED ACTION

Natural Resources Actions, JFSD 531011A4, Need Date: 5 Mar 04

4. PURPOSE AND NEED FOR ACTION *(Identify decision to be made and need date)*

Needed now to decide when/how to repair/maintain native prairie restored areas, eradicate and effectively control noxious weeds, effectively mitigate Bird Airstrike Hazards with depredation & whether to implement Integrated Nat'l Resource Mgt Plan actions.

5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES *(DOPAA) (Provide sufficient details for evaluation of the total action.)*

See Attached.

6. PROPONENT APPROVAL *(Name and Grade)*	6a. SIGNATURE	6b. DATE
MARY C. GILTNER, GM-13, DAF Deputy Base Civil Engineer	Mary C Giltner	3-4-04

SECTION II - PRELIMINARY ENVIRONMENTAL SURVEY. *(Check appropriate box and describe potential environmental effects including cumulative effects.) (+ = positive effect; 0 = no effect; - = adverse effect; U= unknown effect)*	+	0	-	U
7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE *(Noise, accident potential, encroachment, etc.)*	☐	☒	☐	☐
8. AIR QUALITY *(Emissions, attainment status, state implementation plan, etc.)*	☐	☐	☒	☐
9. WATER RESOURCES *(Quality, quantity, source, etc.)*	☐	☐	☒	☐
10. SAFETY AND OCCUPATIONAL HEALTH *(Asbestos/radiation/chemical exposure, explosives safety quantity-distance, bird/wildlife aircraft hazard, etc.)*	☐	☐	☒	☐
11. HAZARDOUS MATERIALS/WASTE *(Use/storage/generation, solid waste, etc.)*	☐	☐	☒	☐
12. BIOLOGICAL RESOURCES *(Wetlands/floodplains, threatened or endangered species, etc.)*	☒	☐	☐	☐
13. CULTURAL RESOURCES *(Native American burial sites, archaeological, historical, etc.)*	☐	☒	☐	☐
14. GEOLOGY AND SOILS *(Topography, minerals, geothermal, Installation Restoration Program, seismicity, etc.)*	☒	☐	☐	☐
15. SOCIOECONOMIC *(Employment/population projections, school and local fiscal impacts, etc.)*	☐	☒	☐	☐
16. OTHER *(Potential impacts not addressed above.)*	☐	☐	☐	☐

SECTION III - ENVIRONMENTAL ANALYSIS DETERMINATION

17. ☐ PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (CATEX) # _____ ; OR
☒ PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED.

18. REMARKS

Project does not qualify for CATEX. Actions are of concern to base employees and residents. Additionally, some actions are of concern to surrounding off-base landowners.
The action is not "regionally significant" and does not require a conformity determination in accordance with 40 CFR 93.153(1). The total emission of criteria pollutants from the proposed action are below the de minimus thresholds and less that 10 percent of the Air Quality Region's planning inventory.

19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION *(Name and Grade)*	19a. SIGNATURE	19b. DATE
WAYNE A. KOOP, REM, GS-13 Environmental Management Flight Chief	Wayne A Koop	4 MAR 04

4 .0 Purpose and Need for Action .
4.1 Purpose : To repair/maintain native prairie restored areas, eradicate and effectively control noxious weeds, effectively mitigate Bird Aircraft Strike Hazards (BASH) with depredation, and to implement Integrated Natural Resource Management Plan (INRMP) actions .

4.2 Need: Base native prairie provides enhanced habitat for native species and decreased mowing maintenance . The established native prairie requires burning/maintenance to complete species restoration . Noxious weeds require strict controls/eradication per State law . The use of toxic chemicals/burning will be required to control noxious weeds . Migrating birds are a significant bird aircraft strike hazard (BASH) to mission aircraft, causing catastrophic damage to aircraft and risking loss of human life . Depredation, an effective BASH tool to reduce risk, must be made available to airfield managers . The INRMP actions must be carried out to ensure adequate care and protection of base natural resources which may exempt base from further regulatory restrictions .

5 .0 Description of Proposed Actions and Alternatives .
5 .1 Under the Proposed Action, Grand Forks AFB would burn, grub, disk and treat (both chemically and mechanically) native prairie restoration areas . Noxious weed areas would be cut, mowed, and burned to eradicate invasive species to establish accepted/healthy vegetated cover. Migratory birds would be dissuaded from using base habitat and as a last resort harassed/killed to ensure aircraft/aircrew safety . The INRMP actions would be implemented to ensure the integrated protection of all base natural resources .

5 .2 Alternative Action 1 : Grand Forks would mow native prairie to control growth, however the mowing would kill the native prairie and allow noxious weeds to replace . Noxious weeds would be mowed, allowing them to gain an ever stronger foothold because of their superior initial growth spurts . Migratory birds and wildlife would be tolerated until their presence causes safety concerns and then would be depredated . This method would cause unnecessary taking of birds . INRMP actions would be implemented without exhaustion of alternatives which may create more/different problems .

5 .3 NO ACTION/Alternative 2 : Under the No action Alternative, Grand Forks AFB would not maintain/burn native prairie . The native prairie would not be completely established and would get choked out by noxious weeds . Noxious weeds base-wide would continue to dominate landscape, killing out beneficial/desirable plants and habitat . Migratory birds would continue to encroach on airfield, increasing aircraft/aircrew safety risks . INRMP action could not be implemented.

5 .4 Decision : Grand Forks AFB must decide whether or not to perform natural resources actions to restore native prairie restoration areas, eradicate forbidden noxious weeds, depredate migratory birds, and conduct INRMP actions .

5 .5 Permits : A Section 404 permit will be required for work in wetlands, a state/regional land burn permit, and a Storm Water (NPDES) construction permit for runoff/releases of sediment . In addition, a US Fish & Wildlife Service permit for migratory bird depredation is required .

Appendix B
Agency and Public Review Comments

STATE HISTORICAL SOCIETY OF NORTH DAKOTA

May 25, 2005

Public Affairs Officer
319 ARW/PA
375 Steen Boulevard
Grand Forks AFB, ND 58025

NDSHPO REF. : 97-0527 GFAFB/USAF Natural Resources Actions Environmental Assessment and FONSI

Dear Sir/Ms.:

We have reviewed draft:"Natural Resources Actions Environmental Assessment", and FONSI and find it acceptable.

Thank you for the opportunity to review the project. If you have questions please contact either Paul Picha at (701) 328-3574 or Fern Swenson at (701) 328-3575.

Sincerely,

Merlan E. Paaverud, Jr.
State Historic Preservation Officer (North Dakota)
and
Director, State Historical Society of North Dakota

North Dakota Heritage Center • 612 East Boulevard Avenue, Bismarck, ND 58505-0830 • Phone 701-328-2666 • Fax: 701-328-3710
Email: histsoc@state.nd.us • Web site: http://DiscoverND.com/hist • TTY: 1-800-366-6888

Rec 2 JUN 05

NORTH DAKOTA
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION
1200 Missouri Avenue, Bismarck, ND 58504-5264
P.O. Box 5520, Bismarck, ND 58506-5520
701.328.5200 (fax)
www.ndhealth.gov

May 26, 2005

Public Affairs Officer
319 ARW/PA
375 Steen Boulevard
Grand Forks AFB, ND 58205

Re: Draft Natural Resource Actions Environmental Assessment and FONSI
Grand Forks Air Force Base, Grand Forks County

Attn: Public Affairs Officer:

This department has reviewed the information concerning the above-referenced project submitted under date of May 18, 2005, with respect to possible environmental impacts.

This department believes that environmental impacts from the proposed construction will be minor and can be controlled by proper construction methods. With respect to construction, we have the following comments:

> Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.

The department owns no land in or adjacent to the proposed improvements, nor does it have any projects scheduled in the area. In addition, we believe the proposed activities are consistent with the State Implementation Plan for the Control of Air Pollution for the State of North Dakota.

If you have any questions regarding our comments, please feel free to contact this office.

Sincerely,

L. David Glatt, P.E., Chief
Environmental Health Section

LDG:cc
Attach.

GC 2 JUN 05

NORTH DAKOTA
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION
1200 Missouri Avenue, Bismarck, ND 58504-5264
P.O. Box 5520, Bismarck, ND 58506-5520
701.328.5200 (fax)
www.ndhealth.gov

Construction and Environmental Disturbance Requirements

These represent the minimum requirements of the North Dakota Department of Health. They ensure that minimal environmental degradation occurs as a result of construction or related work which has the potential to affect the waters of the State of North Dakota. All projects will be designed and implemented to restrict the losses or disturbances of soil, vegetative cover, and pollutants (chemical or biological) from a site.

Soils

Prevent the erosion of exposed soil surfaces and trapping sediments being transported. Examples include, but are not restricted to, sediment dams or berms, diversion dikes, hay bales as erosion checks, riprap, mesh or burlap blankets to hold soil during construction, and immediately establishing vegetative cover on disturbed areas after construction is completed. Fragile and sensitive areas such as wetlands, riparian zones, delicate flora, or land resources will be protected against compaction, vegetation loss, and unnecessary damage.

Surface Waters

All construction which directly or indirectly impacts aquatic systems will be managed to minimize impacts. All attempts will be made to prevent the contamination of water at construction sites from fuel spillage, lubricants, and chemicals, by following safe storage and handling procedures. Stream bank and stream bed disturbances will be controlled to minimize and/or prevent silt movement, nutrient upsurges, plant dislocation, and any physical, chemical, or biological disruption. The use of pesticides or herbicides in or near these systems is forbidden without approval from this Department.

Fill Material

Any fill material placed below the high water mark must be free of top soils, decomposable materials, and persistent synthetic organic compounds (in toxic concentrations). This includes, but is not limited to, asphalt, tires, treated lumber, and construction debris. The Department may require testing of fill materials. All temporary fills must be removed. Debris and solid wastes will be removed from the site and the impacted areas restored as nearly as possible to the original condition.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501

JUN 14 2005

Ms. Diane M. Strom
Environmental Impact Analysis Program
319 CES/CEVA, Room 128
525 Tuskegee Airmen Blvd.
Grand Forks AFB, North Dakota 58205-6434

Dear Ms. Strom:

The U.S. Fish and Wildlife Service (Service) has reviewed the Draft Natural Resource Actions Environmental Assessment and Finding of No Significant Impact that has been prepared for the Grand Forks Air Force Base. The proposed actions addressed in the Environmental Assessment include noxious weed control measures, the Bird/Wildlife Aircraft Strike Hazard (BASH) Plan, and the Prairie View Nature Preserve Management Guide. We offer the following comments to assist with the project planning process in accordance with the provisions of the Endangered Species Act (16 U.S.C. 1531 et seq.) and Executive Order 11990 concerning the protection of wetland resources.

Based on the information provided in the Draft Environmental Assessment, the Service concurs with your conclusion that implementation of the proposed actions will not result in significant impacts to environmental impacts on or near the Grand Forks Air Force Base. The noxious weed control plan and managing the 44-acre prairie preserve to support high quality native vegetation will have positive long-term environmental benefits.

The Service also recognizes the need to minimize bird/wildlife aircraft strikes by establishing procedures to identify and avoid high-hazard situations, managing vegetation near the airfield to discourage use by resident and migratory birds, and a variety of other management techniques that minimize the need to kill birds or destroy nests. As part of this initiative, low areas that pond water may be leveled to reduce their attractiveness to birds. Most low areas that pond water in North Dakota are wetlands with a temporary or seasonal water regime. These wetlands can be difficult to identify, particularly during periods of the year when water is not present or if the hydrophytic vegetation has been mowed. Prior to filling low areas, we recommend that these sites be evaluated to ensure that this work does not result in the loss of wetland habitat. If wetland habitat needs to be filled to avoid a hazardous situation, the Service recommends mitigating impacts by restoring an equal acreage of drained wetlands at a location that does not present a hazard to aircraft. The restored wetlands should provide similar functions and habitat values to those basins affected by construction.

The Service concurs with your determination that the proposed action will not affect federally listed threatened and endangered species. This concludes section 7 consultation in accordance with the provisions of the Endangered Species Act. If the measures identified in the Draft Environmental Assessment are changed or modified, please contact this office to determine if consultation needs to be reinitiated.

Thank you for the opportunity to review the Draft Environmental Assessment that has been prepared for the Grand Forks Air Force Base. Please contact Bill Bicknell of my staff at (701) 250-4481, if additional information is needed.

Sincerely,

Jeffrey K. Towner

Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

cc: Project Leader, Devils Lake WMD
Director, ND Game and Fish Dept., Bismarck
(Attn: Mike McKenna)

Appendix C
Notice of Availability

Grand Forks Herald

Advertising Department
phone (701)780-1160 • fax (701)780-1184
1-800-477-6572
ext. 160

375 2nd Ave. N. • P.O. Box 6008 • Grand Forks, ND • 58206-6008

Affidavit of Publication

State of North Dakota, County of Grand Forks

David Austin of said State and County being first duly sworn, on oath says: That he is Advertising Director of Grand Forks Herald, Inc., publisher of the Grand Forks Herald, Morning Edition, a daily newspaper of general circulation, printed and published in the City of Grand Forks, in said County and State, and has been during the time hereinafter mentioned, and that the advertisements of

Draft EA and Draft FONSI

was printed and published in **all copies** of following issues of said newspaper to wit:

May 19, 2005

and that the full amount of the fee for the publication of the annexed notice insures solely to the benefit of the publishers of said newspaper; that no agreement or understanding for a division therof has been made with any other person and that no part thereof has been agreed to be paid to any person whomsoever.

That said newspaper was, at the time of the aforesaid publication, the duly elected and qualified Official Newspaper within said County, and qualified in accordance with the law of the State of North Dakota to do legal printing in said County and State.

David Austin

Subscribed and sworn to before me this 21 day of

June A. D. 2005

Elaine Fawcett

Notary Public, Grand Forks, ND

ELAINE FAWCETT
NOTARY PUBLIC
STATE OF NORTH DAKOTA
My Commission Expires: Feb. 7, 2007