DEPARTMENT OF THE ARMY
UNITED STATES ARMY GARRISON, ALASKA

ENVIRONMENTAL ASSESSMENT

INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN FOR U.S. ARMY GARRISON ALASKA

DRAFT
December 2006

ENVIRONMENTAL ASSESSMENT

UNITED STATES ARMY GARRISON, ALASKA
INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN

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DRAFT FINDING OF NO SIGNIFICANT IMPACT

United States Army Garrison, Alaska Integrated Natural Resources Management Plan

The National Environmental Policy Act of 1969 requires federal agencies to consider potential environmental impacts prior to undertaking a course of action. Within the Department of the Army, the National Environmental Policy Act is implemented through regulations promulgated by the Council on Environmental Quality [40 CFR Parts 1500 – 1508], with supplemental guidance provided by Army National Environmental Policy Act regulations [32 CFR Part 651]. In accordance with National Environmental Policy Act, U.S. Army Garrison, Alaska (USAG-AK) has prepared an environmental assessment to consider the environmental effects of the proposed Integrated Natural Resources Management Plan for USAG-AK lands (Fort Wainwright and Fort Richardson).

Description of Action: The decision is whether to implement Alternative 1: Continue Current Integrated Natural Resources Management Plan without Updates (No Action); Alternative 2: Implement Updated Integrated Natural Resources Management Plan (Proposed Action); or Alternative 3: Suspend Integrated Natural Resources Management Plan.

Under Alternative 2, an off-road recreational vehicle policy sub-alternative must be chosen. These include Sub-Alternative A: Implement limited seasonal, spatial, water level, and weight restrictions on off-road recreational vehicles and motorized watercraft, Sub-Alternative B: Implement moderate seasonal, spatial, water level and weight restrictions, and Sub-Alternative C: Implement significant seasonal, spatial, water level and weight restrictions on off-road recreational vehicles and motorized watercraft.

As individual natural resource projects are initiated, this Environmental Assessment would be utilized as the foundation for NEPA analysis. Project-specific assessments would tier from it to account for site-specific conditions and impacts.

Procedure: Analysis of potential environmental impacts associated with each alternative action is set forth in the *United States Army Garrison, Alaska Integrated Natural Resources Management Plan Environmental Assessment.* The findings of this Environmental Assessment are incorporated into this draft decision document. Potential issues were determined to be relevant if they fell within the scope of the proposed action, if they suggested different actions, or if they influenced the decision on the proposed action. Early in the process, USAG-AK and agency stakeholders or experts were informed of the proposed action, and their comments were solicited. Solutions responsive to public concerns and questions were integrated into elements of the proposed action.

Public comments are welcome up to 30 days following public announcement of the Environmental Assessment. Comments will be recorded in the administrative record, and relevant comments or concerns may be incorporated into the Final Finding of No Significant Impact and associated Environmental Assessment.

Discussion of Anticipated Environmental Impacts for Implementation of the U.S. Army Garrison, Alaska Proposed Integrated Natural Resources Management Plan: Under Alternative 1 (no action alternative), policies enacted under previous Integrated Natural Resources Management Plans would continue without any new standard procedures or new projects. Alternative 1 would provide minor to beneficial impacts to soils, vegetation, water, fish and wildlife, public access and recreation, cultural resources. Alternative 2 would put in place 16 new procedures and policies and five years of projects designed to support the military mission and conserve the environment. Sub-Alternative 2a would provide mostly beneficial impacts to soils, vegetation, water and fish and wildlife resources and

minor to beneficial impacts to recreation and access, and cultural resources. Sub-alternative 2b would provide beneficial impacts to soils, vegetation, water and fish and wildlife resources, and cultural resources, but would provide moderate impacts to recreational users. Sub-alternative 2c would provide beneficial impacts to soils, vegetation, water and fish and wildlife resources, and cultural resources, but would provide severe impacts to recreational users. Alternative 3 would stop all natural resource management and would result in severe negative impacts to all resources and public access and recreation and would result in the inability to sustain lands for military purposes. After consideration of potential environmental impacts, community concerns, and U.S. Army Alaska mission requirements, Alternative 2a: Implement Updated Integrated Natural Resources Management Plan including revised recreation use policy was found to offer the best course of action.

Mitigation Measures: Natural resources management actions are mitigation for other activities, including mitigation for the Army mission in Alaska, Army Transformation in Alaska, Alaska Land Withdrawal, and other actions. Therefore, no additional mitigation measures are proposed.

Conclusion: In an attempt to balance the Army's training and readiness responsibilities and land stewardship obligations, USAG-AK has chosen Alternative 2: Implement Updated Integrated Natural Resources Management Plan as its preferred alternative and Sub-Alternative A: implement limited seasonal, water level, and weight restrictions on off-road recreational vehicles and motorized watercraft. Based on a review of the information contained in this Environmental Assessment, USAG-AK determined that implementation of the updated Integrated Natural Resources Management Plan, as set forth in Alternative 2, is not a major federal action that would significantly affect the quality of the environment within the meaning of Section 102(2)(C) of the National Environmental Policy Act of 1969, as amended. Accordingly, the preparation of an environmental impact statement for this proposed action is not required.

Point of Contact: Requests for further information should be directed to Carrie McEnteer, USAG-AK National Environmental Policy Act Coordinator, IMPC-FWA-PWE, 1060 Gaffney Rd #4500, Fort Wainwright, AK 99703-4500; (907) 353-9507; carrie.mcenteer@us.army.mil.

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_____ _____

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LIST OF ACRONYMS

CFR	Code of Federal Regulations
NEPA	National Environmental Policy Act
USAG-AK	United States Army Garrison, Alaska
USARTRAK	U.S. Army Alaska Recreation Tracker

CHAPTER 1: PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

The Army recognizes that training to doctrinal standards under realistic combat conditions will affect the environment. Providing premiere and realistic training opportunities requires training lands to be in good environmental condition. Integrated Natural Resources Management Plans support the military mission by protecting and enhancing the training lands upon which the mission is critically dependent.

The Army's commitment to natural resource management is emphasized in Army Regulation 200-3 (*Natural Resources–Land, Forest, and Wildlife Management*), which, along with the Sikes Act (amended according to the Sikes Act Improvement Amendments of 1997), requires that Integrated Natural Resource Management Plans be developed and maintained for all Army installations. Integrated Natural Resource Management Plans are tools that help natural resource personnel implement ecosystem management on Army lands. They evaluate how an installation's natural resource program objectives fit within the framework of the military mission and integrate with the environmental program as a whole, outdoor recreation, the National Environmental Policy Act, cultural resources, surrounding communities, and neighboring lands.

The USAG-AK Integrated Natural Resource Management Plan outlines goals and objectives in five general areas: stewardship, military readiness, quality of life, compliance, and program integration. The main goal of the Integrated Natural Resource Management Plan is to support U.S. Army Alaska military activities while maintaining a functional, healthy ecosystem. Integrated Natural Resource Management Plans also describe recreational opportunities associated with natural resources, thus supporting the Army's commitment to both the quality of life and the communities of excellence programs.

1.2 PURPOSE AND NEED FOR ACTION

Natural resources are managed on Army lands to ensure a realistic training environment for military use while maintaining biodiversity and ecosystem functions. The Integrated Natural Resource Management Plan is an integral part of natural resource planning on Army lands in Alaska. Not only is the Integrated Natural Resource Management Plan required by the Sikes Act and Army regulations for all installations with significant natural resources, it also is a valuable tool for resource managers to guide their decisions regarding management. Development and implementation of policies and procedures described in the Integrated Natural Resource Management Plan ensure sustainability of Army lands. Failure to implement the Integrated Natural Resource Management Plan could result in loss of long-term sustainability of military lands, thus preventing the Army from being able to meet its training mission and from providing for biodiversity, ecosystem function, and recreational use.

Additionally, the Integrated Natural Resource Management Plan is needed to present natural resource goals, objectives, and policies that USAG-AK will use to manage military and nonmilitary use of Army lands in Alaska. The intent of the Integrated Natural Resource Management Plan is to openly express these goals, objectives, and policies to the public. Standard procedures and the off-road recreational vehicle policy are summarized below:

Standard Procedures
Standard operating procedures that provide consistency among management approaches, increase oversight, and streamline processes and procedures are needed to increase the efficiency of the natural

resource program. Establishing standard operating procedures will ensure standardization of technique and allow natural resource managers to more easily predict possible impacts and to determine efficacy of project procedures.

Off-Road Recreational Vehicle Policy

The need for a clarification of the recreational use policy on Army lands is necessary because pressure on training lands is increasing. Transformation and modularity have nearly doubled the number of soldiers stationed in Alaska. In addition, additional limitations on recreational use on State and federal lands are increasing the demand for recreational use of Army lands. Nowhere is this demand felt more acutely than on Tanana Flats Training Area. Army Regulation 200-3 states that "All land and water areas will be closed to off-road recreational use by motorized off-road recreational vehicles and watercraft except those areas and trails, which are determined suitable and specifically designated for such under the procedures established in the Integrated Natural Resources Management Plan".

The fen wetland ecosystem in Tanana Flats Training Area can certainly be considered to have natural characteristics of fragile and unique nature. The wetland ecosystem on Tanana Flats Training Area provides key habitat to fish and wildlife species. Off-road recreational vehicle and motorized watercraft use have high potential to disturb nesting or breeding of wildlife, especially those species protected under Endangered Species Act or Migratory Bird Treaty Act. While there are no species breeding or nesting in Tanana Flats Training Area that are on the federally endangered species list, there are numerous species in Tanana Flats Training Area protected by the Migratory Bird Treaty Act. There is enough evidence to suggest that off-road recreational vehicle or motorized watercraft use may cause excessive or irreversible damage to this unique and important wetland system to warrant certain limitations to recreational use that will allow long term recreational use to continue while minimizing the adverse affects on the environment.

Per Army Regulation 200-3, Army lands may be designated for one or more types of off-road recreational vehicle use in response to a demonstrated need providing there are sufficient suitable areas available. The Army desires to allow the maximum amount of recreational access and use while meeting the following objectives:

- Recreational use policy must not create short or long term impacts on the military mission.
- Recreational use policy must provide soldier and public safety.
- Recreational use policy must meet national security objectives.
- Recreational use policy must comply with all applicable laws and regulations.
- Recreational use policy must minimize damage to the environment.

Lands that may not be designated for one or more types of off-road recreational vehicle use are as follows:

- Areas restricted for security or safety purposes, such as explosive ordnance impact areas.
- Areas containing geological and soil conditions, flora or fauna, or other natural characteristics of fragile or unique nature, which would be subject to excessive or irreversible damage by use of off-road recreational vehicles.
- Areas where the use by a type or types of off-road recreational vehicles would cause unequivocal and irreversible damage or destruction as a result of such use, provided, however, that types of off-road recreational vehicles not causing such damage or destruction may be permitted to use such areas.
- Areas that are key fish and wildlife habitats, as identified under environmental consideration.

- Areas that contain archeological sites, historic sites, petroglyphs, pictographs, or areas set aside for their scenic value, and areas in which noise would adversely affect other uses or wildlife resources.
- Areas in or adjacent to outdoor recreation areas where noise or vehicle emissions would be an irritant to users of the outdoor recreation area.
- Noise sensitive areas such as housing, schools, churches, or areas where noise or vehicular emissions would be an irritant to inhabitants.
- Areas where off-road recreational vehicle use would disturb nesting or breeding of wildlife, especially those protected under Endangered Species Act or Migratory Bird Treaty Act.

1.3 SCOPE OF THIS ENVIRONMENTAL ASSESSMENT AND DECISION TO BE MADE

The *National Environmental Policy Act of 1969*, CFR 1500-1508 and the *Environmental Analysis of Army Actions; Final Rule* [32 CFR Part 651 Fed. Reg. 29 March 02 (67FR15289-15332)] require the Army to assess the environmental impacts of the proposed action.

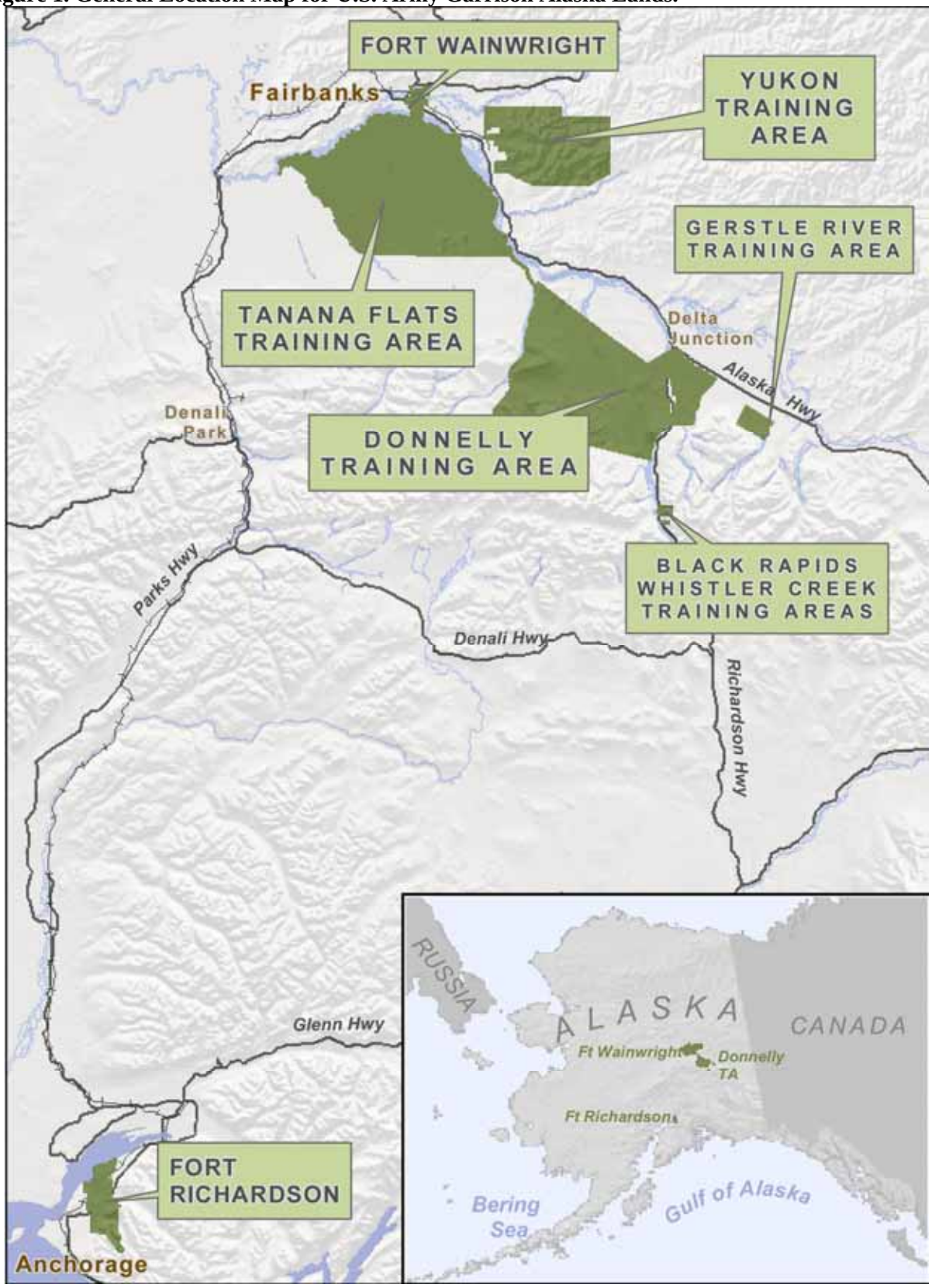
This Environmental Assessment will provide the decision-maker with the information necessary to evaluate the environmental, cultural, and socioeconomic impacts associated with the alternatives as directed by National Environmental Policy Act. The selection of an alternative will take into account technical, economic, and political feasibility; environmental and social issues; and the ability to meet objectives of the U.S. Army Alaska mission. The following alternatives have been evaluated for presentation to the decision-maker:

- Alternative 1: Continue Current Integrated Natural Resource Management Plan without Updates (No Action)
- Alternative 2: Implement Updated Integrated Natural Resource Management Plan (Proposed Action)
    - Sub-Alternative A: Implement limited seasonal, water level, and weight restrictions on off-road recreational vehicles and motorized watercraft (Preferred Alternative).
    - Sub-Alternative B: Implement moderate seasonal, spatial and weight restrictions on off-road recreational vehicles and motorized watercraft.
    - Sub-Alternative C: Implement significant seasonal, spatial and weight restrictions on off-road recreational vehicles and motorized watercraft.
- Alternative 3: Suspend Integrated Natural Resource Management Plan

1.3.1 USAG-AK Lands Covered by this Environmental Assessment

This Environmental Assessment applies to all natural resource management actions initiated and executed on USAG-AK lands. USAG-AK encompasses approximately 1.6 million acres of fee simple and public domain lands withdrawn for military use in interior and south central Alaska. USAG-AK is organized into two primary installations, Fort Wainwright and Fort Richardson. Fort Wainwright includes the Fort Wainwright Main Post, Tanana Flats Training Area, Yukon Training Area, Donnelly Training Area, Gerstle River Training Area, Black Rapids and Whistler Creek Training Area, and other small parcels. Fort Richardson consists of the Fort Richardson North Post, South Post and other small parcels.

Figure 1. General Location Map for U.S. Army Garrison Alaska Lands.



1.3.2 Issues Analyzed

The scope of this document includes potential environmental, cultural, and socioeconomic impacts of the proposed action. Resource categories analyzed for the proposed action and alternatives include soil resources, vegetation, wetlands, water resources, wildlife and fisheries, public access and recreation, and cultural resources. The discussion will include the environmental impacts of the alternatives; environmental effects (adverse or beneficial) should the proposed action be implemented including direct, indirect, long-term, and short-term impacts; any irreversible or irretrievable commitments of resources; and cumulative impacts.

Since public access and recreation is of great importance to the public, this topic is discussed in greater detail than the less controversial issues.

1.3.3 Issues Considered and Eliminated from Analysis

The following issues would not be affected by the proposed action and have been eliminated from further analysis:

- **Environmental Health and Safety Risks for Children**
  Executive Order 13045 (1994), *Protection of Children from Environmental Health Risks and Safety Risk*s, requires identification and assessment of environmental health and safety risks that may disproportionately affect children. In accordance with the mandates of Executive Order 13045, all Integrated Natural Resource Management Plan projects would be reviewed to ensure no dangerous or hazardous activities occur near schools or childcare facilities.

- **Environmental Justice**
  Executive Order 12898 (1994), *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Population*s, directs each federal agency to identify and address any disproportionately high and adverse environmental effects of its programs, policies, and activities on minority populations and low-income populations. There are no foreseeable environmental justice impacts resulting from the proposed action.
- **Hazardous Materials**
  Should contamination be discovered during implementation of Integrated Natural Resource Management Plan projects, appropriate soil remediation measures would be utilized. The methods would be agreed upon by the Army, Environmental Protection Agency, and the Alaska Department of Environmental Conservation. Standards spill prevention measures would be taken during construction. An Excavation Clearance Request (dig permit) must be obtained prior to any excavation activities. Any discovered contaminated soil or groundwater would not be removed from construction sites without written approval from an authorized USAG-AK representative. All operations involving hazardous waste would be accomplished in accordance with USAG-AK Pamphlet 200-1, Environmental Quality: Hazardous Waste, Used Oil, and Hazardous Materials Management, and Alaska Department of Environmental Conservation regulations.
- **Noise**
  Neither the proposed action nor its alternatives would change noise environment conditions. Short-term noise would be confined to the general site areas, primarily in the immediate vicinity of construction or forestry equipment. Impacts would be mitigated by limiting the hours during which construction equipment could be operated.
- **Socioeconomics**
  The estimated cost of fully implementing the proposed action is $43,729,905 over the 2007-2011 time period for Fort Richardson and Fort Wainwright. This would contribute approximately

$5,000,000 annually to the Fairbanks economy and $3,000,000 annually to the Anchorage economy. This would provide a beneficial impact through an increase of local commercial opportunities. However, considering military payroll, civilian payroll, and non-personnel expenditures, implementing the Integrated Natural Resource Management Plan would represent an insignificant increase in revenue to the local economies. The proposed action may result in the permanent or temporary hiring of additional personnel, but would not affect public facilities, utilities, or services.

1.4 INTERAGENCY COORDINATION

Scoping for the Integrated Natural Resource Management Plan is an ongoing process. The Integrated Natural Resource Management Plan is a living document that was originally prepared in 1998 and was revised in 2002. The Sikes Act requires interagency coordination between the Army, U.S. Fish and Wildlife Service and Alaska Department of Fish and Game. These agencies are all signatories on the Integrated Natural Resource Management Plan. Because almost all of USAG-AK lands are withdrawn from the public domain for military use, USAG-AK also invites Bureau of Land Management to be a signatory on this plan. The annual interactions and meetings with both the public and with these agencies during the 2002 update serve as scoping for this Environmental Assessment.

Other agencies and organizations represented in the ongoing scoping and review process include National Marine Fisheries Service, U.S. Forest Service, Natural Resources Conservation Service, and Alaska Department of Natural Resources Soil and Water Conservation Districts. Based on issues raised in previous public review in 2002, USAG-AK held scoping meetings in December 2005 and January 2006 with the Interior Alaska Airboat Association and Alaska tribes, including Native Village of Eklutna, Native Village of Tanacross, Eagle Village IRA Council, Northway Traditional Council, Native Village of Tetlin, Healy Lake Traditional Council, Dot Lake Village Council and Nenana Native Association.

1.5 OTHER ENVIRONMENTAL ANALYSES RELEVANT TO THE ACTION

Previously prepared Environmental Assessments and environmental impact statements that address ongoing actions, issues, or baseline data at USAG-AK are used as background information or are incorporated by reference into this Environmental Assessment as appropriate. Examples of such National Environmental Policy Act documentation are:

- *Final Legislative Environmental Impact Statement for Alaska Army Lands Withdrawal Renewal.* January 1999.
- *Final Environmental Impact Statement for Transformation of U.S. Army Alaska*, Vol. 1-2, February 2004.
- *U.S. Army Alaska Integrated Training Area Management Program Management Plan Environmental Assessment.* April 2005.
- *Final Environmental Impact Statement for the Construction and the Operation of a Battle Area Complex and a Combined Arms Collective Training Facility,* Vol. 1-2, June 2006.

The most recent National Environmental Policy Act documents and management plans can be found on USAG-AK's conservation website (www.usarak.army.mil/conservation).

1.6 ORGANIZATIONAL STRUCTURE OF THIS ENVIRONMENTAL ASSESSMENT

This Environmental Assessment was prepared in accordance with the Council on Environmental Quality

regulations (40 CFR Parts 1500-1508) and *Environmental Effects of Army Actions; Final Rule*. It contains Chapter 1: Purpose and Need for Action; Chapter 2: Description of Proposed Action and Alternatives; Chapter 3: Description of the Affected Environment and Environmental Consequences; Chapter 4: Preparers and Contributors; Chapter 5: References; and Chapter 6: Agencies and Individuals Contacted; and Appendices. Where appropriate, the chapters present separate information for Fort Richardson, Fort Wainwright (Main Post, Tanana Flats Training Area, and Yukon Training Area) and Donnelly Training Area (including Gerstle River and Black Rapids Training Area).

CHAPTER 2: DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 DETAILED DESCRIPTION OF THE ALTERNATIVES

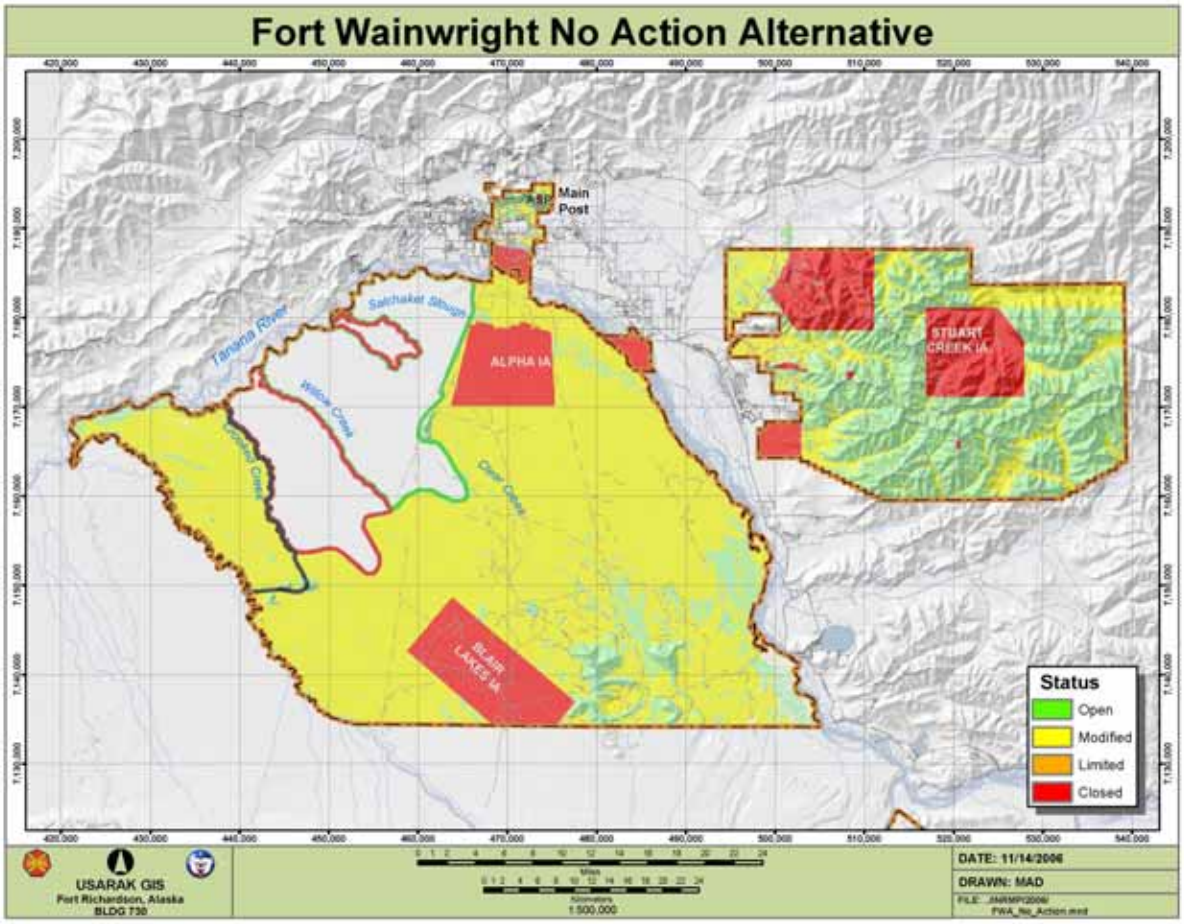
2.1.1 Alternative 1: Continue Current Integrated Natural Resources Management Plan without Updates (No Action)

Under the No Action Alternative, natural resources management on Fort Richardson, Fort Wainwright, and Donnelly Training Area (as outlined in the respective Integrated Natural Resource Management Plans written for the time period 2002-2006) would continue to be utilized on each installation. As a result, U.S. Army Alaska installations would be out of compliance with the Sikes Act and Army Regulation 200-3 which stipulates that installation natural resources management plans are to be reviewed annually and any major revisions of all parts of an Integrated Natural Resource Management Plan will be accomplished at least every 5 years. Projected Integrated Natural Resources Management Plan projects for the next five years include approximately 1,000 acres of vegetation management and 500 acres of trail upgrades and road and pad hardening (Appendix A). NEPA analysis and documentation is required under this alternative but has not been consistently fulfilled for Integrated Natural Resources Management Plan projects. Alternative 1 represents how the Integrated Natural Resources Management Plan is currently implemented at USAG-AK.

Under the No Action Alternative, no standard procedures would be implemented. Many of the procedures proposed in the 2007-2011 Integrated Natural Resource Management Plan are currently used to manage natural resources, but these procedures are not standardized. Use of these non-standardized procedures would continue under Alternative 1. Under the No Action Alternative, the Memorandum of Agreement (fish and wildlife cooperative plan) with U.S. Fish and Wildlife Service and Alaska Department of Fish and Game would not be updated. The current version would continue without the resolution of many outstanding issues. The Memorandum with Bureau of Land Management would also not be updated, which currently only applies to half of USAG-AK lands. The No Action Alternative would not enact a house log program or forest timber policy. With no Integrated Wildland Fire Management Plan, USAG-AK would remain out of compliance. New procedures to protect beluga whales and bison and their habitat would not be put into place. Under Alternative 1, prescribed burning as a method of improving habitat and reducing hazard fuel loading would continue, but standard procedures for prescribed burning (as detailed in Volume II, Annex C, Integrated Wildland Fire Management Plan and Volume III, Section SC3.2.1, Use of Prescribed Fire) would not be enacted.

Under the No Action Alternative, no recreational access policy would be created, with no new recreational use categories to communicate to the public safety and access issues. The No Action Alternative would continue the restriction of all activities (except for research) in the currently closed areas, including the lower fen study area and the areas between Willow Creek and Crooked Creek. All other areas outside of the closed study areas and impact areas would be primarily classified as shown in Figure 2.

Figure 2. Current Recreational Use Management Policy on Tanana Flats Training Area



Under the No Action Alternative, no new special interest areas would be created and none of the current areas, which afford no additional protection to species or their habitats, would be discontinued. The subsistence policy for USAG-AK lands would remain unclear. Finally, no new natural resource management projects would be implemented on USAG-AK lands.

2.1.2 Alternative 2: Implement Updated Integrated Natural Resources Management Plan (Proposed Action)

Under Alternative 2, natural resources management on Fort Richardson, Fort Wainwright, and Donnelly Training Area would be implemented as described in the 2007-2011 Integrated Natural Resources Management Plan. Actions proposed under this alternative include 16 actions in the 2007-2011 USAG-AK Integrated Natural Resource Management Plan that were not included or addressed in previous Integrated Natural Resource Management Plans and supporting NEPA documentation. These changes are listed in Table 1 as well as the standard procedures necessary to implement the action and the location of the action's description within the Integrated Natural Resource Management Plan.

Table 1. Changes to the Integrated Natural Resource Management Plan, Standard Procedures Used, and Location of Description.

Changes to the 2007-2011 Integrated Natural Resource Management Plan	Type of Action	Standard Procedures Used	Description Location
Format change	Administrative	None	Integrated Natural Resource Management Plan Vol. 1, Executive Summary
Standard Procedures	Standard operating procedures	See Table 2	Integrated Natural Resource Management Plan Vol. 3, Supplements
Separate Programmatic Environmental Assessment	Administrative	None	Integrated Natural Resource Management Plan Vol. 1, Executive Summary; This Environmental Assessment
Fish and Wildlife Cooperative Plan	Revision to clarify fish and wildlife protection, nuisance control, and off-road vehicle procedures	Survey and Monitoring, Fish and Wildlife Management, Institutional Controls	Integrated Natural Resource Management Plan Vol. 2, Annex A, Appendix AA.1
Natural and Cultural Resources Memorandum of Agreement	Revision to clarify authority for vegetation management between the Bureau of Land Management and USAG-AK	Ecosystem Management, Survey and Monitoring, Management, Institutional Controls	Integrated Natural Resource Management Plan Vol.2, Annex A, Appendix AA,2
Forest Timber Policy	Revision to clarify timber disposal procedures and require BMPs during timber sales, clearing, and construction	Watershed Management, Forestry and Wildfire Management	Integrated Natural Resource Management Plan Vol. 2, Annex C, C3.1.1
House Log Program	New program established	House Log Program	Integrated Natural Resource Management Plan Vol.2, Annex C, C3.1.2
Integrated Wildland Fire Management Plan	Existing plan integrated into Integrated Natural Resource Management Plan to meet new Army requirement	Forestry and Wildfire Management	Integrated Natural Resource Management Plan Vol. 2, Annex C, C2.2
Beluga Whales	Increased monitoring, habitat protection, live-fire restrictions	Survey and Monitoring, Fish and Wildlife Management	Integrated Natural Resource Management Plan Vol. 2, Annex D, D3.1.1
Bison	Clarification of existing procedures	Survey and Monitoring, Fish and Wildlife Management	Integrated Natural Resource Management Plan Vol. 2, Annex D, D3.1.2
Recreational Access	New check-in process	Installation access policy, USARTRAK	Integrated Natural Resource Management Plan Vol. 2, Annex E, E2.1

Changes to the 2007-2011 Integrated Natural Resource Management Plan	Type of Action	Standard Procedures Used	Description Location
Recreational Use Management Areas	Clarification of existing procedures	Off-Road Recreational Vehicle Policy	Integrated Natural Resource Management Plan Vol. 2, Annex E, E2.5.5.2
Tanana Flats Recreational Use Policy for Training Areas 202 and 203	Delineation of new recreation management area	Off-Road Recreational Vehicle Policy	Integrated Natural Resource Management Plan Vol. 2, Annex E, E3.1.2.2
Special Interest Areas	Clarification of existing procedure	Fish and Wildlife Management	Integrated Natural Resource Management Plan Vol. 2, Annex F, F3.1.3
Subsistence	Clarification of subsistence on Army land	Wildlife Harvest, Installation Access Policy	Integrated Natural Resource Management Plan Vol. 2, Annex E, E2.4
Ecosystem Management Prescriptions	Specific projects proposed for 2007-2011 planning period (see appendix)	All. See Table 2	Integrated Natural Resource Management Plan Vol. 4

Standard Procedures

Under Alternative 2, standard procedures would be implemented. Many of the procedures proposed in the 2007-2011 Integrated Natural Resource Management Plan are currently used to manage natural resources, but these procedures have not been standardized. Table 2 lists all the standard procedures that would be used to implement the 2007-2011 Integrated Natural Resource Management Plan. The impacts of some of these procedures were previously assessed in the *Integrated Training Area Management Program Management Plan Environmental Assessment* (USAG-AK 2005). Procedures not previously addressed in the Integrated Training Area Management Environmental Assessment, or procedures with impacts expected to be different than described in the Integrated Training Area Management Environmental Assessment, are assessed in this Environmental Assessment. The resources affected by each standard procedure are also listed in the table. A more detailed list of standard procedures and their impacts to the resource areas analyzed in this environmental assessment are found in Appendix C. The implementation of standard operating procedures and best management practices for the natural resource program would provide consistency among management approaches, increase oversight, and streamline processes and procedures to improve program efficiency. The management plan would provide the standardization necessary to allow natural resources to more easily predict possible impacts of projects and to determine efficacy of project procedures. As individual Integrated Natural Resources Management Plan projects are identified, this Environmental Assessment would be utilized as the foundation for NEPA analysis. A checklist (Appendix D) would be used to determine whether additional NEPA analysis is warranted. If it is warranted, project-specific assessments would tier from this Environmental Assessment to account for local conditions and impacts. An example of a tiered Record of Environmental Consideration can be found in Appendix E.

Under this alternative, the *USAG-AK 2007-2011 Integrated Natural Resources Management Plan* would facilitate the assessment of impacts for Integrated Natural Resources Management Plan project NEPA compliance. The implementation of standard operating procedures and best management practices would result in impacts being more predictable and assessment potentially more thorough. Documentation of the standard operating procedures and best management practices would help ensure future NEPA documents for Integrated Natural Resources Management Plan projects are more efficient and consistent. Information from the *USAG-AK 2007-2011 Integrated Natural Resources Management Plan* and this

Environmental Assessment could be incorporated by reference in successive NEPA documents. While this would be beneficial to institutional and administrative aspects of the natural resources management program, it would not noticeably affect environmental or social resources. The assessment of this alternative is focused on the analysis of the standard procedures that are listed in Table 2.

Table 2. Standard Procedures, Location of NEPA Analysis, and Resources Affected.

Standard Procedure[1]	Location of NEPA Analysis[2]	INRMP Location	Resource Affected and/or Extent[3]
Ecosystem Management	This Environmental Assessment	Volume I, Section 3.1; Volume III, Section SA	Soil, Vegetation, Water Resources, Wildlife and Fisheries, Public Access and Recreation, Cultural Resources
Survey and Monitoring	This Environmental Assessment	Volume III, Section SB	Soil, Vegetation, Water Resources, Wildlife and Fisheries
Resource Management			
Watershed Management			
Soils Management	USAG-AK 2005	Volume I, Section 3.2.2; Volume II, Annex B, Section SC2.1	Soil, Vegetation, Water Resources, Cultural Resources
Vegetation Management	USAG-AK 2005	Volume I, Section 3.2.4; Volume II, Annex B, Section SC2.2	Soil, Vegetation, Water Resources, Wildlife and Fisheries, Cultural Resources
Wetlands Management	USAG-AK 2005	Volume I, Section 3.2.5; Volume II, Annex B, Section SC2.3	Water Resources, Wildlife and Fisheries
Water Resources Management	USAG-AK 2005	Volume I, Section 3.2.3; Volume II, Annex B, Section SC2.4	Water Resources, Wildlife and Fisheries
Forestry and Wildland Fire Management			
Prescribed Burning	This Environmental Assessment	Volume I, Section 3.3.2; Volume II, Annex C, Section C.2.2; Volume III, Section 3.2.2	Soil, Vegetation, Water Resources, Wildlife and Fisheries, Cultural Resources, Air Quality (Prescribed burning up to 80,000 acres per burn or 800,000 cumulative acres)
Timber Sales	This Environmental Assessment	Volume I, Section 3.3.1; Volume II, Annex C, Section 2.1; Volume III, Section SC3.1	Soil, Vegetation, Water Resources, Wildlife and Fisheries, Cultural Resources (Sale area up to 250 acres or 750 cumulative acres)
Firewood/Personal Use	This Environmental Assessment	Volume I, Section 3.3.1; Volume II, Annex C, Section 2.1; Volume III, Section SC3.1	Soil, Vegetation, Water Resources, Wildlife and Fisheries, Cultural Resources (Use area up to 50 acres or 250 cumulative acres)
Reforestation	This Environmental Assessment	Volume I, Section 3.3.1; Volume II, Annex C, Section 2.1; Volume III, Section SC3.1	Soil, Vegetation, Water Resources, Wildlife and Fisheries, Cultural Resources

Standard Procedure[1]	Location of NEPA Analysis[2]	INRMP Location	Resource Affected and/or Extent[3]
Urban Forestry	This Environmental Assessment	Volume I, Section 3.3.1; Volume II, Annex C, Section 2.1; Volume III, Section SC3.1	Vegetation, Wildlife and Fisheries
Forest Health	This Environmental Assessment	Volume I, Section 3.3.1; Volume II, Annex C, Section 2.1; Volume III, Section SC3.1	Vegetation, Wildlife and Fisheries, Cultural Resources (Removal to control insects or disease up to 250 acres)
House Log Program	This Environmental Assessment	Volume I, Section 3.3.1; Volume II, Annex C, Section 2.1; Volume III, Section SC3.1	Soil, Vegetation, Water Resources, Wildlife and Fisheries (Use area up to 25 acres or 75 cumulative acres)
Wildfire Management (includes fuel breaks)	USAG-AK 2005	Volume I, Section 3.3.2; Volume II, Annex C, Section C.2.2; Volume III, Section 3.2	Soil, Vegetation, Water Resources, Wildlife and Fisheries, Cultural Resources (Fuel breaks up to 250 acres or 1,250 cumulative acres)
Fish and Wildlife Management			
Wildlife Harvest	This Environmental Assessment	Volume I, Section 3.4.3, Volume II, Annex D, Section 2.3.1.5, Volume III, Section SC4.2	Wildlife and Fisheries, Public Access and Recreation, Cultural Resources
Habitat Improvement	USAG-AK 2005	Volume I, Section 3.4.3, Volume II, Annex D, Section 2.3.2, Volume III, Section SC4.2	Wildlife and Fisheries, Vegetation, Water Resources
Fish Stocking	This Environmental Assessment	Volume I, Section 3.4.3, Volume II, Annex D, Section 2.3.1.1, Volume III, Section SC4.2	Wildlife and Fisheries
Fish Harvest	This Environmental Assessment	Volume I, Section 3.4.3, Volume II, Annex D, Section 2.3.1.5, Volume III, Section SC4.2	Wildlife and Fisheries, Public Access and Recreation
Pike Removal	This Environmental Assessment	Volume I, Section 3.4.3, Volume II, Annex D, Section 2.3.1.4, Volume III, Section SC4.2	Wildlife and Fisheries, Public Access and Recreation
Outdoor Recreation Management			
Trespass Structure Abatement Program	This Environmental Assessment	Volume III, Section SC5	Soil, Water Resources, Public Access and Recreation
Installation Access Policy	This Environmental Assessment	Volume I, Section 3.5.1; Volume III, Section SD4.1	Public Access and Recreation
USARTRAK	This Environmental Assessment	Volume II, Section 3.5.1; Volume III, Section SD4.1	Public Access and Recreation

Standard Procedure[1]	Location of NEPA Analysis[2]	INRMP Location	Resource Affected and/or Extent[3]
Land Use Policy	This Environmental Assessment	Volume III, Section SD4.2	Public Access and Recreation
Outreach	USAG-AK 2005	Volume I, Section 3.5.8; Volume III, Section SE	Soil, Vegetation, Water Resources, Wildlife and Fisheries, Public Access and Recreation, Cultural Resources

[1] The standard procedures are described in Integrated Natural Resource Management Plan Volume 3, Supplements.
[2] Cumulative = Life of Integrated Natural Resource Management Plan (2007-2011)
[3]Resources may be affected either beneficially or adversely.

Prescribed Fire
Under Alternative 2, standard procedures for prescribed burning as a method of improving habitat and reducing hazard fuel loading would be implemented. Standard procedures for prescribed burning (Volume II, Annex C, Integrated Wildland Fire Management Plan and Volume III, Section SC3.2.1, Use of Prescribed Fire) are already approved and used by the Bureau of Land Management Alaska Fire Service. These procedures are also followed by USAG-AK and are therefore included in the 2007-2011 Integrated Natural Resources Management Plan as a standard procedure.

Off-Road Recreational Vehicle Policy
The recreational use policy as proposed in the 2007-2011 Integrated Natural Resources Management Plan is shown below and applies to all sub-alternatives of Alternative 2. All land and water areas will be closed to off-road recreational use by motorized off-road recreational vehicles except those areas and trails, which are determined suitable and specifically designated for such under the procedures established in the Integrated Natural Resources Management Plan and analyzed in this Environmental Assessment. All areas that are determined open for recreational use may be closed temporarily during periods of military use. All users must daily check in through USARTRAK to determine if areas are open to recreational use. USAG-AK uses the following classification system to describe recreation areas on the installation.

***Open Use Area*:** Open to all types of off-road recreational vehicles. Open to all other recreational activities year round.

Frozen (6+ inches of snow cover)**:** No restrictions for any off-road recreational vehicles when soil is frozen.

Unfrozen summer conditions: During unfrozen conditions, off-road recreational vehicles over 1500 lbs (road vehicles, dune buggies, Argo's, small unit support vehicles etc.) must stay on existing roads and trails. No restrictions for off-road recreational vehicles under 1500 lbs (all terrain vehicles, snowmachines, dirt bikes etc.). Motorized watercraft must stay within existing open water channels.

Modified Use Area: Open to all types of off-road recreational vehicles. No restrictions for any off-road recreational vehicles when soil is frozen. All off-road recreational vehicles must stay on existing roads and trails during the summer. Motorized watercraft must stay within existing naturally occurring open water channels. Open to all other recreational activities year round.

Limited Use Area: Open to all non-motorized recreation (hunting, fishing, trapping, hiking, skiing, and berry picking, etc.) year round but are not open to any type of off-road recreational vehicle at any time. Motorized watercraft must stay within existing naturally occurring open water channels.

Special Use Management Area: An area managed for recreational use under specific rules that apply only to that area.

Closed Area: Closed to all recreational activities year round. Closed areas include, but are not limited to, Airfields, Tank Farm, Landfill, Small Arms Ranges, Impact Areas, Ammunition Storage Points, etc.

There are three sub-alternatives being considered for off-road recreational vehicle use as part of the proposed action. These sub-alternatives are described below and summarized in Table 3.

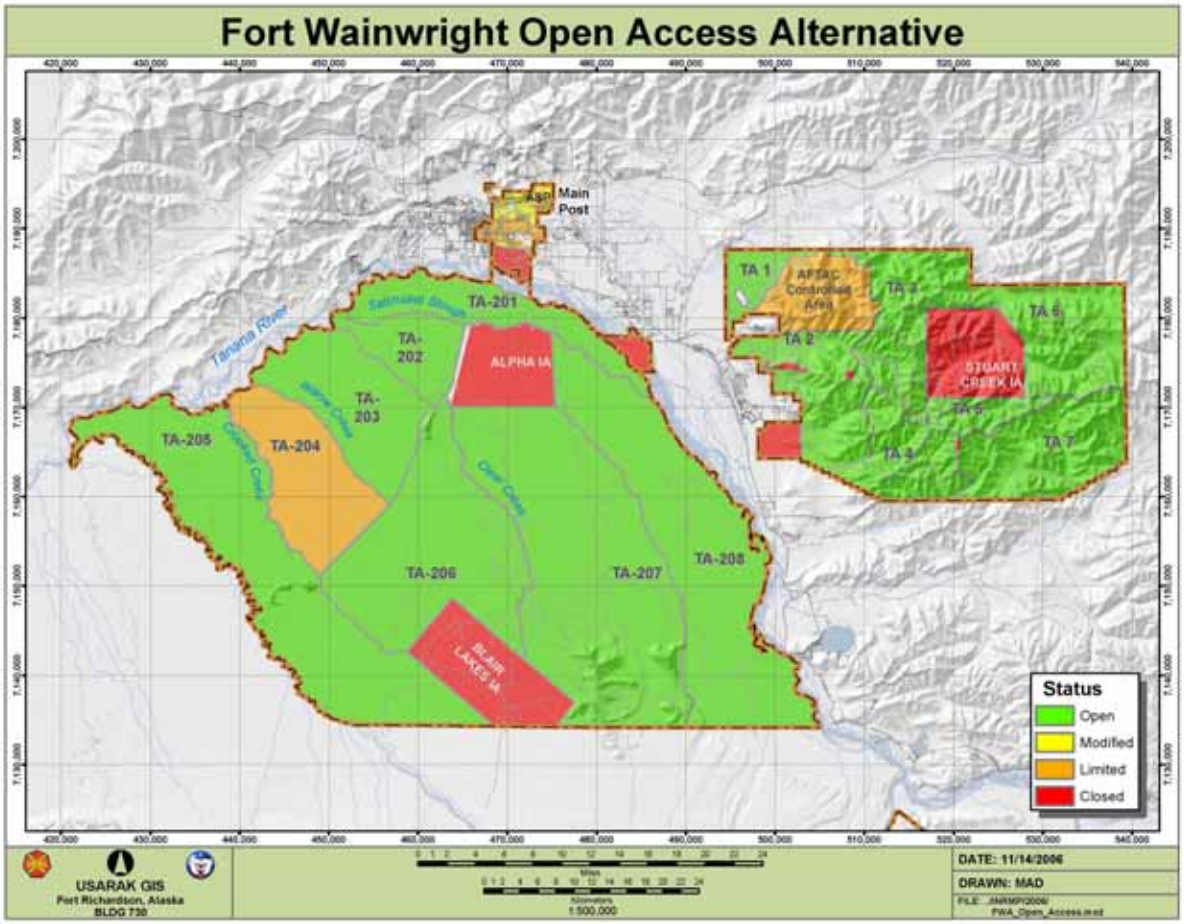
Table 3. Comparison of Tanana Flats Training Area Recreation Sub-Alternatives*

Sub-Alt	Spatial Restrictions	Motorized Seasonal Restrictions	Weight Restrictions	Fen Wetland Water Level Restrictions
A	-TA 204 "Limited" -Other TAs "Open" -Motorized watercraft restricted to open water channels.**	-TA 204: 1 Apr - 30 Oct -Other TAs: *** 1 Apr – 15 Jul	-Frozen: None -Unfrozen: ORRV < 1500lbs – None ORRV > 1500 lbs – Restricted to trails	-TA 202: 16 Jul-15 Aug -TA 203: 1 Apr-15 Aug*** -Other TAs: N/A
B	-TA 204 "Limited" -Other TAs "Modified" -Motorized watercraft restricted to natural open water channels.	-TA 204: 1 Apr - 30 Oct -Other TAs: 1 Apr – 15 Jul	-Frozen: ORRV < 1500lbs – None ORRV > 1500 lbs – Restricted to trails -Unfrozen: All ORRV Restricted to trails	-TA 202: 16 Jul-15 Aug -TA 203: 16 Jul-15 Aug -Other TAs: N/A
C	-All TAs "Limited" -Motorized watercraft restricted to navigable waters of US.	-No motorized recreation use at any time	-No motorized use of any weight	-No motorized watercraft outside of navigable waters of U.S.

*Impact areas closed at all times for all alternatives.
**No spatial restrictions to motorized watercraft in TA 202 and 203 from 16 August – 31 March.
***Primary airboat trails remain open in TA 203 1 May – 15 July dependant on water levels to allow access for bear hunting.

- Sub-Alternative A: Implement limited seasonal, water level, spatial and weight restrictions on off-road recreational vehicles and motorized watercraft (Preferred Alternative). Tanana Flats Training Area would be managed as an "*open use area*" except for the impact areas, which are always "*closed use areas*" as shown in Figure 3. Training Area 204 would be managed as a "limited use area" and would remain closed to all motorized vehicles from 1 April – 30 October. This alternative would also implement additional controls for Tanana Flats Training Areas 202 and 203 regarding motorized watercraft (see below for more details). This alternative would remove the restrictions put in place during the previous Integrated Natural Resources Management Plan.

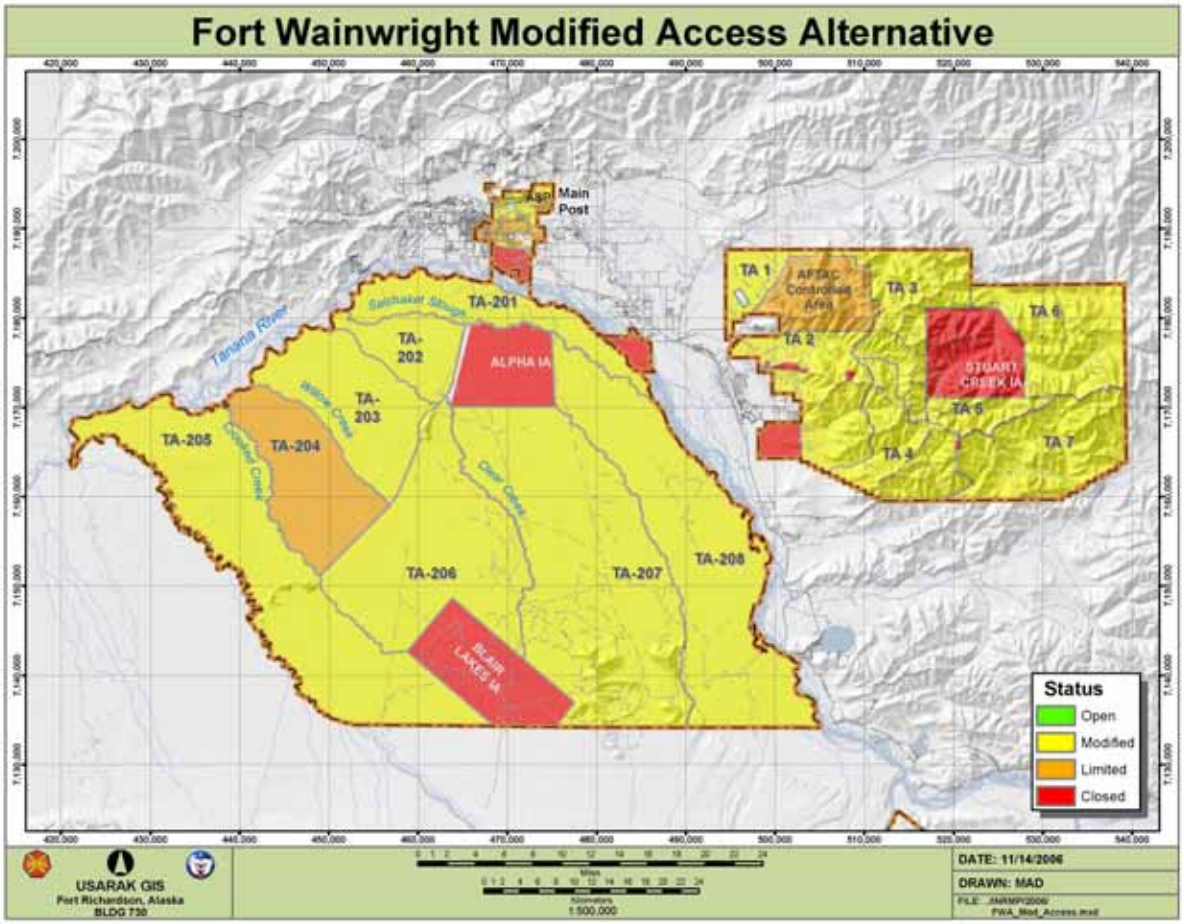
Figure 3. Proposed Recreational Use Policy on Tanana Flats Training Area.



Sub-Alternative A proposes to apply specifically tailored rules to newly created Tanana Flats Training Areas 202 and 203 (bordered by Salchaket Slough, Willow Creek, Tanana River and Bonnifield Trail). These training areas would be open to airboats and other motorized watercraft with no restrictions between 15 August and 1 April each year. Between 1 April and 15 July, training areas 202, 203 and 204 would be off limits to all off-road recreational vehicles, including airboats and other motorized watercraft. Between 15 July and 15 August, access into the lower fen (Training Area 202) and upper fen (Training Area 203) would be managed separately based on water levels. Access into all other training areas during this time would remain open. This Sub-Alternative does not affect rules and regulations for hunting, trapping or fishing. This Sub-Alternative would apply to all recreational users, but does not apply to military training or other official use.

- Sub-Alternative B: Implement moderate seasonal, water level, spatial and weight restrictions on off-road recreational vehicles and motorized watercraft. This alternative would be to impose greater limitations on off-road recreational vehicles and motorized recreational vehicles than currently exist. All areas outside of impact areas would be classified as “modified use areas” (no off –road recreational vehicle traffic) and impact areas are always closed to recreational use.

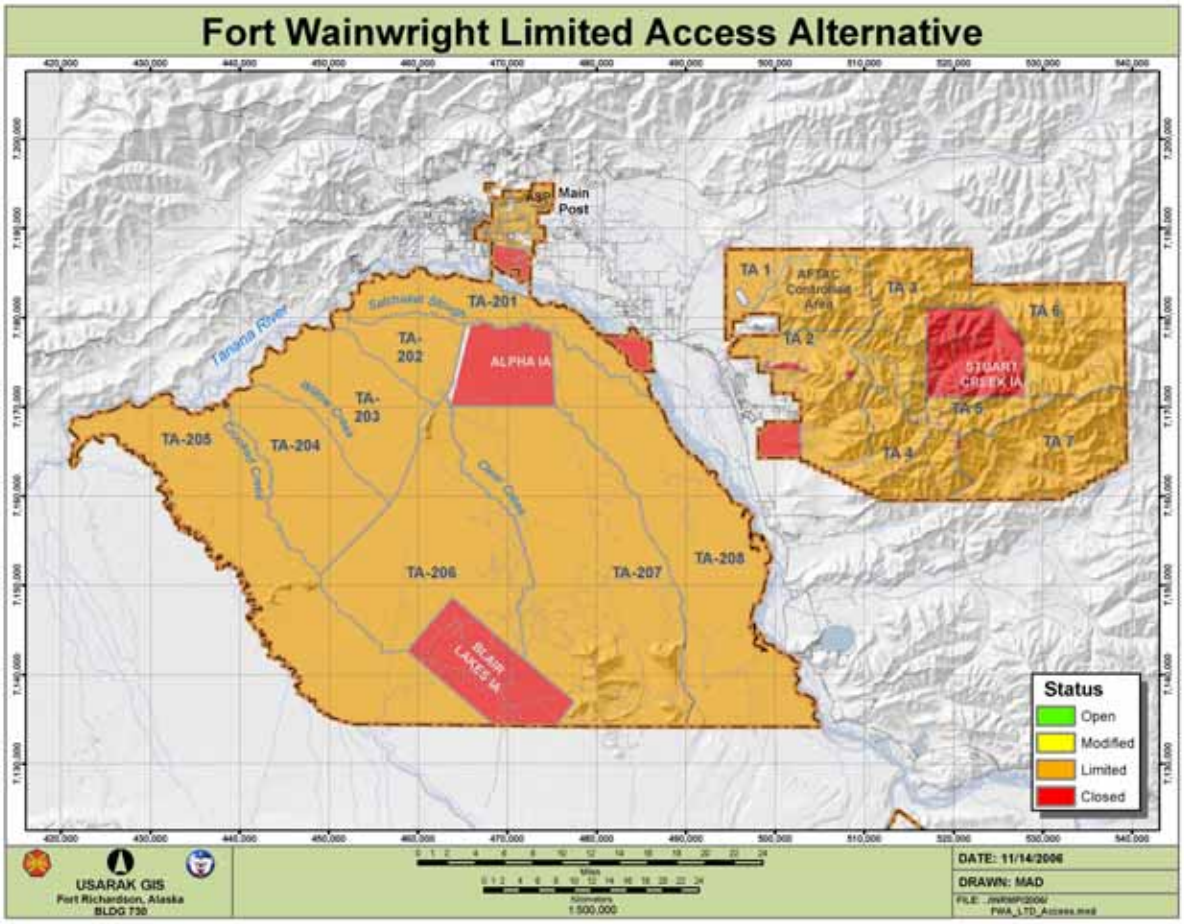
Figure 4. Modified Recreational Use Policy on Tanana Flats Training Area.



- Sub-Alternative B also proposes to apply specifically tailored rules to newly created Tanana Flats Training Areas 202 and 203 (bordered by Salchaket Slough, Willow Creek, Tanana River and Bonnifield Trail). These training areas would be open to airboats and other motorized watercraft with no restrictions between 15 August and 1 April each year. Between 1 April and 15 July, training areas 202, 203 and 204 would be off limits to all off-road recreational vehicles, including airboats and other motorized watercraft. Between 15 July and 15 August, access into the lower fen (Training Area 202) and upper fen (Training Area 203) would be managed separately based on water levels (Figure 4). Access into all other training areas during this time would remain open. This Sub-Alternative does not affect rules and regulations for hunting, trapping or fishing but the greater restrictions on off-road recreational vehicles could reduce the ability to access areas for hunting, trapping and fishing. This Sub-Alternative would apply to all recreational users, but does not apply to military training or other official use.

- Sub-Alternative C: Prohibit off-road recreational vehicles and motorized watercraft in Tanana Flats Training Area. This alternative would be to impose greater restrictions on motorized recreational vehicles than currently exist. All areas outside of impact areas would be classified as "limited use areas" (no off –road recreational vehicle traffic) and impact areas are always closed to recreational use (Figure 5). This Sub-Alternative does not affect rules and regulations for hunting, trapping or fishing but the prohibitions on off-road recreational vehicles would greatly reduce access for hunting, trapping and fishing.

Figure 5. Limited Recreational Use Policy on Tanana Flats Training Area.



2.1.3 Alternative 3: Suspend Integrated Natural Resources Management Plans

Under Alternative 3, Integrated Natural Resource Management Plans would not be implemented at Fort Richardson, Fort Wainwright, and Donnelly Training Area. Integrated natural resource management and a document outlining plans to implement it are required of all military installations by law. Although U.S. Army Alaska does not have the option to discontinue its use, Alternative 3 considers potential environmental impacts if the Integrated Natural Resource Management Plan were not utilized. This provides a useful tool in assessing the effectiveness of Integrated Natural Resource Management Plans in helping sustain continued use of Army training lands. Under this alternative, no natural resources management would be conducted, all natural resource policies would be discontinued, all natural resource programs would be stopped, and no natural resource projects would be conducted. No procedures to implement natural resource management would be used. This Alternative would place no controls at all on military or recreational use.

2.2 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

2.2.1 Summary of Impacts under Each Alternative

Table 4 contains a summary matrix of the alternatives comparing their environmental consequences for the specific resource categories. The table describes the range of environmental consequences of the proposed action and alternatives discussed in Chapter 3. The qualitative terms used in the matrix are generally defined as:

- None – No measurable impacts are expected to occur.
- Minor – Short-term but measurable adverse impacts are expected. Impacts may have slight impact to resource.
- Moderate – Noticeable adverse impacts that would have a measurable effect on resource and are not short-term.
- Severe – Adverse impacts would be obvious short and long term and would have serious consequences to resource. These impacts would be considered significant.
- Beneficial – Impacts would benefit resource.

Table 4. Summary of Environmental Consequences under Each Alternative.

Resource Categories	Alternative 1	Alternative 2	Alternative 3
Soil Resources	Beneficial	Beneficial	Moderate to Severe
Vegetation	Minor to Beneficial	Beneficial	Moderate to Severe
Water Resources	Minor to Beneficial	Beneficial	Moderate to Severe
Wildlife and Fisheries	Minor to Beneficial	Beneficial	Moderate to Severe
Public Access and Recreation	Minor to Moderate	Minor to Beneficial	Beneficial
Cultural Resources and Subsistence	Minor to Beneficial	Minor to Beneficial	Severe
Air Quality	None	Minor to Moderate	None

Table 5 represents the relative impacts resulting from each sub-alternative for Tanana Flats Training Area recreation policy.

Table 5. Summary of Environmental Consequences for Tanana Flats Recreation Policy.

Resource Categories	Alternative 2a	Alternative 2b	Alternative 2c
Soil Resources	Minor to Moderate	Minor to Beneficial	Beneficial
Vegetation	Minor to Moderate	Minor to Beneficial	Beneficial
Water Resources	Minor to Moderate	Minor to Beneficial	Beneficial
Wildlife and Fisheries	Minor to Moderate	Minor to Beneficial	Beneficial
Public Access and Recreation	Minor	Moderate	Severe
Cultural Resources and Subsistence	Minor to Moderate	Minor to Beneficial	Beneficial
Air Quality	None	None	None

2.2.2 Summary of Cumulative Impacts

Analysis of cumulative impacts is required for National Environmental Policy Act documents. Cumulative impacts result from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions. Cumulative effects can also result from individually minor but collectively significant actions taking place locally or regionally over a period of time. Impacts of these cumulative activities are discussed in Chapter 3 of this Environmental Assessment.

Activities resulting in cumulative impacts include cantonment and range improvement projects, training activities, and non-military activities such as recreation. The regions of influence for cumulative impacts are not expected to extend beyond the installation boundary. These actions are outlined in the following documents:

- *Final Environmental Impact Statement for Transformation of U.S. Army Alaska*, Vol. 1-2, February 2004.
- *Final Environmental Impact statement for the Construction and Operation of a Battle Area Complex and a Combined Arms Collective Training Facility within U.S. Army Training Lands in Alaska*, Vol. 1-2, June 2006.
- *Environmental Assessment: Conversion of the Airborne Task Force to an Airborne Brigade Combat Team.* Fort Richardson Alaska. September 2005.
- *Environmental Assessment: Integrated Training Area Management Plan*, U.S. Army Garrison, Alaska, April 2005.
- *Environmental Assessment: Power Projection Platform/Strategic Mobility Projects*. Fort Richardson, Alaska. November 2005.
- *Environmental Assessment: Construct Replacement and Infill Family Housing, 2005-2008*, Fort Richardson, Alaska.
- *Environmental Assessment: Installation Fencing Project*. Fort Richardson, Alaska. April 2004.
- *Environmental Assessment: Installation Fencing Project*. Fort Wainwright, Alaska. August 2004.

CHAPTER 3: DESCRIPTION OF THE AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the affected environment (existing conditions) and the environmental consequences for the proposed action and alternatives at Fort Richardson, Fort Wainwright, and Donnelly Training Area. Although Donnelly Training Area is sub-unit of Fort Wainwright, it is discussed separately due to its large size.

3.1 SOIL RESOURCES

3.1.1 Affected Environment

Fort Richardson

Glacial moraines, outwash, tidal flats, and peat bogs all provide a wide variety of parent material for soils at the installation (U.S. Army Alaska 2004). The soils are shallow, immature, and deficient in primary plant nutrients and water retention ability, making them a primary limiting factor for vegetative growth during dry periods. In depressions and saturated areas, such as wetlands, surface horizons may be covered with peat (U.S. Army Alaska 2002b). A soil survey of the Anchorage area conducted by the Natural Resources Conservation Service identified two distinct climatic zones along with their associated soil types (Moore 2002) – the lowlands surrounding Anchorage (including Fort Richardson) and the adjacent Chugach Mountains.

Permafrost is found in less than 1% of Fort Richardson. It occurs primarily in patches of forested bogs near Muldoon Road, with some permafrost persisting at high elevations. Although thermokarst has occurred in the forested bog areas, the effects of thermokarst have been negligible (<0.1% of the area over 200 to 300 years) (Jorgenson et al. 2002).

Fort Wainwright

The soils of Fort Wainwright are weakly developed as a result of the cold climate and youth of parent materials. Nearly all soils on Fort Wainwright have some organic layer, except where floods occurred or humans frequently disturbed the surface. Organic matter accumulation, oxidation and reduction of iron, and cryoturbation are the major soil-forming processes in the Fort Wainwright area (Swanson and Mungoven 2001). Engineering soil types found at Fort Wainwright consist dominantly of silt on the hills with wetter and more organic silty soils in the lower drainages (U.S. Army Alaska 2004).

Most of the soils on Main Post are Chena alluvium, formed in unconsolidated silt-gravel mixture. Soils at Tanana Flats Training Area are formed in various unconsolidated materials and are dominated by highly organic, wet, and cold soils (Rieger et al. 1979). The south slopes of the mountainous Yukon Training Area consist of well-drained silt loams, while north-facing slopes are shallow, gravelly, silt loams. Drainage bottoms and depressions consist of shallow gravelly, silt loam covered with a thick layer of peat (BLM and U.S. Army 1994).

On Main Post, permafrost occurs at variable depths with discontinuous permafrost lying just beneath the surface in some areas. Most of Tanana Flats Training Area is underlain by continuous or discontinuous permafrost. Permafrost lies within 20 inches of the surface and is nearly 128 feet thick in some places (U.S. Army Alaska 2002c). Tanana Flats is experiencing rapid and widespread thermokarst as a result of degrading permafrost. Eventually this will dramatically alter the structure and function of ecosystems in permafrost-dominated areas. Yukon Training Area is in the discontinuous permafrost zone of Alaska where perennially frozen ground is widespread. The thick layers of peat typical of both north slopes and drainage bottoms/depressions are underlain by permafrost, while south slopes are generally free of permafrost (BLM and U.S. Army 1994).

Donnelly Training Area

Soils in Donnelly Training Area are primarily derived from glacial activities, modified by streams and discontinuous permafrost, and in many places overlain by loess. Few soils in Donnelly Training Area have been mapped in detail, with the exception of areas near the Main Post cantonment area. The Natural Resources Conservation Service has identified 12 soil associations in the area (Rieger et al. 1979). Soils in the northern, west-central, and eastern portions of Donnelly Training Area West were identified as silt-loam associations, while Donnelly Training Area East was described as a shallow silt-loam over gravelly sand. Engineering soil types found at Donnelly Training Area are highly variable due to the diverse geomorphic landscape and sediments comprising it (U.S. Army Alaska 2004).

Soils at Gerstle River Training Area are described as poorly drained with mottled gray, gravelly silt or sandy loam beneath the thick surface mat of peat. Soils on the western portion of Black Rapids Training Area were developed in glacial till and most are poorly drained. Bedrock outcrops on peaks and ridges and loose rubble occur in many high areas. Well-drained soils have developed in very gravelly material at the foot of high ridges and on some south-facing slopes and hilly moraines at lower elevations. The eastern portion of the training area is classified only as rough mountainous land in a 1979 exploratory survey (Rieger et al. 1979).

Permafrost is highly patchy and irregular on Donnelly Training Area, particularly in morainal areas where abrupt changes in slope and aspect occur (Jorgenson et al. 2001). The highly variable sediment types, complicated topography, and micro-climatic variability make prediction of permafrost difficult. Isolated patches of permafrost are found in areas under sandy gravel from 2 to 40 feet below ground level, with thickness varying from 10 to 118 feet. A relatively large portion of the landscape has discontinuous permafrost, but existing and abandoned river channels, lakes, wetlands, and other low-lying areas are likely permafrost-free (Williams 1970). Gerstle River Training Area has a shallow permafrost table (below 10 to 20 inches) that occupies a broad outwash plain (Rieger et al. 1979). Permafrost conditions at Black Rapids Training Area are assumed to be similar to those of Donnelly Training Area.

3.1.2 Environmental Consequences

Alternative 1: Continue Current Integrated Natural Resources Management Plans without Updates (No Action)

Under this alternative, the current Integrated Natural Resource Management Plan would continue to be implemented without revision. The Integrated Training Area Management program (within the watershed management category) is a component of the Integrated Natural Resource Management Plan that would have the most impacts to soil resources. Impacts of Integrated Training Area Management projects were found to be minor to beneficial in a previous assessment (USAG-AK 2002). A complete description is available in the *Integrated Training Area Management Program Management Plan Environmental Assessment* (USAG-AK 2005). Impacts to soil resources from all Integrated Natural Resource Management Plan programs were found to be beneficial in the Environmental Assessment portion of the 2002-2006 Integrated Natural Resource Management Plans. No additional impacts to soil resources are expected to occur under this alternative.

Continuing the current off-road recreational vehicle policy, which includes continuing the recreational user impact study and the restriction of all activities in the closed areas of Tanana Flats Training Area would be beneficial to soil resources by preventing impacts from recreation.

Alternative 2: Implement Updated Integrated Natural Resources Management Plan (Proposed Action)

Under this alternative, the 2007-2011 Integrated Natural Resource Management Plan revision would be implemented. This includes current soil management projects described in the 2007-2011 Integrated Natural Resource Management Plan, plus those described in Section 2.1.2. Over 6,550 acres of erosion control and streambank restoration projects would be completed to rehabilitate and repair soils. The overall impacts to soil resources would be beneficial.

Standard procedures that would have beneficial impacts include ecosystem management, survey and monitoring, soils and vegetation management, reforestation. These procedures would benefit soils mainly by preventing erosion. The trespass structure abatement program would benefit soils because it involves the cleanup of trespass structures, which sometimes include hazardous waste.

Procedures with potential adverse impacts to soils include timber sales, firewood collection, house log program, wildfire management, forest health procedures or any other action that involves the removal of vegetation. Timber cutting and vegetation removal is estimated to affect 11,350 acres, and prescribed burning is estimated to affect 646,500 total acres for Fort Richardson, Fort Wainwright, and Donnelly Training Area in the five-year planning period (2007-2011). Fire provides both positive and negative impacts to the environment. Short term loss of vegetation from fire can increase the risk of soil erosion but can also infuse added nutrients to the soil. A majority of the prescribed burning would take place at Donnelly Training Area. These impacts are expected to be minor and temporary due to the use of best

management practices to stabilize the soil and reduce or prevent erosion. Standard procedures for prescribed burning (Volume II, Annex C, Integrated Wildland Fire Management Plan and Volume III, Section SC3.2.1, Use of Prescribed Fire) are already approved and used by the Bureau of Land Management Alaska Fire Service.

Sub-alternative A
This sub-alternative would remove restrictions put in place during the recreational impact study and implement a new recreation policy for Tanana Flats Training Area. Sub-Alternative A would manage Tanana Flats Training Area as an "*open use area*", open to all types of off-road recreational vehicles and recreational activities year round. There would be no restrictions for any off-road recreational vehicles when soil is frozen. During unfrozen conditions, off-road recreational vehicles over 1500 lbs (road vehicles, dune buggies, Argo's, small unit support vehicles etc.) must stay on existing roads and trails. No restrictions for off-road recreational vehicles under 1500 lbs (all terrain vehicles, snowmachines, dirt bikes etc.). Motorized watercraft must stay within existing open water channels except within Training Areas 202 and 203 after July 15 when water levels are sufficient to avoid damage to soils and vegetation. Sub-Alternative A would have minor to moderate impacts to soils because no changes to airboat use areas would occur except that airboats would be allowed back in areas closed during the recreation impact study. Water levels would be monitored and airboat use would not be allowed if water levels are too low. This would serve to prevent impacts to wetlands, to include wetland soils.

Sub-alternative B
This sub-alternative would remove restrictions put in place during the recreational impact study and implement a new recreation policy for Tanana Flats Training Area which would be managed as a "*modified use area*". This sub-alternative would be open to all types of off-road recreational vehicles with no restrictions for any off-road recreational vehicles when soil is frozen. All off-road recreational vehicles must stay on existing roads and trails during the summer. Motorized watercraft must stay within existing naturally occurring open water channels. Open to all other recreational activities year round. Minimal impacts to soils would result under Sub-alternative B due to moderate limitations on off-road recreational vehicles and airboats. Less recreational use would present fewer impacts to wetland soils.

Sub-alternative C
Under Sub-Alternative C, Tanana Flats Training Area would be managed as a "*limited use area*", which is open to all non-motorized recreation (hunting, fishing, trapping, hiking, skiing, and berry picking, etc.) year round but is not open to any type of off-road recreational vehicle at any time. Motorized watercraft must stay within existing naturally occurring open water channels. Sub-alternative C would result in the beneficial impacts to soils as all off-road recreational vehicle traffic and motorized watercraft would be restricted from entering Tanana Flats Training Area.

Alternative 3: Suspend Integrated Natural Resources Management Plans
Under this alternative, no components of the Integrated Natural Resource Management Plan would be implemented. Failure to implement the Integrated Natural Resource Management Plan could result in loss of sustainability over the long term, which would ultimately result in a negative impact to the Army mission. No controls at all on recreational use in Tanana Flats would have a moderate to severe impact on soil resources.

Cumulative Impacts
Past impacts to soil resources resulted from munitions, maneuvers, stream crossings, construction, and use of roads and trails. Impacts included permafrost melting and soil erosion, rutting, and compaction (U.S. Army Alaska 2004). In 1994, U.S. Army Alaska began efforts to counteract the cumulative effects of military training by establishing the Integrated Training Area Management program.

The greatest impacts to soil resources on installation lands are from military training activities, resulting in similar impacts from past activities described above. Although all current and planned construction activities have the potential for minor adverse impacts to soils through disturbance or removal, best management practices would minimize and mitigate these impacts. Overall, the long-term cumulative impacts to soils resulting from Integrated Natural Resource Management Plan projects proposed under the proposed action would be beneficial.

3.2 VEGETATION

3.2.1 Affected Environment

USAG-AK lands are within the polar domain of Bailey's (1995) ecoregion classification system, which is characterized by low temperatures, severe winters, and relatively low precipitation. These lands are also classified within the subarctic division, which is influenced by cold snowy climate. Dominant forests in the subarctic division are boreal subarctic forests, open lichen woodlands, and taiga.

The Aleutian Shield Fern (*Polystichum aleuticum)* is the only plant species currently listed as federally threatened or endangered in Alaska (USFWS 2004). This species is not found on Fort Richardson, Fort Wainwright, or Donnelly Training Area (U.S. Army Alaska 2002a,b,c).

Additional information can be found in the *Transformation of U.S. Army Alaska Final Environmental Impact Statement* (U.S. Army Alaska 2004).

Fort Richardson

Many different vegetative communities are present on Fort Richardson, from coastal salt marsh and boreal forest types to high alpine tundra, talus slopes, shrub lands, snow beds, heaths, and meadows. An ecological survey of Fort Richardson conducted by Jorgensen et al. (2002) indicates the installation is covered by forest (55.3%), scrub lands (23.7%), barren lands (5.5%), human disturbed lands (13.1%), bog and wetland (1.6%), meadow (0.7%) and water (0.5%). Forest types include white spruce, paper birch, and quaking aspen in upland sites; cottonwood and poplar along principle streams with black spruce in wetter areas; and white spruce, mountain hemlock, and balsam poplar along tree lines. A floristic inventory of Fort Richardson also conducted by Lichvar et al. (1997) included vascular plants, ferns and fern allies, the more common mosses, liverworts, and lichens. The inventory documented 561 vascular species (representing approximately 30% of Alaska's vascular flora types) and 239 non-vascular species. A complete inventory of flora found on Fort Richardson can be found in Fort Richardson's Integrated Natural Resource Management Plan (U.S. Army Alaska 2002b).

The Alaska Natural Heritage Program (2005) tracks rare vascular plant species in Alaska, approximately 21 of which are known to occur on Fort Richardson (U.S. Army Alaska 2002b). Some alpine and wetland areas contain plant species that are considered rare in Alaska or globally imperiled (Lichvar and Sprecher 1998b). USAG-AK also lists three types of vascular plants found on Fort Richardson as species of concern: *Viola selkirkii* is rare in Alaska, *Taraxacum carneocoloratum* is taxonomically questionable but is rare globally and in Alaska, and *Saxifraga adscendens oregonensis* whose status is secure globally but is considered to be rare and imperiled in Alaska. No legal protection is conferred by these listings.

Fort Wainwright

An ecological survey (Jorgensen et al. 1999) of Fort Wainwright (including Main Post, Tanana Flats Training Area and Yukon Training Area) identified 49 vegetation types and indicated the installation

consisted primarily of forest (53.4%), scrub lands (17.5%), tundra (<0.1%), barren lands (0.4%), meadows, bogs, and fens (22.6%), miscellaneous plant community complexes (5.4%), and water (0.8%). Tanana Flats Training Area alone consisted of 41.5% forest and Yukon Training Area, 83.3%. Alder and willow scrub communities are common at Main Post, Tanana Flats Training Area, and Yukon Training Area. Alpine tundra occurs above 2,500 feet in Yukon Training Area, with barren lands occurring at higher altitudes. Vegetation communities found at Fort Wainwright are also described in Racine et al. (1997). Due to the variable climate, as well as physiographic and geographic patterns throughout the region, a wide variety of forest types exist, including White Spruce, Paper Birch, Balsam Poplar, Black Spruce, Spruce/Hardwood, and Quaking Aspen.

A floristic inventory of Fort Wainwright Main Post, Tanana Flats Training Area, and Yukon Training Area identified 217 non-vascular species and 561 vascular species (plants, ferns and fern allies, common mosses, liverworts, and lichens) (Racine et al. 1997). The vascular species represent about 26% of Alaskan vascular plants, as identified by Hultén (1968).

At least 16 species of concern, as identified by the Alaska Natural Heritage Program (2005), are known to occur on Fort Wainwright (U.S. Army Alaska 2002c). USAG-AK has listed four plants of concern that are prioritized for Army posts in interior Alaska: *Apocynum androsaemifolium* is rare in Alaska, *Dodecatheon pulchellum pauciflorum* is taxonomically questionable but is imperiled in Alaska, *Festuca lenensis* is rare in Alaska and globally imperiled, and *Minuartia yukonensis* which is secure globally but is uncommon in Alaska.

Donnelly Training Area

An ecological survey (Jorgensen et al. 2001) reported vegetation cover as forest (29.0%), scrub lands (58.1%), tundra (4.4%), barren lands/partially vegetated (3.6%), human disturbed (0.6%), and water (4.3%). Forests cover at Donnelly Training Area is diverse and includes pure stands of spruce, hardwoods, and spruce/hardwood mixtures. The dominant types include white spruce, paper birch, quaking aspen, balsam poplar, black spruce, and spruce/hardwood. Scrub communities (typically composed of alder, willow, and dwarf birch) occur at high mountain elevations, in small stream-valley bottoms, and as pioneer vegetation on disturbed sites. Dense thickets of scrub communities exist along floodplains or disturbed sites such as gravel pits, road shoulders, rights-of-way, and military trails (U.S. Army Alaska 1980). Most barren areas on Donnelly Training Area are located on gravel bars along the Delta River, the Little Delta River Delta Creek, Jarvis Creek, and Granite Creek (Jorgensen et al. 2001). Barren lands also occur above tree line, along ridges, and adjacent to rivers and streams. Higher elevation sites along the southern portion of Donnelly Training Area support moist tundra, which grades into alpine tundra and then into barren land.

A floristic inventory of Donnelly Training Area (Racine et al. 2001) did not include all possible taxa on post but identified 497 vascular species, representing about 26% of Alaskan vascular plants, as identified by Hultén (1968). At least 18 species of rare vascular plants on Donnelly Training Area are being monitored by the Alaska Natural Heritage Program (2005). Two plant species of concern, *Carex sychnocephala and Dodecatheon pulchellum pauciflorum*, are ranked in USAG-AK's short list of species of concern for ecosystem management.

3.2.2 Environmental Consequences

Alternative 1: Continue Current Integrated Natural Resources Management Plans without Updates (No Action)

Under this alternative, the current Integrated Natural Resource Management Plan would continue to be implemented without revision. The Integrated Training Area Management program (within the watershed

management category) is a component of the Integrated Natural Resource Management Plan that would have the most impacts to vegetation. Impacts of Integrated Training Area Management projects were found to be minor to beneficial in a previous assessment. A complete description is available in the *Integrated Training Area Management Program Management Plan Environmental Assessment* (USAG-AK 2005). Impacts to vegetation from all Integrated Natural Resource Management Plan programs were found to be beneficial in the Environmental Assessment portion of the 2002-2006 Integrated Natural Resource Management Plans. No additional impacts to vegetation are expected to occur under this alternative.

Continuing the current outdoor recreation and use policy including continuing the study for another five years and continued restriction of closed areas in Tanana Flats Training Area would benefit vegetation by limiting recreational use and preventing impacts.

Alternative 2: Implement Updated Integrated Natural Resources Management Plan (Proposed Action)

Under this alternative, the 2007-2011 Integrated Natural Resource Management Plan revision would be implemented. This includes current vegetation management projects described 2002-2006 Integrated Natural Resource Management Plans, plus those described in Section 2.1.2. The overall impacts to vegetation would be beneficial.

Standard procedures that would have beneficial impacts to vegetation include ecosystem management, survey and monitoring, soils and vegetation management, reforestation. These procedures are beneficial because they are designed to stabilize soils, prevent erosion, and protect or enhance vegetation. Proposed vegetation removal is summarized in Table 6 below.

Table 6. Vegetation Removal Proposed in the 2007-2011 Integrated Natural Resource Management Plan.

Vegetation Removal	Average Acres Affected Per Project	Total Acres Affected During Integrated Natural Resource Management Plan Planning Period (2007-2011)	% USAG-AK Land Affected (2007-2011)[1]
Timber Sales	250	2,500	0.157
Firewood/Personal Use	50	750	0.047
Forest Health	250	2,475	0.156
House Log Program	25	650	0.041
Fuel Breaks	250	4,975	0.302
Fuel Reduction	7,500	52,000	3.270

[1]Fort Richardson and Fort Wainwright (including Donnelly Training Area) totals approximately 1,590,000 acres.

Prescribed burning is an effective and efficient means to reduce or prevent the accumulation of hazardous fuels, where permitted, and will be used as a recognized land management practice for natural resources management and fire protection. Even though vegetation would be altered or removed, forest health and wildfire management projects would benefit vegetation by controlling insects, disease, and reducing the threat of catastrophic wildfires. Vegetation removal and prescribed burning would be used to mimic natural disturbance regimes that have been disrupted after many years of wildfire suppression. These actions would reduce the threat of catastrophic wildfires that are difficult to control by reducing

accumulated fuel. Additionally, the removal of insect infected and diseased tress would benefit vegetation by slowing the spread of infection and reducing fire hazard. Fire provides both positive and negative impacts to the environment. Short term loss of vegetation from fire can increase the risk of soil erosion but can also infuse added nutrients to the soil. These impacts are expected to be minor and temporary due to the use of best management practices to stabilize the soil and reduce or prevent erosion.

The decision to use prescribed burning will be based on the safety hazard involved, the hazard that will develop if burning is not accomplished, the type of natural habitat involved, the impact on the areas total ecosystem, and applicable State and local regulations and coordination with the USAG-AK fire department (Army Regulation 200-3). When applied in a safe, carefully controlled situation, it is often the most cost-effective means of achieving management and natural resource objectives. Well placed prescribed burning units can help prevent large wildfires or slow their advance. Standard methods, safety procedures, burn plan requirements and air quality restrictions for prescribed burning (Volume II, Annex C, Integrated Wildland Fire Management Plan and Volume III, Section SC3.2.1, Use of Prescribed Fire) are summarized in the flowing paragraphs.

Because of the potential for unintended circumstances, extensive planning, coordination, and risk management must be completed prior to ignition of any prescribed burn. Prescribed burns also mimic the important ecosystem functions of wildfire while reducing risk to human environments and other resources. USAG-AK, in cooperation with the Alaska Fire Service, conducts prescribed burns on its installations to improve wildlife habitat, to decrease the potential for ignitions and fire escape from live firing, and to increase the size of military training areas. Prescribed burning on USAG-AK lands will only be executed by qualified individuals.

A Prescribed Fire Burn Plan will be completed for each management ignited prescribed fire. Prescribed Burn Plans describe expected results and the conditions necessary to achieve them as part of a vegetation management program. It shall include at a minimum: (1) a description of the burn unit's physical location, including a map, (2) identification of resource management objectives to be accomplished by the prescribed fire, (3) desired effects and tolerable deviations, (4) a fire prescription containing those key parameters needed to achieve desired results (i.e., acceptable fire behavior, acceptable limits of environmental elements) and provisions to record onsite conditions, (5) actions to minimize prescribed fire emissions, evaluate smoke dispersion, public notification, air quality monitoring, and exposure reduction precautions (6) provisions for weather data collection, acceptable parameters, and forecasts, (7) provisions for public safety and protection of sensitive features, (8) provisions for inter/intra agency pre-burn coordination and, where applicable, public involvement and burn day notification to appropriate individuals, agencies, and the public, (9) provisions for line construction, pretreatment, and holding actions to keep the fire within prescription, (10) identification of contingency actions to be taken if the fire exceeds prescription parameters and/or line holding capabilities and cannot be returned to prescription with project resources, and (11) a risk assessment that portrays an estimation of the probabilities and consequences of success/failure to the approving official. A safety plan and a "go, no-go" checklist are required.

The analysis in this Environmental Assessment covers prescribed fires considered basic or intermediate and includes prescribed fires up to 80,000 acres where the difficulty of achieving resource management objectives is not particularly high or complicated, and where the consequences of project failure are less serious and can be mitigated. This classification also includes prescribed fires where achieving resource management objectives is routine and the probable consequences of project failure are low.

Complex prescribed fire is defined as those where prescribed burning occurs under particularly challenging conditions and/or constraints. This classification includes prescribed fires over 80,000 acres

where the difficulty of achieving resource management objectives is high, or where the consequences of project failure may be serious. These complex prescribed burns would require separate NEPA documentation not tiered of off this Environmental Assessment

Employing these standard methods, safety procedures, burn plan requirements and air quality restrictions for prescribed burning described here and in Volume II, Annex C, Integrated Wildland Fire Management Plan and Volume III, Section SC3.2.1, Use of Prescribed Fire, the use of prescribed fire has long term beneficial impacts to vegetation, natural resources and human health and safety. Table 7 provides a summary of potential acreages burned during the INRMP 2007 – 2011 planning period.

Table 7. Potential Acreage of Prescribed Burns by Training Area

USARAK Training Lands	Prescribed Burns (acres per year)				
	2007	2008	2009	2010	2011
Fort Wainwright Main Post	500	500	500	500	500
Tanana Flats Training Area	34,700	34,700	34,700	34,700	34,700
Yukon Training Area	28,500	28,500	28,500	28,500	28,500
Donnelly East Training Area	10,000	10,000	10,000	10,000	10,000
Donnelly West Training Area	89,000	89,000	89,000	89,000	89,000
Gerstle River Training Area	0	0	0	0	0
Black Rapids Training Area	0	0	0	0	0
Fort Richardson	2,500	2,500	2,500	2,500	2,500

Sub-alternative A

This sub-alternative would remove restrictions put in place during the recreational impact study and implement a new recreation policy for Tanana Flats Training Area. Sub-Alternative A would manage Tanana Flats Training Area as an "*open use area*", open to all types of off-road recreational vehicles and recreational activities year round. There would be no restrictions for any off-road recreational vehicles when soil is frozen. During unfrozen conditions, off-road recreational vehicles over 1500 lbs (road vehicles, dune buggies, Argo's, small unit support vehicles etc.) must stay on existing roads and trails. There are no restrictions for off-road recreational vehicles under 1500 lbs (all terrain vehicles, snowmachines, dirt bikes etc.). Motorized watercraft must stay within existing open water channels except within Training Areas 202 and 203 after July 15 when water levels are sufficient to avoid damage to soils and vegetation. Sub-Alternative A would have minor to moderate impacts to soils because no changes to airboat use areas would occur except that airboats would be allowed back in areas closed during the recreation impact study. Water levels would be monitored and airboat use would not be allowed if water levels are too low. Early season restrictions on motorized watercraft in Training Areas 202, 203 and 204 allow regrowth of vegetation at a critical time tin the plants development. This would serve to limit widespread impacts to wetland vegetation.

Sub-alternative B

This sub-alternative would remove restrictions put in place during the recreational impact study and implement a new recreation policy for Tanana Flats Training Area which would be managed as a "*modified use area*". This sub-alternative would be open to all types of off-road recreational vehicles with no restrictions for any off-road recreational vehicles when soil is frozen. All off-road recreational vehicles must stay on existing roads and trails during the summer and motorized watercraft must stay within existing naturally occurring open water channels. This sub-alternative is open to all other recreational activities year round. Minimal impacts to vegetation would result under Sub-alternative B due to moderate limitations on off-road recreational vehicles and airboats. Less recreational use would present fewer impacts to wetland vegetation.

Sub-alternative C

Under Sub-Alternative C, Tanana Flats Training Area would be managed as a "*limited use area*", which is open to all non-motorized recreation (hunting, fishing, trapping, hiking, skiing, and berry picking, etc.) year round but is not open to any type of off-road recreational vehicle at any time. Motorized watercraft must stay within existing naturally occurring open water channels. Sub-alternative C would result in the beneficial impacts to vegetation as all off-road recreational vehicle traffic and motorized watercraft would be restricted from entering Tanana Flats Training Area.

Alternative 3: Suspend Integrated Natural Resources Management Plans

Under this alternative, no components of the Integrated Natural Resource Management Plan would be implemented. Failure to implement the Integrated Natural Resource Management Plan could result in loss of sustainability over the long term, which would ultimately result in a negative impact to the Army mission. No controls at all on recreational use in Tanana Flats would have moderate to severe impacts to vegetation. Damage to vegetation from military training and recreation would not be monitored and repaired under this alternative. USAG-AK lands would no longer be able to support the military mission. Additionally, the lack of wildlife management and forest health projects would create wildfire hazards.

Cumulative Impacts

Past impacts to vegetation resulted primarily from maneuver training exercises, construction of ranges, and construction of range and cantonment infrastructure. Impacts included clearing vegetation for roads, ranges, drop zones, landing strips, and camp sites. Constructed ranges have often required ongoing vegetation modification and some must remain free of high-standing vegetation, which prevents vegetation from progressing through successionary stages. Construction of designated roads has resulted in reduced off-road maneuver travel and vegetation disturbance (U.S. Army Alaska 2004). In 1994, U.S. Army Alaska began efforts to counteract the cumulative effects of military training by establishing the Integrated Training Area Management program.

The greatest impacts to vegetation on installation lands are from military training activities, resulting in similar impacts from past activities described above. The Integrated Training Area Management program was created to monitor, restore, and repair lands damaged by these activities in order to provide sustained use of military training lands while also achieving long-term environmental sustainability. Integrated Natural Resource Management Plan projects and activities also ensure military personnel are aware of requirements to minimize disturbances to vegetation. Although all current and planned construction activities have the potential for minor adverse impacts to vegetation through disturbance or removal, best management practices would minimize and mitigate these impacts. Overall, the long-term cumulative impacts to vegetation resulting from Integrated Natural Resource Management Plan activities under the proposed action would be beneficial.

3.3 WATER RESOURCES

This discussion of water resources includes wetland resources. Additional discussion of wetlands can be found in Sections 3.1, Soil Resources, and 3.2, Vegetation.

3.3.1 Affected Environment

Fort Richardson

Fort Richardson has 12 named lakes and ponds and several unnamed water bodies. The combined area for the named lakes and ponds is 359 acres. Five relatively large lakes, Clunie, Otter, Gwen, Thompson, and Waldon, are managed for recreational fishing. The waters on Fort Richardson are protected by freshwater use classes A, B and C, as assigned by the State of Alaska.

Ship Creek (from the Glenn Highway bridge to the mouth) is listed on the state's 303 (d) list of impaired waters due to excess fecal coliform bacteria, petroleum hydrocarbon, oil, and grease. A total maximum daily load for fecal coliform has been determined. According to Alaska Department of Environmental Conservation studies, most of the pollutants entered Ship Creek as non-point sources from surface water runoff and groundwater downstream of the post, where the watershed is increasingly urbanized. After compiling and reviewing the data, the state concluded that no cumulative or increasing water quality degradation was occurring in the lower portion of Ship Creek (Alaska Department of Environmental Conservation 1996). Water from Ship Creek is diverted for Fort Richardson, Elmendorf Air Force Base, and the Anchorage Municipality. Ship Creek leaves Fort Richardson at the border with Elmendorf Air Force Base.

Eagle River is a glacial waterway that ends at Eagle River Flats, a 2,165 acre estuarine tidal marsh. Eagle River Flats was removed from the state's list of impaired waters after extensive remediation efforts for white phosphorous were shown to be successful (Alaska Department of Environmental Conservation 2002). This site was placed on the national priorities list for investigation and cleanup of hazardous substances (U.S. Army Alaska 1998).

Industrial activities have had some effects on groundwater. Through monitoring, pollution was found to be associated with underground storage tanks, chemical storage facilities, and chemical dumpsites. Fort Richardson was identified as a CERCLA (Superfund) site. These areas are monitored intensively and no indication of deep groundwater pollution has been detected. Pollution has been minor and localized and no significant risks to human health were found. Water quality has improved recently due to Army restoration projects to mitigate previous damage to the groundwater quality (U.S. Army Alaska 2004).

Wetlands comprise approximately 8% (4,990 acres) of Fort Richardson (Lichvar and Sprecher 1998b). Wetland types on the post include estuarine, marine, palustrine, riverine, and lacustrine. They are classified as Coastal Halophytic Zone, Lowland Forest Wetlands, Lacustrine Wetlands, Alpine, and Subalpine Wetlands.

Fort Wainwright

Overall surface water quality on Fort Wainwright is good. The Chena River has been designated for Class A, B, and C uses. Iron concentrations, which stem from natural sources, exceed state secondary water standards. The Chena River portion that runs through Fairbanks and Fort Wainwright is listed on the state's 303 (d) list for impaired waters. The pollutants of concern are petroleum, hydrocarbons, and sediment. The pollutant source is listed as urban runoff. A total maximum daily load for petroleum and hydrocarbons is expected this year (2006).

Due to its remote location, surface water quality data are not collected for much of Tanana Flats Training Area. Data for the Wood and Tanana rivers upstream and downstream of the training area are used to

estimate water quality. However, since these streams are surface-water and spring-fed (not glacier-fed) it is expected that water quality would differ greatly between these rivers and the streams originating within the training area.

Due to lack of human development and activity on the training area, surface waters on Yukon Training Area are relatively pristine. Water bodies originating within Yukon Training Area flow into the Chena River. The waters meet all primary drinking water standards, and iron is the only parameter to exceed the Alaska state secondary drinking water standards. All of Yukon Training Area's surface waters have low rates of primary and secondary productivity and high water quality.

Groundwater in the Fort Wainwright area contains high levels of metals, especially iron. Elevated arsenic levels are prevalent in the upland areas. These are naturally occurring levels and are not related to human-caused pollution (U.S. Army Corps of Engineers 1994).

Industrial activity on Main Post has caused groundwater pollution associated with underground storage tanks, chemical storage facilities, and chemical dumpsites. These areas were identified and are monitored intensively. Pollution at the sites is localized, and monitoring indicates no deep groundwater pollution. Army restoration projects have mitigated damage to groundwater quality, and practices that led to contamination have been discontinued.

Approximately 42% (6,500 acres) of the Main Post is classified as wetlands, with palustrine, riverine, and lacustrine types (Lichvar and Sprecher 1998a). Bogs, fens, and marshes are distributed over the post.

Wetlands comprise about 74% (483,500 acres) of Tanana Flats Training Area (Lichvar and Sprecher 1998a). Most are classified as Lowland Wet Needleleaf Forest and Lowland Forest and Scrub Thermokarst Complexes.

On Yukon Training Area, wetland can be divided into marshes and shrub wetland. Shrub wetland, also known as bogs, muskeg, and low brush, are associated with slightly higher relief on the edges of marshes, and in poorly drained basins and depressions with cold, waterlogged soils.

Donnelly Training Area

Donnelly Training Area's surface waters are diverse and lie entirely within the Tanana River drainage basin. A majority of the larger streams flowing through the area, such as the Delta River and Jarvis Creek, are glacial.

The volume of surface water flow fluctuates dramatically by season. From October to May, flow is limited to groundwater seepage from aquifers into streams and many small streams freeze solid (zero discharge). Any additional streamflow is converted to winter ice overflow, or "aufeis." Aufeis is an ice sheet that forms on a floodplain in winter when channels freeze solid or are otherwise dammed. The additional water spreads out over the frozen surface and freezes. Aufeis can accumulate several meters in thickness and cover large areas of the floodplain in streams such as the Delta River and Jarvis Creek. Snowmelt typically begins in May and reaches its peak in June, coinciding with the peak melting of glaciers. Flows are greatest during June and July. After July, most of the snow has melted, and rainfall sustains a steady flow during August and September.

The State of Alaska has designated the streams on Donnelly Training Area for all use classes (Nancy Sonafrank, personnal communication 2005). Surface water quality values on Donnelly Training Area meet the state's primary drinking water standards. However, aluminum, iron, and manganese

concentrations were higher than the state's secondary standards (U.S. Army Alaska 2004). High iron concentrations are typical in streams that drain wetland areas high in organic matter (Anderson 1970).

Approximately 68% (431,940 acres) of Donnelly Training Area is wetlands (Lichvar 2000), with palustrine, riverine, and lacustrine types included. The palustrine shrub wetlands are the most common found on the training area. The Delta River glaciated lowlands, lower Delta Creek lowlands, and upper Delta Creek lowlands ecosections support most of the wetlands on Donnelly Training Area. Most wetlands are classified as Lowland Wet Low Scrub and Lowland Tussock Scrub and Bog Lowland Wet Forests.

3.3.2 Environmental Consequences

Alternative 1: Continue Current Integrated Natural Resources Management Plans without Updates (No Action)

Under this alternative, the current Integrated Natural Resource Management Plan would continue to be implemented without revision. The Integrated Training Area Management program (within the watershed management category) is a component of the Integrated Natural Resource Management Plan that would have the most impacts to water resources including wetlands. Impacts of Integrated Training Area Management projects were found to be minor to beneficial in a previous assessment. A complete description is available in the *Integrated Training Area Management Program Management Plan Environmental Assessment* (USAG-AK 2005). Impacts to water resources from all Integrated Natural Resource Management Plan programs were found to be beneficial in the Environmental Assessment portion of the 2002-2006 Integrated Natural Resource Management Plans. No additional impacts to water resources are expected to occur under this alternative.

Continuing the current outdoor recreation and use policy would benefit wetlands and surface water on Tanana Flats Training Area because of the continued restriction of all closed areas and continued study of recreation impacts for another five years.

Alternative 2: Implement Updated Integrated Natural Resources Management Plan (Proposed Action)

Under this alternative, the 2007-2011 Integrated Natural Resource Management Plan revision would be implemented. This includes current water resources and wetlands management projects described in the 2002-2006 Integrated Natural Resource Management Plan, plus those described in Section 2.1.2. The overall impacts to wetlands would be beneficial.

Standard procedures that would have beneficial impacts to water resources include ecosystem management, survey and monitoring, reforestation, and watershed management procedures that protect soil and vegetation to prevent sediment from entering waterways.

Procedures with potential adverse impacts to soils include timber sales, firewood collection, house log program, wildfire management, forest health procedures or any other action that involves the removal of vegetation and disturbance of soils. This impact is expected to be minor due to procedures in place to prevent or minimize these impacts including the use of best management practices described in the Integrated Training Area Management Environmental Assessment (USAG-AK 2005). Timber harvesting in wetlands would occur during winter to prevent wetland impacts. Trees would not be removed within 50 feet of streams. Within the next 50 feet, 50% of trees would be retained to protect surface waters from sedimentation.

Ecosystems in Alaska, particularly Interior Alaska, are dependant on periodic natural disturbances including fire. Fire provides both positive and negative impacts to the environment. Short term loss of vegetation from fire can decrease water quality but can also infuse added nutrients to the soil. These impacts are expected to be minor and temporary due to the use of best management practices to stabilize the soil and reduce or prevent erosion. Standard methods, safety procedures, and air quality restrictions for prescribed burning (Volume II, Annex C, Integrated Wildland Fire Management Plan and Volume III, Section SC3.2.1, Use of Prescribed Fire) are already approved and used by the Bureau of Land Management Alaska Fire Service.

Wildlife management procedures would benefit water resources by reducing the chances of large uncontrolled wildfire that can lead to erosion and reduced water quality.

Trespass structure abatement and removal would be beneficial to wetlands, especially when structures contain hazardous materials.

Sub-alternative A
This sub-alternative would remove restrictions put in place during the recreational impact study and implement a new recreation policy for Tanana Flats Training Area. Sub-Alternative A would manage Tanana Flats Training Area as an "*open use area*", open to all types of off-road recreational vehicles and recreational activities year round. There would be no restrictions for any off-road recreational vehicles when soil is frozen. During unfrozen conditions, off-road recreational vehicles over 1500 lbs (road vehicles, dune buggies, Argo's, small unit support vehicles etc.) must stay on existing roads and trails. No restrictions for off-road recreational vehicles under 1500 lbs (all terrain vehicles, snowmachines, dirt bikes etc.). Motorized watercraft must stay within existing open water channels except within Training Areas 202 and 203 after July 15 when water levels are sufficient to avoid damage to soils and vegetation. Sub-Alternative A would have minor to moderate impacts to wetlands because no changes to airboat use areas would occur except that airboats would be allowed back in areas closed during the recreation impact study. Water levels would be monitored and airboat use would not be allowed if water levels are too low. This would serve to limit widespread impacts to wetlands. Protecting natural and wildlife created dams would help to protect and maintain the natural hydrological systems in Tanana Flats Training Area.

Sub-alternative B
This sub-alternative would remove restrictions put in place during the recreational impact study and implement a new recreation policy for Tanana Flats Training Area which would be managed as a "*modified use area*". This sub-alternative would be open to all types of off-road recreational vehicles with no restrictions for any off-road recreational vehicles when soil is frozen. All off-road recreational vehicles must stay on existing roads and trails during the summer and motorized watercraft must stay within existing naturally occurring open water channels. This sub-alternative is open to all other recreational activities year round. Minor impacts to wetlands would result under Sub-alternative B due to moderate limitations on off-road recreational vehicles and airboats. Less recreational use would present fewer impacts to wetlands.

Sub-alternative C
Under Sub-Alternative C, Tanana Flats Training Area would be managed as a "*limited use area*", which is open to all non-motorized recreation (hunting, fishing, trapping, hiking, skiing, and berry picking, etc.) year round but is not open to any type of off-road recreational vehicle at any time. Motorized watercraft must stay within existing naturally occurring open water channels. Sub-alternative C would result in the beneficial impacts to wetlands as all off-road recreational vehicle traffic and motorized watercraft would be restricted from entering Tanana Flats Training Area.

Alternative 3: Suspend Integrated Natural Resources Management Plans

Under this alternative, no components of the Integrated Natural Resource Management Plan would be implemented. Failure to implement the Integrated Natural Resource Management Plan could result in loss of sustainability over the long term, which would ultimately result in a negative impact to the Army mission. No controls at all on recreational use in Tanana Flats would have moderate to severe impacts to vegetation. Damage to wetlands from military training and recreation would not be monitored and repaired under this alternative. USAG-AK lands would no longer be able to support the military mission. This action would have severe adverse impacts to water quality. In particular, discontinuing watershed management projects would have negative impacts to water resources by not allowing for monitoring, maintenance, or repair of damage; not integrating training with environmental protection; and not educating soldiers about procedures for training near waterways. This would result in sediment in waterways from uncontrolled erosion.

Cumulative Impacts

The region of influence for water resource impacts resulting from the proposed action would be limited to USAG-AK lands and areas immediately adjacent. Past impacts to water resources include sedimentation, explosive munitions training, and localized contamination (U.S. Army Alaska 2004). Current and future construction, training, and non-military activities may all impact water resources. Integrated Natural Resource Management Plan projects would monitor and repair the impacts caused by training and recreation. Additionally, best management practices exist to mitigate construction impacts to water quality. Integrated Natural Resource Management Plan activities would therefore contribute long-term beneficial cumulative impacts to water resources.

3.4 WILDLIFE AND FISHERIES

3.4.1 Affected Environment

Wildlife and fisheries management on USAG-AK lands has traditionally supported recreational and subsistence use, maintenance of populations and habitats, and preservation of biological diversity. Wildlife and fish populations and their habitats are managed cooperatively by USAG-AK, the Alaska Department of Fish and Game, and the U.S. Fish and Wildlife Service.

No federal or state listed threatened or endangered species have been found on USAG-AK lands (U.S. Army Alaska 2002a,b,c). The State of Alaska maintains a list of sensitive species, endangered species, and species of special concern for wildlife. Table 8 lists wildlife species of concern found on USAG-AK lands. These state listed species are not afforded legislative protection (Alaska Department of Fish and Game 1998). More information on wildlife and fisheries can be found in the *Transformation of U.S. Army Alaska Final Environmental Impact Statement* (U.S. Army Alaska 2004).

Table 8. State of Alaska Listing of Species of Concern Found on USAG-AK Lands.

Common Name	Scientific Name	USAG-AK Lands
American peregrine falcon[1]	*Falco pereginus anatum*	Fort Richardson, Occasional Fort Wainwright, Donnelly Training Area
Northern goshawk (southeast population)	*Accipter gentiles laingi*	Occasional Fort Richardson
Olive-sided flycatcher[2]	*Contopus cooperi*	Fort Richardson, Fort Wainwright, Donnelly Training Area
Gray-cheeked thrush	*Catharus minimus*	Fort Richardson, Fort Wainwright, Donnelly Training Area
Townsend's warbler	*Dendroica townsendii*	Fort Richardson, Fort Wainwright, Donnelly Training Area

Common Name	Scientific Name	USAG-AK Lands
Blackpoll warbler	*Dendroica striata*	Fort Richardson, Fort Wainwright, Donnelly Training Area
Brown bear (Kenai Peninsula population)	*Ursus arctos horribilis*	Possible Fort Richardson
Harbor seal	*Phoca vitulina*	Occasional Fort Richardson
Beluga whale (Cook Inlet population)	*Delphinapterus leucas*	Occasional Fort Richardson

Source: Alaska Department of Fish and Game 1998.
[1]Downlisted from the Alaska Endangered Species List.
[2]Category 2 Candidate Species Under Federal Endangered Species Act.

Fort Richardson

Mammals

Large mammals on Fort Richardson include black bear, grizzly bear, moose, and Dall sheep. Small game and furbearers found on Fort Richardson include coyote, lynx, red squirrel, snowshoe hare, hoary marmot, pine marten, beaver, river otter, wolverine, red fox, porcupine, mink, beaver, muskrat, and ermine or short-tailed weasel.

Two wolf packs inhabit the east side of the Glenn Highway and another pack probably occupies the west side, near Eagle River Flats (Kellie Peirce, personal communication 2002). The Ship Creek pack occupies the eastern portion of Fort Richardson, and the Eagle River Flats pack occupies the western portion.

In recent years, beluga whales have been sighted within Eagle River Flats, as far as 1¼ miles up the Eagle River and in Cook Inlet adjacent to Elmendorf Air Force Base. Beluga whales have also been observed pursuing salmon along rivers (Quirk 1994). Harbor seals and orca whales are sighted occasionally.

Avian Species

Surveys have identified 75 species of birds in the tidal salt marsh, including 24 species of waterfowl (U.S. Army Alaska 2004). Additionally, approximately 40 species of passerines and neotropical migratory birds and 6 species of raptors are found at Fort Richardson (Gossweiler 1984; CH2M Hill 1994; Andres et al. 2001; U.S. Army Alaska 2002b; Schempf 1995).

Three species on the list of Priority Species for Conservation are confirmed to be on Fort Richardson (Boreal Partners in Flight Working Group 1999). These include the Northern shrike, varied thrush, and blackpoll warbler. The golden-crowned sparrow, also a priority species, is found on Fort Richardson.

Reptiles and Amphibians

One species of amphibian, the wood frog, is commonly found in bogs, freshwater and saltwater marshes, and lake margins on post. Wood frogs are important prey species for sandhill cranes (CH2M Hill 1994). No reptiles occur on Fort Richardson.

Fisheries

Ten species of fish are found in Fort Richardson's lakes and waterways. Four lakes on Fort Richardson (Clunie, Gwen, Otter, and Walden) are stocked under the Fort Richardson Army Base Subdistrict Plan (Alaska Department of Fish and Game 2002). In addition, chinook and coho salmon are stocked in Ship Creek under the Alaska Department of Fish and Game Enhancement Plan (Alaska Department of Fish and Game 2002)

Wild populations of game fish include king salmon, chum salmon, silver salmon, red salmon, pink

salmon, and Dolly Varden. Fort Richardson's only significant nongame fish are the three-spine stickleback and the slimy sculpin.

Fort Wainwright

Mammals

Large mammals on Fort Wainwright include black bear, grizzly bear, moose, and caribou. Tanana Flats Training Area is particularly important for moose and supports the state's largest population. Caribou have historically used Yukon Training Area and Tanana Flats Training Area, but populations have declined over the years, possibly due to predation and severe winters (U.S. Army Alaska 2004).

Fifteen species of furbearers inhabit Tanana Flats Training Area and Yukon Training Area. These include wolverines, coyotes, lynx, red fox, pine marten, wolves, snowshoe hare, and red squirrel. Other species include muskrat, beaver, and four species of weasel. River otter exist, but they are not common (U.S. Army Alaska 2004).

Known small mammals include five vole species, two lemming species, two species of mice, and four species of shrew. The little brown bat is found in wooded areas and in abandoned buildings. Introduced mammals such as the house mouse, Norway rat, and woodchuck also exist in the cantonment area of Main Post.

Avian Species

Spruce grouse, ruffed grouse, and ptarmigan are common in the region. Grouse hunting is popular at Yukon Training Area and they are also harvested on Main Post. The variety of nongame birds on lands associated with Fort Wainwright includes at least 58 passerines. Benson (1999) observed 61 species of birds during a 1998 survey at Tanana Flats Training Area.

Although no threatened, endangered, or species of special concern were observed, several Priority Species for Conservation (Boreal Partners in Flight Working Group 1999) were observed. In addition, six species of woodpecker, the rock dove, Rufous hummingbird, and belted kingfisher have been observed on these lands.

At least 25 species of waterfowl and 20 species of raptors use Fort Wainwright (BLM and U.S. Army 1994). Twenty-six species of shorebirds, three gull species, and the Arctic tern have also been observed (U.S. Army Alaska 1999). Four species of loon and two types of grebes have been observed to use waterways on Fort Wainwright and associated lands (U.S. Army Alaska 1999).

Reptiles and Amphibians

The wood frog is the only amphibian species found at Fort Wainwright. No reptiles exist on Fort Wainwright.

Fisheries

Most ponds or lakes on Fort Wainwright do not support fish populations during winter. However, a stocking program provides recreational fishing opportunities for the public during summer. Stocked lakes include River Road Pond, Monterey Lake, Weigh Station Ponds 1 and 2, and Manchu Lake.

The Tanana River supports seasonal populations of Arctic grayling, king salmon, chum salmon, sheefish, humpback whitefish, round whitefish, Arctic lamprey, least cisco, Alaska blackfish, burbot, longnose sucker, northern pike, slimy sculpin, and lake chub.

The Chena and Salcha rivers support Arctic grayling, king salmon, chum salmon, sheefish, humpback whitefish, round whitefish, Arctic lamprey, least cisco, Alaska blackfish, burbot, longnose sucker, northern pike, slimy sculpin, and lake chub. These rivers and clear-running tributaries are important spawning areas for summer chum and king salmon. Horseshoe Lake, located in the northwest corner of the Yukon Training Area, supports a native population of northern pike (BLM and U.S. Army 1994).

Donnelly Training Area

Mammals

Large mammals on Donnelly Training Area include black bear, grizzly bear, moose, Dall sheep, caribou, and bison. Donnelly Training Area typically has three or four wolf packs, although the structure, distribution, and numbers of packs in a given area are highly variable. Other furbearers on the training area include lynx, beaver, river otter, pine marten, muskrat, mink, coyotes, red fox wolverine and four species of weasel. Anderson et al. (2000) conducted a small mammal survey at Donnelly Training Area. Eleven species of small mammals were found in this study.

Avian Species

Several upland game species are found on Donnelly Training Area, including three species of both ptarmigan and grouse. Twenty-eight species of ducks and geese use lands and waterways on the training area. Approximately 300,000 sandhill cranes, a large portion of the world's population, migrate through Donnelly Training Area from late April through mid-May.

Anderson et al. (2000) reported sightings of black-backed woodpecker, gray-cheeked thrush, varied thrush, bohemian waxwing, Townsend's warbler, blackpoll warbler, Smith's longspur, and rusty blackbird. The dark-eyed junco, savanna sparrow, Wilson's warbler, and orange-crowned warbler were observed most frequently.

A variety of other bird species are found on Donnelly Training Area including three loon, two grebe, three gull, one tern, one dove, one hummingbird, one kingfisher, and six woodpecker.

Reptiles and Amphibians

Wood frogs are the only amphibians on Donnelly Training Area. No reptiles exist on Donnelly Training Area.

Fisheries

Donnelly Training Area West is within the Fairbanks Management Area for fisheries and Donnelly Training Area East is within the Delta Junction Management Area. Sixteen lakes on Donnelly Training Area, ranging from three to 320 acres, are stocked. Naturally occurring populations of lake chub, northern pike, sculpin, and the northern longnose sucker are found in lakes at Donnelly Training Area (BLM and U.S. Army 1994).

Major streams on Donnelly Training Area are generally silt laden and do not support fisheries. Jarvis Creek and the Delta River are glacially fed and flow from the north side of the Alaska Range to the Tanana River. Downstream of Donnelly Training Area, the Tanana River provides year-round habitat for some species, overwintering habitat for others, and supports migratory species. The mouth of the Delta River is important to chum salmon. Grayling migrate through these glacial streams to clear tributaries to spawn, and a few clear streams provide summer habitat for grayling (Parker 2004).

3.4.2 Environmental Consequences

Alternative 1: Continue Current Integrated Natural Resources Management Plans without Updates (No Action)

Under this alternative, the current Integrated Natural Resource Management Plan would continue to be implemented without revision. Impacts to wildlife and fisheries from Integrated Natural Resource Management Plan programs were found to be beneficial in the Environmental Assessment portion of the 2002-2006 Integrated Natural Resource Management Plans. No additional impacts to wildlife and fisheries are expected to occur under this alternative.

The continued current outdoor recreation and use policy and five year recreational impacts study on Tanana Flats Training Area would be beneficial to wildlife and fisheries because recreational use would be limited.

Alternative 2: Implement Updated Integrated Natural Resources Management Plan (Proposed Action)

Under this alternative, the 2007-2011 Integrated Natural Resource Management Plan revision would be implemented. This includes current wildlife and fisheries management projects described in the 2002-2006 Integrated Natural Resource Management Plan, plus those described in Section 2.1.2. The overall impacts under this alternative would be beneficial.

Standard procedures that would benefit wildlife and fisheries through habitat improvements include ecosystem management, survey and monitoring, watershed management procedures, reforestation, and urban forestry.

Hunting, fishing, and trapping on Army lands are regulated by state statute under the authority of the Alaska Department of Fish and Game. USAG-AK wildlife and fish harvest procedures benefit fish and wildlife by managing harvests for sustained growth and reproduction to ensure optimum harvest levels and protection of all species. Fish stocking and pike removal benefit fisheries by promoting populations of desirable fish species.

Forestry and wildfire management procedures would have minor temporary impacts to wildlife. Ecosystems in Alaska, particularly Interior Alaska, are dependant on periodic natural disturbances including fire. Even though vegetation would be altered or removed, forest health and wildfire management projects would benefit vegetation by controlling insects, disease, and reducing the threat of catastrophic wildfires. Vegetation removal and prescribed burning would be used to mimic natural disturbance regimes that have been disrupted after many years of wildfire suppression. Fire provides both positive and negative impacts to the environment. Vegetation removal and prescribed burns would disturb wildlife during the duration of forestry activities. Once vegetation is removed, habitat fragmentation may adversely affect large predators (especially wolverine and grizzly bear), caribou, and certain raptors or neotropical migratory birds. Species preferring forest openings, edge habitat, diversity in vegetation cover, and early successional species would benefit. Reducing the threat of large scale uncontrolled fires through wildfire management would benefit wildlife by protecting habitat. Standard methods, safety procedures, and air quality restrictions for prescribed burning (Volume II, Annex C, Integrated Wildland Fire Management Plan and Volume III, Section SC3.2.1, Use of Prescribed Fire) are already approved and used by the Bureau of Land Management Alaska Fire Service..

Sub-alternative A

This sub-alternative would remove restrictions put in place during the recreational impact study and implement a new recreation policy for Tanana Flats Training Area. Sub-Alternative A would manage

Tanana Flats Training Area as an "*open use area*", open to all types of off-road recreational vehicles and recreational activities year round. There would be no restrictions for any off-road recreational vehicles when soil is frozen. During unfrozen conditions, off-road recreational vehicles over 1500 lbs (road vehicles, dune buggies, Argo's, small unit support vehicles etc.) must stay on existing roads and trails. No restrictions for off-road recreational vehicles under 1500 lbs (all terrain vehicles, snowmachines, dirt bikes etc.). Motorized watercraft must stay within existing open water channels except within Training Areas 202 and 203 after July 15 when water levels are sufficient to avoid damage to soils and vegetation. Sub-Alternative A would have minor to moderate impacts to wildlife and fisheries, as early season restrictions would protect migration and nesting. Water levels would be monitored and airboat use would not be allowed if water levels are too low which would serve to limit damage to wildlife habitat. Protecting natural and wildlife created dams would help to protect and maintain the natural hydrological systems in Tanana Flats Training Area. After July 15th, species would be temporarily disturbed during recreational use.

Sub-alternative B

This sub-alternative would remove restrictions put in place during the recreational impact study and implement a new recreation policy for Tanana Flats Training Area which would be managed as a "*modified use area*". This sub-alternative would be open to all types of off-road recreational vehicles with no restrictions for any off-road recreational vehicles when soil is frozen. All off-road recreational vehicles must stay on existing roads and trails during the summer and motorized watercraft must stay within existing naturally occurring open water channels. This sub-alternative is open to all other recreational activities year round. This sub-alternative would have minor to beneficial impacts to wildlife and fisheries, as early season restrictions would protect migration and nesting. Minor impacts to fisheries and wildlife would result under Sub-alternative B due to moderate limitations on off-road recreational vehicles and airboats. Less recreational use would present fewer impacts to wildlife and fisheries and their associated habitat.

Sub-alternative C

Under Sub-Alternative C, Tanana Flats Training Area would be managed as a "*limited use area*", which is open to all non-motorized recreation (hunting, fishing, trapping, hiking, skiing, and berry picking, etc.) year round but is not open to any type of off-road recreational vehicle at any time. Motorized watercraft must stay within existing naturally occurring open water channels. Sub-alternative C would result in the beneficial impacts to fisheries and wildlife and their associated habitat as all off-road recreational vehicle traffic and motorized watercraft would be restricted from entering Tanana Flats Training Area.

Alternative 3: Suspend Integrated Natural Resources Management Plans

Under this alternative, no components of the Integrated Natural Resource Management Plan would be implemented. Failure to implement the Integrated Natural Resource Management Plan could result in loss of sustainability over the long term, which would ultimately result in a negative impact to the Army mission. No controls at all on recreational use in Tanana Flats would have moderate to severe impacts to vegetation. Impacts to fisheries and wildlife habitats from military training and recreation would not be monitored and repaired under this alternative. USAG-AK lands would no longer be able to support the military mission. This action would have severe adverse impacts to water quality. In particular, discontinuing watershed management projects would have negative impacts to fisheries and wildlife habitats by not allowing for monitoring, maintenance, or repair of damage; not integrating training with environmental protection; and not educating soldiers about procedures for minimizing disturbance. Training land rehabilitation, maintenance, and range improvements would cease despite continued use of land for Army training. In the absence of Integrated Natural Resource Management Plan projects, the benefits for improving and monitoring habitat and wildlife would cease. Elimination of outreach and awareness programs would cause moderate adverse impacts due to unintended or negligent military

activity. Similarly, fish and wildlife would be impacted by no longer protecting sensitive habitats from being damaged, including wetland and riparian areas.

Cumulative Impacts

Past activities on USAG-AK lands have adversely impacted wildlife and fisheries through gradual habitat loss, exposure to toxic materials, and noise (U.S. Army Alaska 2004). Current and new construction projects would have additional adverse impacts on wildlife and fisheries. However, activities under the proposed action would add beneficial long-term effects to the overall cumulative impacts on this resource through habitat improvement projects such as revegetation, vegetation management, wetlands reclamation, streambank stabilization, and other stream habitat improvement activities. Monitoring the impacts of training activities and adapting management actions to accommodate changing conditions would also have a beneficial cumulative impact.

3.5 PUBLIC ACCESS AND RECREATION

3.5.1 Affected Environment

U.S. Army Alaska's primary mission is to maintain and enhance the combat readiness of its soldiers. USAG-AK also recognizes the responsibility to allow public access to military lands in compliance with the Sikes Act, which requires public access to military installations to the extent that such use is consistent with the military mission and the protection of fish and wildlife resources. Public access is subject to requirements deemed necessary to ensure safety and military security.

Military lands in Alaska provide desirable areas for recreational activities. They contain many stocked lakes and significant game populations in relatively close proximity to the more highly populated areas in Alaska. These lands include the immediate post lands and adjoining lands under military control for training. Recreational uses include hunting, fishing, trapping, off-road recreational vehicle use, hiking, boating, picnicking, berry picking, bird-watching, skiing, and dog sledding.

Fort Richardson, Fort Wainwright, and Donnelly Training Area have four primary categories of recreation use areas: Open Use, Modified Use, Limited Use, and Off-Limits areas. All recreational categories are subject to periodic change or restrictions. The categories are defined in the 2007-2011 Integrated Natural Resource Management Plan. Additional information regarding public access and recreation on USAG-AK lands including access policies and the USARTRAK call-in system can be found in the 2007-2011 Integrated Natural Resource Management Plan and in *Transformation of U.S. Army Alaska Final Environmental Impact Statement* (U.S. Army Alaska 2004).

Fort Richardson

At Fort Richardson, moose is the most favored game species and salmon the number one fish species. Other outdoor activities include hiking, camping, small game hunting, berry picking, woodcutting, and dog sledding. Road access onto Fort Richardson is possible primarily from the Glenn Highway, the main gate, or along Arctic Valley Road. The post is also accessible via Richardson Drive from Elmendorf Air Force Base. Additionally, USAG-AK allows Eagle River rafting traffic to enter Fort Richardson lands. Paved and unimproved roads cover much of the northern and central portions of the post. Two Off-Road Recreational Vehicle access trails exist on post and connect green spaces near the cantonment area to more remote locations. Trails also connect the post to Chugach State Park and the Municipality of Anchorage's Far North Bicentennial Park, which share Fort Richardson's southern boundary.

Fort Wainwright

Hunting and fishing are the main recreational activities occurring on Fort Wainwright lands. Data show that 21% of the interior Alaska moose harvest occurs on military lands, while 2.3% of the Interior caribou harvest and 2.1% of the sheep harvest are also on military-controlled lands (ADFG 2001). The most popular fish species are salmon and trout. Other recreational activities include hiking, camping, small game hunting, berry picking, and dog sledding.

Access is allowed on many parts of Fort Wainwright Main Post. Roads and trails are both plentiful, and the open spaces remaining in the Fort Wainwright cantonment area are important contributors to recreation opportunities for post inhabitants. The core cantonment area consists of landscaped yards, office buildings, ball fields and open fields. Hunting and Off-Road Recreational Vehicle use is not permitted in the cantonment area.

Access to Tanana Flats Training Area is more difficult than to other parts of Fort Wainwright. Tanana Flats Training Area is bordered by the Tanana and Wood rivers and there are no bridges into the training area. Ground vehicles can access Tanana Flats Training Area in winter on constructed ice bridges. Summer access is by boat or plane only. Most of the training area is wetlands and largely categorized as a Modified Use area. Yukon Training Area is readily accessible from the ground. Access is primarily available via Manchu Road through Eielson Air Force Base. Additional access is possible via Johnson Road, which connects to the Richardson Highway.

Off-Road Recreational Vehicle Use in Tanana Flats Training Area

The amount of airboat use in Tanana Flats Training Area has increased almost 20% since 1989 (263 km of permanent trails in 1989 to 314 km in 1999). In 1989, the total length of trails was 263 km, of which 37% (99 km) were heavily used main trails, 54% (143 km) were less-used secondary trails, and 8% (22 km) were trails on existing streams. By 1995, the total length of airboat trails had increased by 15%, to 303 km. During that period, trails were extended toward the southeast into the Tanana Flats, from 17 km from the Tanana River access points in 1989 to 26 km by 1995 (Racine et. al. 1998). By 1999, total length of trails in northwest Tanana Flats Training Area had expanded to 314 km. These 314 km trails impact approximately 161 acres of sensitive wetlands, 78 acres of which are permanently damaged by main trails (U.S. Army Alaska 2001), which do not recover within a few years like abandoned secondary trails (Racine et. al.1998).

Most airboat traffic into the fens occurs after July 15th annually. Over 83.2% of airboat traffic during 2003 and 2004 occurred after July 15 (ABR, Inc. 2005). Noise monitors were placed at four locations (Little Rusty, Upper Rusty, Tree Trail, Willow Creek) to measure the distribution and timing of airboat use. Over 62% of airboat passes occurred at the tree trail entrance to the fens and 32% (2003) and 24% (2004) of the traffic went into the closed area of the study (ABR, Inc. 2005).

Airboats are well suited for use on the shallow Chena and Tanana Rivers, as well as on a unique system of floating mat fens in Tanana Flats Training Area (Racine et. al. 1998). Evidence based on a 1989 study on the environmental impacts of airboats on the Tanana Flats suggested that the floating mats should be fairly resistant to airboat damage (Racine et. al 1990). However, further evidence, as outlined in a more detailed 1995 study appearing in *Arctic*, showed that “the vegetation and soils of floating mat fens in the Tanana Flats have been severely damaged along main airboat trails: there are over 100 km of trails with open-water, stream-like channels on which all of the emergent vegetation and about 50% of the underlying mat have been destroyed” (Racine et. al. 1998).

The number of airboats in Alaska has grown since 1989 and likely will continue to increase. The number of areas available for airboat use in state has decreased since 1989. Spatial distribution of trails in Tanana Flats Training Area is likely to increase in the future as users increase and available areas decrease.

Airboats produce a greater amount of noise than any other off-road recreational vehicle. Noise is the number one complaint about airboats from non-airboat recreational users. Recreational users have reported to have heard an airboat approaching while it was still over one mile away. It is clear that commanders may not designate Off-Road Recreational Vehicle areas near noise sensitive areas such as housing, schools, churches, or areas where noise or vehicular emissions would be an irritant to inhabitants. Balancing noise concerns in non-sensitive areas between user groups is more difficult.

In interior Alaska, the U.S. Fish and Wildlife Service has designated primary migratory bird breeding and nesting season to be between May 1 and July 15. Airboats on Tanana Flats Training Area are primarily used from May through July for general recreation and August through October for hunting. Early season restrictions could serve to protect wildlife species during breeding and nesting while allowing access for hunting. Hunter access and success is very important for the State of Alaska to manage the moose herd in 20A. An additional solution would be to stop expansion of current airboat area, but continue to allow use of existing airboat trails for hunting access.

Donnelly Training Area

Recreational opportunities at Donnelly Training Area are similar to those found on Fort Wainwright. In addition to ground access and roads, much of Donnelly Training Area is available to Off-Road Recreational Vehicles and aerial access. Off-Road Recreational Vehicle and winter trails exist across both the eastern and western training areas. The 33-Mile Loop Road is one of the more popular trail systems on Donnelly Training Area East. Donnelly Training Area West is accessible in winter when the Delta River is frozen over, or by air or boat in summer.

Donnelly Training Area East is primarily managed as Open Use. The exception is Jarvis Creek and some isolated wetland areas that are considered Limited Use areas. As portions of Donnelly Training Area West are primarily designated as impact area, most of the central training area is Off-Limits. Modified and Open Use areas exist to the north and south, along the northern boundary of the training area and the foothills of the Alaska Range.

3.5.2 Environmental Consequences

Alternative 1: Continue Current Integrated Natural Resources Management Plans without Updates (No Action)

Under this alternative, the current Integrated Natural Resource Management Plan would continue to be implemented without revision. Outdoor recreation management is a component of the Integrated Natural Resource Management Plan that would have the most impacts to public access and recreation. Impacts from all Integrated Natural Resource Management Plan programs were found to be beneficial in the Environmental Assessment portion of the 2002-2006 Integrated Natural Resource Management Plans. No additional impacts to public access and recreation are expected to occur under this alternative.

Since the purpose of other Integrated Natural Resource Management Plan projects such as (soil, vegetation, wetlands, and water resources management) is to minimize the impacts of Army training on USAG-AK lands, Integrated Natural Resource Management Plan projects would enhance the quality of Army lands for public recreation. Specifically, the impact of Integrated Training Area Management projects has been assessed and is available in the *Integrated Training Area Management Program Management Plan Environmental Assessment* (USAG-AK 2005). Recreational activities may be temporarily restricted in some areas where projects would be conducted. However, these access closures would be temporary, localized, and have minor adverse effects on public access and recreation. Access for public recreation would be improved through maneuver trail upgrades and maintenance.

The current outdoor recreation and use policy and recreational use study at Tanana Flats Training Area would continue under this alternative for another five years. Areas currently off-limits to motorized recreation would remain closed having moderate impacts to recreation.

Alternative 2: Implement Updated Integrated Natural Resources Management Plan (Proposed Action)

Under this alternative, the 2007-2011 Integrated Natural Resource Management Plan revision would be implemented. This includes current recreation management projects described in the 2002-2006 Integrated Natural Resource Management Plan, plus those described in Section 2.1.2. Overall, Integrated Natural Resource Management Plan projects benefit recreation by providing users with improved aesthetics and quality of natural resource-based recreation. Minor impacts would result from temporary closures.

Watershed management procedures may result in minor temporary access closures resulting in minor impacts to recreation. Forestry and wildfire management procedures may result in temporary closures and have aesthetic impacts. The firewood and house log programs provide additional opportunities for public access of timber resources.

Fish and wildlife management procedures would benefit recreation by improving hunting, fishing, and wildlife viewing opportunities. Use of the USARTRAK call-in system and installation access policy would benefit public access and recreation by streamlining the reporting process for USAG-AK and the check-in process for the user.

The land use policy at Fort Richardson would not greatly impact public access and recreation. Existing recreational opportunities would remain available. New uses by the public may be made available as long as they are temporary, non-commercial, low-impact uses that are consistent with training and the military mission. These new uses will be evaluated on a case-by-case basis.

The new off-road recreational vehicle policy would benefit public access and recreation by clarifying when off-road recreational vehicles may or may not be used. Minor negative impacts would occur when off-road recreational vehicles are restricted from certain areas. The subsistence policy allows for the harvest of subsistence resources, but this policy does not differ from hunting, fishing, and access policies for the general public.

Sub-Alternative A

This sub-alternative would remove restrictions put in place during the recreational impact study and implement a new recreation policy for Tanana Flats Training Area. Sub-Alternative A would manage Tanana Flats Training Area as an "*open use area*", open to all types of off-road recreational vehicles and recreational activities year round. There would be no restrictions for any off-road recreational vehicles when soil is frozen. During unfrozen conditions, off-road recreational vehicles over 1500 lbs (road vehicles, dune buggies, Argo's, small unit support vehicles etc.) must stay on existing roads and trails. No restrictions for off-road recreational vehicles under 1500 lbs (all terrain vehicles, snowmachines, dirt bikes etc.). Motorized watercraft must stay within existing open water channels except within Training Areas 202 and 203 after July 15 when water levels are sufficient to avoid damage to soils and vegetation. Sub-Alternative A would have minor impacts to recreational use. Early season restrictions may affect bear hunting. Opening up Training Areas 202 and 203 after July 15th (July 16th to August 15th based on water level) would not impact moose hunting.

Sub-Alternative B

This sub-alternative would remove restrictions put in place during the recreational impact study and implement a new recreation policy for Tanana Flats Training Area which would be managed as a "*modified use area*". This sub-alternative would be open to all types of off-road recreational vehicles with no restrictions for any off-road recreational vehicles when soil is frozen. All off-road recreational vehicles must stay on existing roads and trails during the summer and motorized watercraft must stay within existing naturally occurring open water channels. This sub-alternative is open to all other recreational activities year round. This sub-alternative would have moderate impacts to recreation and would cause moderate impacts to moose hunting.

Sub-alternative C
Under Sub-Alternative C, Tanana Flats Training Area would be managed as a "*limited use area*", which is open to all non-motorized recreation (hunting, fishing, trapping, hiking, skiing, and berry picking, etc.) year round but is not open to any type of off-road recreational vehicle at any time. Motorized watercraft must stay within existing naturally occurring open water channels. Sub-alternative C would result in the severe impacts to recreational use as all off-road recreational vehicle traffic and motorized watercraft would be restricted from entering Tanana Flats Training Area. Moose and bear hunting would be severely impacted.

Alternative 3: Suspend Integrated Natural Resources Management Plans
Under Alternative 3, all components of the Integrated Natural Resource Management Plan program would discontinue operation. Failure to implement the Integrated Natural Resource Management Plan could result in loss of sustainability over the long term, which would ultimately result in a negative impact to the Army mission. No controls at all on recreational use in Tanana Flats would have short term beneficial impacts to recreational use, but could cause moderate to severe impacts in the long run. USAG-AK lands would no longer be able to support the military mission. This action would have severe adverse impacts to water quality. Training land rehabilitation, maintenance, and range improvements would cease despite continued use of land for Army training. In the absence of Integrated Natural Resource Management Plan projects, the benefits for improving and monitoring habitat and wildlife would cease. Elimination of outreach and awareness programs would cause moderate adverse impacts due to unintended or negligent military activity.

Cumulative Impacts
Past military activities have had adverse impacts to public access and recreation through permanent closure of some areas (such as impact areas) and temporary closures of lands for training. However, construction of roads and trails on Army properties have led to beneficial impacts by improving public accessibility to USAG-AK lands for recreational purposes (U.S. Army Alaska 2004).

All current and planned construction activities have the potential to adversely impact public access and recreation. Construction activities typically result in temporary closures of certain areas for the duration of construction projects. Integrated Natural Resource Management Plan projects would contribute little to cumulative impacts on public access and recreation. Actions involving access closures would result in minor impacts, while actions involving maintenance would improve access.

The largest impacts to public access and recreation result from military training activities. In comparison, the overall cumulative impact of Integrated Natural Resource Management Plan activities to public access and recreation under the proposed action would be minor adverse to beneficial.

3.6 CULTURAL RESOURCES

3.6.1 Affected Environment

Cultural resources include features and objects dating to the prehistoric and historic periods that are found or are likely to be found as defined by the National Historic Preservation Act of 1966 (as amended). Management of cultural resources on federal lands depends on eligibility of resources for inclusion in the National Register of Historic Places. Additionally, properties of traditional and religious importance relating to Alaska Native villages may be determined eligible for listing in the National Register of Historic Places. Such sites may also be considered sacred sites and are generally referred to as traditional cultural properties. Traditional Cultural Properties are expected to closely relate to traditional subsistence, cultural, and religious practices on lands managed by USAG-AK.

Subsistence has been legally defined to include the customary and traditional uses of fish, plant materials and game for Alaska's rural residents. Food is one of the most important subsistence uses of wild resources. However, there are other important uses of subsistence products, such as clothing, fuel, transportation, construction, home goods, sharing, customary trade, ceremony, arts and crafts. Harvesting of non-game resources, such as edible or medicinal plants, is determined by public access (when and where). There are no federal restrictions on the season, take, and eligibility of rural residents for non-game resources. Additional sections in this Environmental Assessment related to subsistence include Section 3.5, Wildlife and Fisheries, and Section 3.6, Public Access and Recreation.

Additional information on cultural resources and subsistence on USAG-AK lands can be found in the *Transformation of U.S. Army Alaska Final Environmental Impact Statement* (U.S. Army Alaska 2004) and the *Final Environmental Impact Statement for the Construction and Operation of a Battle Area Complex and Combined Arms Collective Training Facility* (U.S. Army Alaska 2006).

Fort Richardson

Cultural Resources

Archeological surveys suggest the existence of several prehistoric sites, most likely contained within the moraine features scattered across Fort Richardson. Several potential locations of both historical and ethnographic significance exist, including portions of the Iditarod Historic Trail.

Historic building surveys on Fort Richardson have addressed only the Nike Site Summit and select Cold War-era buildings. As a result of these surveys' findings, the Nike Site Summit was nominated and approved for inclusion in the NHRP as a historic district.

Subsistence

Fort Richardson lies within the traditional lands of the Dena'ina, Athabaskans. The closest Dena'ina village to Fort Richardson is the Native Village of Eklutna, located approximately 25 miles north of the cantonment area and post entrance. The Native Village of Knik and many other communities from further up Knik Arm traditionally traveled to the Anchorage area with the June king salmon runs. It is known that many communities in the Cook Inlet region traditionally used a wide variety of subsistence resources that are present today on Fort Richardson. It is hoped that a better understanding of subsistence use and traditional use areas on Fort Richardson will be gained through ongoing coordination efforts.

The Federal Subsistence Board delineated a Fort Richardson and Elmendorf Air Force Base Management Area (consisting of Fort Richardson and Elmendorf military reservations). Under the "special provisions" for Management Unit 14, the Fort Richardson and Elmendorf Management Area is closed to subsistence taking of wildlife per the 2004-2005 Subsistence Management Regulations. Subsistence take under the customary and traditional use determinations are permitted for areas in Management Unit 14C other than

Fort Richardson and Elmendorf Air Force Base. Hunting and fishing on For Richardson is permitted under State of Alaska general hunting and fishing regulations.

Fort Wainwright

Cultural Resources

Archaeological surveys conducted on Fort Wainwright located six archaeological sites on Main Post. Only one site has been evaluated for eligibility for National Register of Historic Places listing and it was determined not eligible. The remaining five sites have not been evaluated.

The entire Fort Wainwright Main Post has been inventoried and evaluated for eligibility for inclusion in the National Register of Historic Places under the World War II and the Cold War historic contexts. Under the World War II context, Ladd Field, which has been designated a National Historic Landmark, includes 38 buildings and structures.

Under the Cold War context, Main Post has been identified and determined eligible for inclusion, but has not been formally nominated for listing. A study of Ladd Air Force Base's historic context was completed in 2000 (Price 2000). All buildings on Fort Wainwright were evaluated under the Cold War context. This resulted in the identification of the Ladd Air Force Base Historic District, which includes 71 buildings and structures.

Seven surveys conducted in the Yukon Training Area identified fifteen archaeological sites. Thirteen of the sites are not eligible for listing in the NHRP because they were located in highly disturbed areas. Two sites have not been evaluated for eligibility.

No building surveys have been conducted in Tanana Flats Training Area. Based on studies conducted by U.S. Army Alaska, no historic buildings are expected to exist on the training area (Neely 2001; Neely 2002; Price 2002).

Two surveys conducted on Yukon Training Area revealed eight archaeological sites. Six of the sites are not eligible for listing in the NHRP because they were located in highly disturbed areas. Two sites have not been evaluated for eligibility.

Two Nike Missile sites existed on Yukon Training Area, Site Mike and Site Peter. Each site consisted of a Battery Control Area and a Launch Area. Due to clean-up activities in the late 1980s and early 1990s, these sites no longer have historic integrity and are not eligible for inclusion in the NHRP (Denfeld 1988, 1994).

An early mining study indicates that no significant mining activities occurred on Yukon Training Area (Neely 2001). The Pine Creek mining complex in the northeastern corner of Yukon Training Area was listed as a potential historic property (Higgs et al. 1999); however, based on the early mining study (Neely 2001), it is ineligible for listing in the NHRP. No other historic buildings are expected to exist on Yukon Training Area.

Subsistence

While the Federal Subsistence Management Board does not manage Fort Wainwright for subsistence [50 CFR 100.3(d)], USAG-AK recognizes the areas importance to the subsistence way of life. Fort Wainwright training areas fall within the traditional lands of Tanana and Tanacross Athabaskans. Traditional settlement patterns focused on a widely mobile and seasonal lifestyle, with the fall caribou and moose hunt playing a pivotal role in subsistence preparations for the winter while summer activities were focused on fish camps, berry/root collecting and sheep hunting (McKennan 1981). Fish and moose

continue to play a primary role in Interior communities near Fort Wainwright training area lands, including Gerstle River and Black Rapids training areas (Martin 1983, Marcotte 1991, personal communication with tribal representatives from the Interior 2000 and 2001). Plant gathering continues to be a focus in the spring, summer and fall, with residents from Dot Lake, for example, traveling as far as Donnelly Dome, Delta Junction and Eielson Air Force Base to collect berries, roots, and plant resources (Martin 1983). Due to the size and relatively remote location of Fort Wainwright, natural resources and wildlife populations important for subsistence are fairly well preserved.

Donnelly Training Area

Cultural Resources

Twenty-three archaeological investigations have been conducted on Donnelly Training Area to date. Three hundred twenty sites were identified, with 13 of these comprising two archaeological districts. Sixty-six sites have been evaluated for National Register of Historic PLaces listing, 25 of which are eligible. These investigations have covered 45,810 acres (approximately 8%) of Donnelly Training Area. The majority of the archaeological surveys conducted in Donnelly Training Area have been limited to Donnelly Training Area East, which makes up only 25% the training area. Because of its remote setting, the archaeology of Donnelly Training Area West is poorly understood and represents a gap in the understanding of the area's prehistory.

A study on early trails identified a number of historic trails on Donnelly Training Area (Neely 2002). This study, however, only identified the Donnelly-Washburn Winter Cut-Off Trail as having potential eligibility for inclusion in the National Register of Historic Places.

It is expected that traditional cultural properties will be identified on Donnelly Training Area and will consist of sites and landmarks that reflect the seasonality of subsistence activities. USAG-AK and the U.S. Air Force 611th CES have an ongoing project, contracted to Tanana Chiefs Conference, Inc., to identify and evaluate Traditional Cultural Properties that may be present on military managed lands in the interior of Alaska, including Donnelly Training Area. No information has been provided to date on USAG-AK managed lands. A final report is expected at the end of 2005.

Subsistence

While the Federal Subsistence Management Board does not manage Donnelly Training Area for subsistence [50 CFR 100.3(d)], USAG-AK recognizes the areas importance to the subsistence way of life. Regional populations with recognized subsistence interests on USAG-AK lands include Healy Lake Traditional Council, Dot Lake Village Council, Native Village of Tanacross, Native Village of Tetlin, Northway Traditional Council, Delta Junction, Big Delta, Deltana, and Dry Creek. Data gathering on subsistence activities on (and around) USAG-AK lands is currently ongoing.

Immediately south of Donnelly Training Area East, and running along the length of the Richardson Highway to the town of Glennallen, are vast tracks of federal land that is managed to allow a subsistence harvest preference for large game animals. The close proximity of these lands to a major public highway also offers ready access to game and plant resources.

3.6.2 Environmental Consequences

Alternative 1: Continue Current Integrated Natural Resources Management Plans without Updates (No Action)

Under this alternative, the current Integrated Natural Resource Management Plan would continue to be implemented without revision. The Integrated Training Area Management program (within the watershed management category) is a component of the Integrated Natural Resource Management Plan that would

have the most impacts to cultural resources. Impacts of Integrated Training Area Management projects were found to be minor to beneficial to cultural resources in a previous assessment. A complete description is available in the *Integrated Training Area Management Program Management Plan Environmental Assessment* (USAG-AK 2005). Impacts to cultural resources from all Integrated Natural Resource Management Plan programs were found to be beneficial in the Environmental Assessment portion of the 2002-2006 Integrated Natural Resource Management Plans. No additional impacts to cultural resources are expected to occur under this alternative.

Alternative 2: Implement Updated Integrated Natural Resources Management Plan (Proposed Action)

Under this alternative, the 2007-2011 Integrated Natural Resource Management Plan revision would be implemented. This includes current projects affecting cultural resources described under Alternative 1 plus additional proposals included in the 2007-2011 Integrated Natural Resource Management Plan. Before natural resource projects begin, site-specific cultural resource analysis would take place in order to avoid impacts. As a result, minor to beneficial impacts are expected under this alternative.

Any Integrated Natural Resource Management Plan project involving ground disturbing activities has the potential to impact cultural resources. This may include ecosystem management projects, watershed management projects, forestry and wildfire management projects, and outdoor recreation management. Survey and monitoring would not impact cultural resources. Outreach would have beneficial impacts to cultural resources by informing users about the importance of cultural resource protection.

Wildlife, fisheries, and vegetation traditionally important for subsistence would benefit under Alternative 2. See Sections 3.2, Vegetation; 3.5, Wildlife and Fisheries; and 3.6, Public Access and Recreation for potential impacts to these resources.

Sub-alternative A

This sub-alternative would remove restrictions put in place during the recreational impact study and implement a new recreation policy for Tanana Flats Training Area. Sub-Alternative A would manage Tanana Flats Training Area as an "*open use area*", open to all types of off-road recreational vehicles and recreational activities year round. There would be no restrictions for any off-road recreational vehicles when soil is frozen. During unfrozen conditions, off-road recreational vehicles over 1500 lbs (road vehicles, dune buggies, Argo's, small unit support vehicles etc.) must stay on existing roads and trails. No restrictions for off-road recreational vehicles under 1500 lbs (all terrain vehicles, snowmachines, dirt bikes etc.). Motorized watercraft must stay within existing open water channels except within Training Areas 202 and 203 after July 15 when water levels are sufficient to avoid damage to soils and vegetation. Sub-Alternative A would have minor to moderate impacts to cultural resources.

Sub-alternative B

This sub-alternative would remove restrictions put in place during the recreational impact study and implement a new recreation policy for Tanana Flats Training Area which would be managed as a "*modified use area*". This sub-alternative would be open to all types of off-road recreational vehicles with no restrictions for any off-road recreational vehicles when soil is frozen. All off-road recreational vehicles must stay on existing roads and trails during the summer and motorized watercraft must stay within existing naturally occurring open water channels. This sub-alternative is open to all other recreational activities year round. Minor to beneficial impacts to cultural resources would result under Sub-alternative B due to moderate limitations on off-road recreational vehicles and airboats. Less recreational use would present fewer impacts to cultural resources.

Sub-alternative C

Under Sub-Alternative C, Tanana Flats Training Area would be managed as a "*limited use area*", which is open to all non-motorized recreation (hunting, fishing, trapping, hiking, skiing, and berry picking, etc.) year round but is not open to any type of off-road recreational vehicle at any time. Motorized watercraft must stay within existing naturally occurring open water channels. Sub-alternative C would result in the beneficial impacts to cultural resources as all off-road recreational vehicle traffic and motorized watercraft would be restricted from entering Tanana Flats Training Area.

Alternative 3: Suspend Integrated Natural Resources Management Plans

Under Alternative 3, all components of the Integrated Natural Resource Management Plan would discontinue operation. This action would have severe impacts to cultural resources and subsistence. Soldiers would not be educated about the importance of avoiding cultural sites and the proper notification for newly discovered sites would not ensure that mission requirements do not interfere with cultural resources. Wildlife, fisheries, and vegetation important for subsistence would not be protected. Programs and projects that allow for continued access to resources would not occur.

Cumulative Impacts

Past activities may have impacted cultural resources by disturbing or destroying undocumented or undiscovered cultural sites. Additional impacts could result from current and planned construction projects, training activities, and recreation. Activities under the proposed action would add beneficial to minor adverse cumulative impacts to cultural resources. Standard procedures for cultural resource management identified in the *Integrated Training Area Management Program Management Plan Environmental Assessment* (USAG-AK 2005) would serve to prevent adverse impacts through the Integrated Training Area Management program. Maintenance and repair projects could contribute to the negative cumulative impacts of all other ground-disturbing activities.

Past activities have impacted subsistence resources by altering habitat, restricting access, and military training. Additional impacts could result from current and planned construction projects, training activities, and recreation. Activities under the proposed action would add beneficial impacts to subsistence resources by improving access roads and trails and by improving habitat.

3.7 AIR QUALITY

The Clean Air Act (CAA) authorizes the Environmental Protection Agency (EPA) to establish national ambient air quality standards (NAAQS) to protect public health and the environment. Standards for the six criteria air pollutants have been adopted by the State of Alaska. These include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, inhaleable particulate matter, and lead. Carbon monoxide (CO) and particulate matter (PM) are specific pollutants of concern for Alaskan communities. More information on air quality can be found in the *Transformation of U.S. Army Alaska Final EIS* (USARAK 2004).

3.7.1 Affected Environment

Fort Richardson

While the city of Anchorage is subject to maintenance plan requirements for CO and the Eagle River area is in a nonattainment area for PM_{10}, Fort Richardson is not within either of these areas.

Fort Richardson is in attainment with the NAAQS for all the criteria air pollutants.

Fort Wainwright

The Fairbanks North Star Borough nonattainment area for CO was redesignated from nonattainment to attainment for CO by the EPA on 27 September 2004 (Fed. Reg. 27 July 2004 (69FR44601-44607). Areas classified as attainment but operating under a maintenance plan are referred to as maintenance areas. Areas of Fort Wainwright located within the Fairbanks North Star Borough maintenance area are subject to general conformity regulations to ensure that federal activities do not interfere with the pollutant limits set in state implementation plans. A portion of Fort Wainwright is located within this maintenance area.

Ice fog is an air pollution problem in interior Alaska caused by man-made sources of water vapor. It can occasionally occur for weeks at a time, whenever temperatures go below -35° F. Cooling waters from power plants are the largest single source. Automobiles are next in importance because of their wide-ranging mobility and exhaust pipes close to ground level. Also, many cars are left with engines idling for hours at a time during very cold weather (Benson 1970).

Donnelly Training Area

Donnelly Training Area is designated as an attainment area for the six regulated NAAQS and is permitted as a separate facility from Fort Wainwright. Since the annual potential emission is less than 100 tons for any of the criteria pollutants, no air quality operating permit is required at this time.

Fugitive dust is typically generated from daily industrial activities such as bulk material handling, storage, and construction projects. The Delta River and Jarvis Creek are large sources of fugitive dust during wind events in summer, and sometimes during winter months. Driving heavy machinery, construction equipment, and personal and tactical vehicles on unpaved surfaces can also generate fugitive dust.

No air quality monitoring data exists for Donnelly Training Area or for any of the surrounding communities. Particulate sampling equipment was recently installed at Fort Greely, but insufficient data have been collected to provide an accurate measure of air quality relative to this pollutant. Air quality at Donnelly Training Area approximates natural baseline conditions, given the low density of human development and emission sources present. While Donnelly Training Area does experience periodic episodes of ice fog, they are generally short in duration. Strong and persistent temperature inversions do occur but, due to the limited number of emission sources, the inversions are unlikely to cause pollutant levels that exceed the NAAQS.

3.7.2 Environmental Consequences

Alternative 1: Continue Current Integrated Natural Resources Management Plans without Updates (No Action)

With the exception of prescribed burning, projects listed in the current Integrated Natural Resource Management Plan generally have no impacts to air quality. Therefore few additional impacts to air quality are expected under this alternative. Impacts from prescribed burning would be considered minor and temporary.

Alternative 2: Implement Updated Integrated Natural Resources Management Plan (Proposed Action)

Similar to Alternative 1, prescribed burning is the only proposed project in the updated Integrated Natural Resource Management Plan to have adverse air quality impacts. Since prescribed burning would increase under this alternative, minor to moderate air quality impacts are expected. These impacts would be temporary, lasting for the duration of the prescribed burn. A permit from Alaska Department of

Environmental Conservation is required prior to prescribed burns exceeding 40 acres per year. Additionally, Alaska Department of Environmental Conservation requires a smoke management plan to mitigate the nuisance, health, and safety hazards to roadways, airports, and smoke sensitive features (such as hospitals, schools, and clinics). The smoke management plan also addresses compliance with Alaskan Ambient Air Quality Standards and visibility impacts.

Alternative 3: Suspend Integrated Natural Resources Management Plans

Air quality would not likely be affected under Alternative 3, because Integrated Natural Resource Management Plan projects do not address air quality.

Cumulative Impacts

All past, current and planned construction projects and training activities have local air quality impacts. These impacts consist of dust generated from ground and vegetation disturbance due to construction and training, increased use of unimproved roads for Stryker training, and use of motorized construction equipment. Procedures outlined in the *Integrated Training Area Management Program Management Plan Environmental Assessment* (USAG-AK 2005) would serve to mitigate dust generation through use of dust control best management practices during construction activities. The proposed action would add to these air quality impacts through increased smoke emissions from prescribed burning.

CHAPTER 4: PREPARERS AND CONTRIBUTORS

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CHAPTER 6: AGENCIES AND INDIVIDUALS CONTACTED

APPENDIX A: INRMP FIVE-YEAR PROJECT LIST

This is a proposed project list that will be continually updated. All projects may not be implemented within five years and additional projects may be added. Additional similar projects may be added to this list during 2007-2011.

Location	Standard Practice Category	Project Title	Approximate Acres Impacted
BRTA	Suppression	Conduct fire suppression activities as necessary.	450
DTA East	Erosion Control and Streambank Stabilization	33 Mile Loop Phase 1A and 1B	75
DTA East	Erosion Control and Streambank Stabilization	33 Mile Loop Road Phase 8A and B	75
DTA East	Erosion Control and Streambank Stabilization	33 Mile Loop Road Shortcut Upgrade	60
DTA East	Erosion Control and Streambank Stabilization	Big Lake Road Upgrade and Repair	35
DTA East	Erosion Control and Streambank Stabilization	Big Lake/Windy Ridge Trail Upgrade Phase 1	40
DTA East	Erosion Control and Streambank Stabilization	Buffalo Drop Zone Access Phase 1-2	40
DTA East	Erosion Control and Streambank Stabilization	Butch Training Area Training Area Recovery Plan	250
DTA East	Erosion Control and Streambank Stabilization	Dome Road Upgrade and Repair	30
DTA East	Erosion Control and Streambank Stabilization	Donnelly Training Area Training Area Recovery Plan	300
DTA East	Erosion Control and Streambank Stabilization	J Lake Access Control	45
DTA East	Erosion Control and Streambank Stabilization	J- Lake Gabion Repair	5
DTA East	Erosion Control and Streambank Stabilization	Jarvis East Training Area Training Area Recovery Plan	400
DTA East	Erosion Control and Streambank Stabilization	Jarvis West Training Area Training Area Recovery Plan	350
DTA East	Erosion Control and Streambank Stabilization	Ober Training Area Training Area Recovery Plan	325
DTA East	Erosion Control and Streambank Stabilization	Observation Post 2A FOB Upgrade	25
DTA East	Erosion Control and Streambank Stabilization	Observation Post Training Area Training Area Recovery Plan	275
DTA East	Erosion Control and Streambank Stabilization	Old Richardson Highway Upgrade	45
DTA East	Erosion Control and Streambank Stabilization	OP Road Drainage Upgrades	20
DTA East	Erosion Control and Streambank Stabilization	Windy Ridge Road Upgrade and Repair Phase 1-2	65
DTA East	Forest Land Improvement	BAX / CACTF	400
DTA East	Forest Land Improvement	Bolio Lake Training Area Timber Stand Improvement	350
DTA East	Forest Land Improvement	Donnelly Training Area Fuel Reduction	450
DTA East	Forest Land Improvement	Jarvis North Training Area Timber and	600

Location	Standard Practice Category	Project Title	Approximate Acres Impacted
		Maneuverability Improvement Project	
DTA East	Forest Land Improvement	Personal use firewood and house log areas	250
DTA East	Forest Land Improvement	Texas Range *AK 316 2823 JM AA85	100
DTA East	Forest Land Improvement	Wills Range Complex, Buffalo DZ Eddy DZ	400
DTA East	Habitat Improvement	Delta River Bison Range Habitat Enhancement	250
DTA East	Habitat Management	Bison habitat enhancement	50
DTA East	Habitat Management	Moose Habitat Enhancement	250
DTA East	Suppression	Conduct fire suppression activities as necessary.	100,000
DTA East	Vegetation Management	Bison Plot Vegetation Management – Burn, Fertilize and Mow	75
DTA East	Vegetation Management	Buffalo Drop Zone Vegetation Management – Burn / Mow	400
DTA East	Vegetation Management	Wills Range Complex DTA Prescribed Burn	1500
DTA East	Wildland Fire Management	Break up large continuous fuels in areas requiring fire suppression status.	20,000
DTA East	Erosion Control and Streambank Stabilization	Meadows Road Upgrade and Repair Phase 1-2	75
DTA West	Forest Land Improvement	Donnelly West Fuel Break	1,500
DTA West	Forest Land Improvement	Hays Lake Fuel Break	275
DTA West	Forest Land Improvement	Lakes Impact Area	5,000
DTA West	Forest Land Improvement	Oklahoma Impact Area *AK 316 2823 JM AA88	4,000
DTA West	Suppression	Conduct fire suppression activities as necessary.	500,000
DTA West	Vegetation Management	Nevada Lakes Impact Area, DTA Prescribed Burn	80,000
DTA West	Wildland Fire Management	Break up large continuous fuels in areas requiring fire suppression status.	100,000
FRA NP	Erosion Control and Streambank Stabilization	Clunie Lake Road Widening Phase 1, 2 and 3	65
FRA NP	Erosion Control and Streambank Stabilization	Engineer Expressway Widening Phase 1-4	80
FRA NP	Erosion Control and Streambank Stabilization	Fire Tower Ridge Road Widening Phase 1-3	65
FRA NP	Erosion Control and Streambank Stabilization	FRA Training Area Recovery Plan	375
FRA NP	Fish and Wildlife Habitat Improvement	Moose Habitat Enhancement	250
FRA NP	Forest Improvement	Waldon Lake Training Area Timber and Maneuverability Improvement Project	225
FRA NP	Forest Land Improvement	ISBC, IPBC and DMPTR	750
FRA NP	Invasive Species Control	Pike Removal and Monitoring on FRA	2
FRA NP	Invasive Species Control	Pike Telemetry in Otter Lake	2
FRA NP	Suppression	Conduct fire suppression activities as necessary.	35,000
FRA NP	Wildland Fire Management	Break up large continuous fuels in areas requiring fire suppression status.	20,000
FRA SP	Erosion Control and Streambank Stabilization	Bulldog Trail Widening Phase 2-5	60
FRA SP	Erosion Control and Streambank	M16 Record Range (widen service roads to 20	20

Location	Standard Practice Category	Project Title	Approximate Acres Impacted
	Stabilization	feet)	
FRA SP	Erosion Control and Streambank Stabilization	M16 Record Range Berm erosion control (144) berms	25
FRA SP	Erosion Control and Streambank Stabilization	Training Area Recovery Plan	425
FRA SP	Fish and Wildlife Habitat Improvement	Moose Habitat Enhancement	250
FRA SP	Forest Improvement	Ft. Richardson Small Arms Complex Fuel Break	275
FRA SP	Forest Improvement	Grezelka Range Area Timber Stand Improvement	150
FRA SP	Forest Land Improvement	Grezelka Prescribed Burn AK 316 2823 JM AA43	200
FRA SP	Forest Land Improvement	Malamute DZ Prescribed Burn AK 316 2823 JM AA43	400
FRA SP	Suppression	Conduct fire suppression activities as necessary.	25,000
FRA SP	Vegetation Management	Grezelka Fuels Management	125
FRA SP	Wildland Fire Management	Break up large continuous fuels in areas requiring fire suppression status.	15,000
FWA Main Post	Erosion Control and Streambank Stabilization	MPMG Firing Positions Upgrade	25
FWA Main Post	Erosion Control and Streambank Stabilization	NBC Parking Upgrade	10
FWA Main Post	Erosion Control and Streambank Stabilization	Training Area Recovery Plan	500
FWA Main Post	Forest Land Improvement	Personal use firewood and house log areas	150
FWA Main Post	Forest Land Improvement	Small Arms Range Prescribed Burn AK 316 2824 JW AA44	400
FWA Main Post	Habitat Management	Moose Habitat Enhancement	150
FWA Main Post	Suppression	Conduct fire suppression activities as necessary.	14,000
FWA Main Post	Vegetation Management	Small Arms Complex Firebreak	1,000
FWA Main Post	Wildland Fire Management	Break up large continuous fuels in areas requiring fire suppression status.	5000
GRTA	Habitat Management	Alaska Department of Fish and Game Bison Range	400
GRTA	Suppression	Conduct fire suppression activities as necessary.	21,000
GRTA	Wildland Fire Management	Break up large continuous fuels in areas requiring fire suppression status.	10,000
TFTA	Forest Land Improvement	Alpha Impact Area Prescribed Burn	4,000
TFTA	Habitat Improvement	Tanana Flats Moose Habitat Enhancement Prescribed Burning	4,500
TFTA	Suppression	Conduct fire suppression activities as necessary.	650,000
TFTA	Vegetation Management	Alpha Impact Area Burn	30,000
TFTA	Wildland Fire Management	Break up large continuous fuels in areas requiring fire suppression status.	200,000
YTA	Erosion Control and Streambank Stabilization	BDE CQM 25-Meter Range	15
YTA	Erosion Control and Streambank	Bravo Battery FOB	75

Location	Standard Practice Category	Project Title	Approximate Acres Impacted
	Stabilization		
YTA	Erosion Control and Streambank Stabilization	Brigadier Road Upgrade	65
YTA	Erosion Control and Streambank Stabilization	CACTF Trail Upgrade	35
YTA	Erosion Control and Streambank Stabilization	Charlie Battery Forward Operations Base	90
YTA	Erosion Control and Streambank Stabilization	DMPTR/IPBC Forward Operations Base Phase 1-3	125
YTA	Erosion Control and Streambank Stabilization	Drivers Training Course Phases 1-5	78
YTA	Erosion Control and Streambank Stabilization	Husky Drop Zone Forward Operations Base – Phase 1, 2 and 3	250
YTA	Erosion Control and Streambank Stabilization	Husky DZ Access Road Phase 2	75
YTA	Erosion Control and Streambank Stabilization	IPBC Range Berm erosion control	80
YTA	Erosion Control and Streambank Stabilization	Johnson, Skyline, Brigadier and Quarry Road Upgrade	200
YTA	Erosion Control and Streambank Stabilization	Training Area 6 Fuels Break	300
YTA	Erosion Control and Streambank Stabilization	Training Area Recovery Plan	400
YTA	Erosion Control and Streambank Stabilization	Warrior Forward Operations Base Phase 3	125
YTA	Erosion Control and Streambank Stabilization	YTA Convoy Live Fire Range Phase 1 and 2	100
YTA	Erosion Control and Streambank Stabilization	YTA Demolition Range Phase 1-3	120
YTA	Erosion Control and Streambank Stabilization	YTA Firing Point 11 Upgrade	50
YTA	Erosion Control and Streambank Stabilization	YTA Firing Point 12 Upgrade	50
YTA	Erosion Control and Streambank Stabilization	YTA Firing Point 13 Upgrade	50
YTA	Erosion Control and Streambank Stabilization	YTA Firing Point Direct Fire	40
YTA	Erosion Control and Streambank Stabilization	YTA OP Shack Upgrade	40
YTA	Forest Land Improvement	Husky DZ Prescribed Burn AK 316 2823 JM AA70	300
YTA	Forest Land Improvement	ISBC, IPBC and DMPTR Prescribed Burn	750
YTA	Forest Land Improvement	Manchu Range Prescribed Burn AK 316 2823 JM AA05	450
YTA	Forest Land Improvement	Moose Creek Timber Stand Improvement	200
YTA	Forest Land Improvement	Personal use firewood and house log areas	250
YTA	Forest Land Improvement	Stuart Creek East Fuel Break	800
YTA	Forest Land Improvement	Yukon Training Area Timber and Maneuverability Improvement Project	400
YTA	Habitat Improvement	Grouse Habitat Enhancement	75

Location	Standard Practice Category	Project Title	Approximate Acres Impacted
YTA	Habitat Management	Moose Habitat Enhancement	200
YTA	Habitat Management	Ruffed Grouse habitat enhancement; Yukon Training Area	75
YTA	Suppression	Conduct fire suppression activities as necessary.	250,000
YTA	Vegetation Management	Moose Creek Burn	200
YTA	Vegetation Management	Vegetation Management – General Phase 1	500
YTA	Wildland Fire Management	Break up large continuous fuels in areas requiring fire suppression status.	150,000

APPENDIX B: STANDARD PRACTICES

Standard Practice Category	Standard Practice	Standard Practice Description
Natural Resources Planning	Natural Resources Technical Support	Provide natural resources technical support to include natural resource planning, providing technical recommendations, etc.
Natural Resources Planning	Management Plan Preparation, Review, and Update	Prepare, review, and update natural resource management plans, to include the Integrated Natural Resource Management Plan (Integrated Natural Resources Management Plan) and the Ecosystem Management Plan.
Natural Resources Planning	Agreement preparation, review, and update	Prepare, review, and update natural resource memorandum of understanding, memorandum of agreements, and cooperative agreements.
Natural Resources Planning	Conservation Report Preparation, Review, and Update	Prepare, review, and update natural resources and conservation reports, such as Installation Status Report, Environmental Program Requirement Report, and EQR.
Natural Resources Planning	Workplan preparation, review, and update	Prepare natural resources and conservation work plans, obligation plans, and other project and budget forecasting and managing documents. Develop and recommend potential natural resource projects to be included in work plans.
Natural Resources Planning	Natural Resource Geographic Information System Planning	Utilize the Geographic Information System to conduct natural resources planning projects.
Natural Resources Planning	Natural Resource National Environmental Policy Act Requirements	Prepare, coordinate, review, and update National Environmental Policy Act documents for natural resources projects, programs, policies, and management plans.
Natural Resources Planning	National Environmental Policy Act Project Oversight	Conduct oversight of National Environmental Policy Act documents and processes for USAG-AK projects.
Natural Resources Planning	National Environmental Policy Act Project Review	Conduct National Environmental Policy Act project review for USAG-AK projects.
Natural Resources Outreach	Conservation Web Site	Prepare, update, and maintain information to be included on the USAG-AK conservation web site.
Natural Resources Outreach	Environmental Newsletter	Prepare, update and distribute environmental newsletter.
Natural Resources Outreach	Develop Training/Education Materials	Prepare, update, coordinate, publish, and distribute natural resources training and education materials.
Natural Resources Outreach	Conduct Presentations/Briefings/Training	Prepare, coordinate, and conduct natural resources presentations, briefings, and training.
Natural Resources Project Management	Plan Natural Resource Projects	Conduct project planning by inventory and identification of potential sites, project development which is accomplished using the project development worksheet, and project prioritization.
Natural Resources Project Management	Design Natural Resource Projects	Conduct project design by providing specific project designs. Project designs include site plans, cost estimates, scopes of work, and bill of materials required for each project.
Natural Resources Project Management	Coordinate Natural Resource Activities	Conduct project coordination by coordinating forestry activities by providing project planning and oversight, technical assistance and design; and coordinating National Environmental Policy Act, wetland and cultural activities related to project oversight and management.
Natural Resources Project Management	Provide Project Oversight	Provide project oversight by monitoring project progress and execution. Report results back to federal project manager and COR.
Geographic Information Systems	Spatial Data Acquisition and Input	Collect spatial field data necessary for analysis and map production. Acquire spatial data from a variety of sources.

Standard Practice Category	Standard Practice	Standard Practice Description
		Input spatial data into the Geographic Information System using a variety of methods, to include download, digitizing, and re-projecting data from outside sources to Alaska standards.
Geographic Information Systems	Spatial Data Management	Spatial data storage involves developing and maintaining data storage, procedures, and standards necessary to protect Geographic Information System data. Spatial data maintenance includes all the actions necessary to update and maintain data and metadata per Army standards.
Geographic Information Systems	Decision Support	Spatial data analysis is the heart of the Geographic Information System and sets Geographic Information System apart from being merely a cartographic map making system. Data analysis allows creation of new data layers from existing data layers, enabling a number of powerful tools to support decision making.
		Spatial data access and distribution involves the actions required to promote access to the Geographic Information System database and distribution of spatial data to the many Geographic Information System users.
		Produce hardcopy and digital spatial data products for garrison, mission, units, other agencies, and higher command.
Watershed and Wetlands Planning	Watershed and Wetlands Management Plan Preparation, Review, and Update.	Prepare, review, and update watershed and wetland management plans, to include the soil resources management plan, soil and water quality management plan, and the wetland management plan.
Watershed and Wetlands Planning	Watershed and Wetlands Geographic Information System Planning	Utilize Geographic Information System to conduct landscape scale management of watershed and wetland resources.
Watershed and Wetlands Planning	Watershed/Wetland National Environmental Policy Act Requirements	Prepare, coordinate, review, and update National Environmental Policy Act documents for wetland and watershed projects, programs, policies, and management plans.
Watershed and Wetlands Inventory and Monitoring	Conduct Wetland Monitoring	Conduct monitoring of wetlands on military land to assess the impacts of military training and recreational use.
Watershed and Wetlands Inventory and Monitoring	Wetland Planning Level Survey	Conduct wetlands planning level survey.
Watershed and Wetlands Inventory and Monitoring	Soil and Water Quality Monitoring	Conduct Soil and water quality monitoring
Watershed and Wetlands Inventory and Monitoring	Soils Planning Level Survey	Conduct Soils planning level survey
Watershed and Wetlands Inventory and Monitoring	Floristics Planning Level Survey	Conduct floristics planning level survey
Watershed and Wetlands Inventory and Monitoring	Vegetation Communities Planning Level Survey	Conduct vegetation communities planning level survey
Watershed and Wetlands Inventory and Monitoring	Topographical Planning Level Survey	Conduct topographic planning level survey
Watershed and Wetlands Inventory and Monitoring	Surface Water Planning Level Survey	Conduct surface water planning level survey.
Watershed and Wetlands Inventory and Monitoring	Rare, Threatened, Endangered Vegetation Species Survey	Conduct rare, threatened, and endangered vegetation species surveys on military lands.

Standard Practice Category	Standard Practice	Standard Practice Description
Watershed and Wetlands Project Management	Plan Watershed and Wetland Projects	Conduct project planning by inventory and identification of potential sites, project development which is accomplished using the project development worksheet, and project prioritization.
Watershed and Wetlands Project Management	Design Watershed and Wetland Projects	Conduct project design by providing specific project designs for fuel hazard reduction, habitat improvement, cover and concealment, timber stand improvement, invasive species control, wildlife suppression, timber harvest, and firewood projects. Project designs include site plans, cost estimates, scopes of work, and bill of materials required for each project.
Watershed and Wetlands Project Management	Coordinate Watershed and Wetland Activities	Conduct project coordination by coordinating forestry activities by providing project planning and oversight, technical assistance and design; and coordinating National Environmental Policy Act, wetland and cultural activities related to project oversight and management.
Watershed and Wetlands Project Management	Watershed and Wetland Project Site Preparation	Prepare a project site for project implementation by flagging boundaries, marking trees, evaluating site conditions, etc.
Watershed and Wetlands Project Management	Watershed and Wetland Project Oversight	Provide project oversight by monitoring project progress and execution. Report results back to federal project manager and COR.
Watershed and Wetlands Protection	Wetland and Watershed Protection	Prepare, coordinate, and review regulations and overlays that protect sensitive and important watersheds and wetlands
Erosion Control and Streambank Stabilization	Watershed Soil Stabilization	Conduct training area soil stabilization and maneuver damage repair in the training areas to improve training realism and support sustainability. Utilize Land Rehabilitation and Maintenance standard practices such as revegetation, soil stabilization practices (temporary and permanent), and erosion and sediment control structures.
Erosion Control and Streambank Stabilization	Watershed Soil Rehabilitation	Conduct soil rehabilitation in the training areas to improve training realism and support long term sustainability. Utilize the Land Rehabilitation and Maintenance standard practice of revegetation by employing a number of methods, including but not limited to aerial seeding, band fertilizer, broadcast fertilizer, broadcast seeding, chiseling, drill seeding, fabrics & netting, filter stripping, grassed waterways, mulching, hydro-seeding, soil amendments such as limestone & gypsum, moldboard plowing, offset disking, straw mulch, crimped straw mulch, disked sub-soiling, tandem disking, critical area treatment, grass sods, grass stolons, rhizomes, or topsoiling. Employ techniques to prevent or reduce the effects of wind erosion and control dust on and off roads. Methods include but are not limited to windrows, re-vegetation, aggregate application, windbreaks, and surface roughness, wind strip-cropping, ridging or roughening the soil surface to trap moving soil particles and applying water or other emulsions to exposed soil.
Erosion Control and Streambank Stabilization	Watershed Soil Stabilization	Conduct training area soil stabilization and maneuver damage repair in the training areas to improve training realism and support sustainability. Utilize Land Rehabilitation and Maintenance standard practices such as revegetation, soil stabilization practices (temporary and permanent), and erosion and sediment control structures.

Standard Practice Category	Standard Practice	Standard Practice Description
Erosion Control and Streambank Stabilization	Wetlands Reclamation and Protection	Conduct wetland reclamation and protection in the training areas. Utilize Land Rehabilitation and Maintenance standard practices such as wetlands reclamation, revegetation, soil stabilization practices (temporary and permanent), erosion and sediment control structures, biological and chemical controls, and prescribed burning.
Erosion Control and Streambank Stabilization	Streambank Stabilization and Repair	Conduct stream bank stabilization and repair. Construct or maintain hardened sites on stream banks or shorelines where bridging training habitually occurs. Harden shoreline for habitual amphibious training. Conduct stream bank habitat improvement. Utilize Land Rehabilitation and Maintenance standard practice such as streambank repair (interior Alaska or South Central Alaska), revegetation, and soil stabilization practices (temporary and permanent).
Watershed and Wetlands Vegetation Management	Watershed Cover and Concealment	Create, upgrade, repair, protect, or maintain cover and concealment by planting, protecting, and maintaining trees and shrubs or removing vegetation and foliage to accommodate large vehicles. Utilize Land Rehabilitation and Maintenance standard practices such as vegetation cutting and clearing (mechanical and hand), prescribed burning, vegetation protection, and revegetation.
Erosion Control and Streambank Stabilization	Low Water Vehicle Crossings	Create, repair, upgrade, and maintain tactical low water vehicle crossings. Construct and maintain low water crossings for tactical vehicles by improving approaches, and hardening stream, at crossing location by utilizing fabrics and netting, stone/gravel, grading and shaping, aggregate, rip rap, interlocking cement structures, cement etc. Construct or maintain low water crossings or stream crossings for vehicles to prevent erosion and sedimentation. Methods include but are not limited to unvented fords constructed of crushed stone, riprap, or precast concrete slabs. Vented fords using pipes embedded in earth fill, aggregate, rip rap, interlocking cement structures, cement structures, etc. Utilize Land Rehabilitation and Maintenance standard practice of low water crossing hardening.
Erosion Control and Streambank Stabilization	Gravel Pit Development, Management, and Reclamation	Develop, upgrade, repair and manage gravel pits. Utilize Land Rehabilitation and Maintenance standard practices such as gravel pit development, gravel crushing, gravel extraction, gravel pit reclamation, sign and Seibert stake installation, and guard rail, gate, fencing, and post installation.
Watershed and Wetlands Vegetation Management	Watershed Invasive Species Control	Conduct invasive species control to control exotic and invasive species from spreading. Control invasive species to protect natural species and improve training realism. Utilize Land Rehabilitation and Maintenance standard practices such as vegetation cutting and clearing (mechanical and hand), prescribed burning, and biological and chemical controls.
Watershed and Wetlands Outreach	Conduct Presentations/Briefings/Training	Prepare, coordinate, and conduct fish and wildlife presentations, briefings, and training.
Watershed and Wetlands Outreach	Develop Training/Education Materials	Prepare, update, coordinate, publish, and distribute fish and wildlife training and education materials.
Forest Planning	Forestry Management Plan Preparation, Review, and Update	Prepare, review, and update Forestry and Integrated Wildland Fire Management Plans, to include the forestry management plan, wildlife management plan, and interagency fire management plan.
Forest Planning	Burn Plan Preparation, Review, and Update	Prepare, update, and review burn plans and pre-suppression plans.
Forest Planning	Forestry Geographic Information System Planning	Utilize Geographic Information System to conduct landscape scale management of forest resources.

Standard Practice Category	Standard Practice	Standard Practice Description
Forest Planning	Forestry National Environmental Policy Act Requirements	Prepare, coordinate, review, and update National Environmental Policy Act documents for forestry and wildfire management projects, programs, policies, and management plans.
Forestry Project Management	Plan Forestry Projects	Conduct project planning by inventory and identification of potential sites, project development which is accomplished using the project development worksheet, and project prioritization.
Forestry Project Management	Design Forestry Projects	Conduct project design by providing specific project designs for fuel hazard reduction, habitat improvement, cover and concealment, timber stand improvement, invasive species control, wildlife suppression, timber harvest, and firewood projects. Project designs include site plans, cost estimates, scopes of work, and bill of materials required for each project.
Forestry Project Management	Coordinate Forestry Activities	Conduct project coordination by coordinating forestry activities by providing project planning and oversight, technical assistance and design; and coordinating National Environmental Policy Act, wetland and cultural activities related to project oversight and management.
Forestry Project Management	Forestry Project Site Preparation	Prepare a project site for project implementation by flagging boundaries, marking trees, evaluating site conditions, etc.
Forestry Project Management	Forestry Project Oversight	Provide project oversight by monitoring project progress and execution. Report results back to federal project manager and Contracting Officer's representative.
Forest Inventory and Monitoring	Forest Inventory	Conduct forest inventory and monitoring on all Army lands in Alaska. Forest inventory and monitoring include forest cover type mapping and continuous forest inventory.
Forest Inventory and Monitoring	Fuel Hazard and Fire History Mapping	Conduct fuel hazard and fire history mapping. Mapping includes fuel hazard assessments and fire history mapping.
Forest Inventory and Monitoring	Wildfire Monitoring	Conduct monitoring of wildland fires on military lands. Wildfire monitoring includes identification and reporting, monitoring progress as the wildland fire progresses, and wildfire incident coordination.
Wildfire Prevention	Wildfire Prevention Systems Integration	Prepare, update, and review regulations and systems necessary to reduce wildlife risk.
Wildfire Prevention	Wildfire Prevention Outreach	Conduct outreach programs to military, recreational, and adjacent property owners to reduce the risk of uncontrolled wildfire.
Forestry Outreach	Conduct Presentations/Briefings/Training	Prepare, update, coordinate, publish, and distribute forestry training and education materials.
Forestry Outreach	Develop Training/Education Materials	Prepare, coordinate, and conduct forestry presentations, briefings, and training.
Forest Land Improvement	Fuel Hazard Reduction / Fire - Fuel Breaks	Create, upgrade, repair or maintain fire or fuel breaks. Reduce hazard fuels in the training areas. Utilize Land Rehabilitation and Maintenance standard practices such as vegetation cutting and clearing (mechanical and hand), prescribed burning, vegetation protection, and revegetation.
Forest Land Improvement	Habitat Improvement	Create, upgrade, repair, or maintain habitat improvement for soldiers or wildlife habitat. Utilize Land Rehabilitation and Maintenance standard practices such as vegetation cutting and clearing (mechanical and hand), prescribed burning, vegetation protection, and revegetation.
Forest Land Improvement	Cover and Concealment	Create, upgrade, repair, protect, or maintain cover and concealment by planting, protecting, and maintaining trees and shrubs or removing vegetation and foliage to accommodate large vehicles. Utilize Land Rehabilitation and Maintenance

Standard Practice Category	Standard Practice	Standard Practice Description
		standard practices such as vegetation cutting and clearing (mechanical and hand), prescribed burning, vegetation protection, and revegetation.
Forest Land Improvement	Timber Stand Improvement	Conduct timber stand improvement activities to improve area for military training or improve commercial value of timber. Utilize Land Rehabilitation and Maintenance standard practices such as vegetation cutting and clearing (mechanical and hand), prescribed burning, vegetation protection, and revegetation.
Forest Land Improvement	Invasive Species Control	Conduct invasive species control to control exotic and invasive species from spreading. Control invasive species to protect natural species and improve training realism. Utilize Land Rehabilitation and Maintenance standard practices such as vegetation cutting and clearing (mechanical and hand), prescribed burning, and biological and chemical controls.
Forest Land Improvement	Wildfire Suppression	Conduct suppression of wildfires to protect valuable training resources and facilities. Utilize Land Rehabilitation and Maintenance standard practices such as fire suppression, fire/fuel breaks and trenches, and vegetation cutting and clearing (mechanical and hand).
Forest Land Improvement	Timber Harvest	Conduct timber harvest in preparation of range facility construction or for commercial timber sales. Offset the cost of land clearing for new facilities by conducting commercial timber sales. Utilize Land Rehabilitation and Maintenance standard practices such as vegetation cutting and clearing (mechanical and hand).
Forest Land Improvement	Firewood	Conduct firewood cutting / firewood sales to offset the cost of clearing timber for range and training area improvement. Utilize Land Rehabilitation and Maintenance standard practices such as vegetation cutting and clearing (mechanical and hand).
Fish and Wildlife Planning	Fish and Wildlife Management Plan Preparation, Review, and Update.	Prepare, review, and update fish and wildlife management plans, to include the fish and wildlife management activity plan and habitat management plan.
Fish and Wildlife Planning	Fish and Wildlife Geographic Information System Planning	Utilize Geographic Information System to assist landscape scale management of fish and wildlife resources.
Fish and Wildlife Planning	Fish and Wildlife National Environmental Policy Act Requirements	Prepare, coordinate, review, and update National Environmental Policy Act documents for fish and wildlife projects, programs, policies, and management plans.
Fish and Wildlife Project Management	Plan Fish and Wildlife Projects	Conduct project planning by inventory and identification of potential sites, project development which is accomplished using the project development worksheet, and project prioritization.
Fish and Wildlife Project Management	Design Fish and Wildlife Projects	Conduct project design by providing specific project designs for fuel hazard reduction, habitat improvement, cover and concealment, timber stand improvement, invasive species control, wildlife suppression, timber harvest, and firewood projects. Project designs include site plans, cost estimates, scopes of work, and bill of materials required for each project.
Fish and Wildlife Project Management	Coordinate Fish and Wildlife Activities	Conduct project coordination by coordinating forestry activities by providing project planning and oversight, technical assistance and design; and coordinating National Environmental Policy Act, wetland and cultural activities related to project oversight and management.
Fish and Wildlife Project Management	Fish and Wildlife Project Site Preparation	Prepare a project site for project implementation by flagging boundaries, marking trees, evaluating site conditions, etc.
Fish and Wildlife Project Management	Fish and Wildlife Project Oversight	Provide project oversight by monitoring project progress and execution. Report results back to federal project manager and

Standard Practice Category	Standard Practice	Standard Practice Description
		Contracting Officer's Representative..
Fish and Wildlife Inventory and Monitoring	Conduct Bison, Caribou, and Moose Monitoring	Conduct annual bison, caribou, and moose surveys to determine population levels and locations of herds.
Fish and Wildlife Inventory and Monitoring	Conduct Avian Monitoring	Conduct breeding bird surveys, migratory bird monitoring, and other avian surveys.
Fish and Wildlife Inventory and Monitoring	Conduct Waterfowl Monitoring	Conduct monitoring of waterfowl on military lands.
Fish and Wildlife Inventory and Monitoring	Conduct Furbearer Monitoring	Conduct furbearer monitoring to determine species composition, species frequency, and species population levels on military lands. Conduct data analysis and data summaries of furbearer surveys.
Fish and Wildlife Inventory and Monitoring	Conduct Small Mammal Surveys	Conduct small mammal monitoring to determine species composition, species frequency, and species population levels on military lands. Conduct data analysis and data summaries of small mammal surveys.
Fish and Wildlife Inventory and Monitoring	Conduct Fisheries Monitoring	Conduct fish habitat and fish population surveys on streams on military lands using electrofishing and other census methods. Conduct data analysis and data summaries of fish habitat and fish population surveys.
Fish and Wildlife Inventory and Monitoring	Conduct Fauna Planning Level Surveys	Conduct fence line to fence line planning level surveys for faunal species to determine what species occur on military lands and in which habitats they occur.
Fish and Wildlife Inventory and Monitoring	Conduct Rare, Threatened, and Endangered F&W Species Surveys	Conduct rare, threatened, and endangered fish and wildlife species surveys on military lands.
Fish and Wildlife Inventory and Monitoring	Conduct Bear Monitoring	Collar and track bears on military lands to determine locations, habitat, and behavior. Conduct data analysis and data summaries of bear surveys.
Fish and Wildlife Outreach	Conduct Watchable Wildlife Program	Conduct watchable wildlife program on military lands. Watchable wildlife includes designing viewing platforms, creating driving tours, developing species checklists,
Fish and Wildlife Outreach	Conduct Presentations/Briefings/Training	Prepare, coordinate, and conduct fish and wildlife presentations, briefings, and training.
Fish and Wildlife Outreach	Develop Training/Education Materials	Prepare, update, coordinate, publish, and distribute fish and wildlife training and education materials.
Habitat Management	Habitat Enhancement	Create, upgrade, repair, or maintain habitat improvement for soldiers or wildlife habitat. Utilize LRAM standard practices such as vegetation cutting and clearing (mechanical and hand), prescribed burning, vegetation protection, and revegetation
Habitat Management	Invasive Species Control	Conduct invasive species control to control exotic and invasive species from spreading. Control invasive species to protect natural species and improve training realism. Utilize LRAM standard practices such as vegetation cutting and clearing (mechanical and hand), prescribed burning, and biological and chemical controls.
Habitat Management	Habitat Protection	Prepare, coordinate, and review regulations and overlays that protect sensitive and important wildlife habitat
Population Management	Wildlife Harvest	Provide support to conduct wildlife harvest by setting population goals, supporting check stations, and enforcing state and federal laws, regulations, and policies during hunting seasons.

Standard Practice Category	Standard Practice	Standard Practice Description
Population Management	Fisheries Harvest	Participate in fisheries harvest activities on military land.
Population Management	Fish Stocking	Participate in fish stocking activities on military land.
Population Management	Transplanting	Conduct transplanting of wildlife onto or off of military lands.
Population Management	Nuisance Wildlife Control	Conduct nuisance wildlife control, to include moose, bear, beaver, and other furbearers.
Population Management	Invasive Species Management	Conduct removal of invasive wildlife species from military lands, such as pike.
Population Management	Wildlife Protection and Conflict Avoidance	Put in place measures to protect wildlife species and to promote conflict avoidance through policies and regulations.
Outdoor Recreation Planning	Outdoor Recreation Management Plan Preparation, Review, and Update.	Prepare, review, and update outdoor recreation management plans
Outdoor Recreation Planning	Outdoor Recreation GIS Planning	Utilize Geographic Information System (GIS) to conduct landscape scale management of outdoor recreation resources.
Outdoor Recreation Planning	Outdoor Recreation National Environmental Policy Act Documentation	Prepare, coordinate, review, and update National Environmental Policy Act documents for outdoor recreation projects, programs, policies, and management plans.
Outdoor Recreation Inventory and Monitoring	Recreational Facility Survey	Conduct a survey of recreational facilities on military lands.
Outdoor Recreation Inventory and Monitoring	Recreational Impact Monitoring	Conduct a survey of recreational impacts across the landscape of military lands.
Outdoor Recreation Inventory and Monitoring	Trespass Structure Monitoring	Conduct a survey of trespass structures on military lands.
Outdoor Recreational Project Management	Plan Outdoor Recreation Projects	Conduct project planning by inventory and identification of potential sites, project development, which is accomplished using the project development worksheet, and project prioritization.
Outdoor Recreational Project Management	Design Outdoor Recreation Projects	Conduct project design by providing specific project designs for fuel hazard reduction, habitat improvement, cover and concealment, timber stand improvement, invasive species control, wildlife suppression, timber harvest, and firewood projects. Project designs include site plans, cost estimates, scopes of work, and bill of materials required for each project.
Outdoor Recreational Project Management	Coordinate Outdoor Recreation Activities	Conduct project coordination by coordinating forestry activities by providing project planning and oversight, technical assistance and design; and coordinating National Environmental Policy Act, wetland and cultural activities related to project oversight and management.
Outdoor Recreational Project Management	Outdoor Recreation Project Site Preparation	Prepare a project site for project implementation by flagging boundaries, marking trees, evaluating site conditions, etc.
Outdoor Recreational Project Management	Outdoor Recreation Project Oversight	Provide project oversight by monitoring project progress and execution. Report results back to federal project manager and COR.
Public Access	Support Recreational Access	Provide support to upgrade and maintain USARTRAK software and database. Create, staff, and implement recreational access permits.

Standard Practice Category	Standard Practice	Standard Practice Description
Recreational Activities	Hunting, Fishing, and Trapping	Provide hunting, fishing, and trapping support to plan and organize hunting, fishing and trapping activities on military lands.
Recreational Activities	Off-Road Recreational Vehicle	Provide Off-Road Recreational Vehicle support to plan and organize Off-Road Recreational Vehicle activities on military lands.
Recreational Activities	Other Recreational Activities	Provide support to other recreational activities, such as hiking, boating, berry picking, etc on military lands.
Trespass Structure Abatement	Conduct Trespass Structure Abatement	Plan, organize, coordinate, an d conduct trespass structure posting and removal.
Subsistence	Support Subsistence	Provide subsistence opportunities and access to subsistence users on military lands.
Outdoor Recreation Outreach	Conduct Presentations/Briefings/Training	Prepare, coordinate, and conduct fish and wildlife presentations, briefings, and training.
Outdoor Recreation Outreach	Develop Training/Education Materials	Prepare, update, coordinate, publish, and distribute fish and wildlife training and education materials.
TES Survey and Monitoring	Conduct Rare, Threatened, and Endangered F&W Species Surveys	Conduct rare, threatened, and endangered fish and wildlife species surveys on military lands.
TES Management	Special Interest Areas	Designate and manage appropriate areas as special interest areas.

APPENDIX C. SUMMARY OF ENVIRONMENTAL IMPACTS FOR STANDARD PROCEDURES

Standard Procedure Category	Location in INRMP	Soil Resources	Vegetation Resources	Water Resources	Fish and Wildlife Resources	Public Access and Recreation	Cultural Resources	Air Quality
Natural Resources Planning	Volume 1, Chapter 4; Volume 2, Annex A	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Natural Resources Outreach	Volume 1, Chapter 4; Volume 2, Annex A	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Natural Resources Project Management	Volume 1, Chapter 4; Volume 2, Annex A	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Geographic Information Systems	Volume 1, Chapter 4; Volume 2, Annex A	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Forestry Planning	Volume 1, Chapter 3.3; Volume 2, Annex C; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Forestry Project Management	Volume 1, Chapter 3.3; Volume 2, Annex C; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Forest Inventory and Monitoring	Volume 1, Chapter 3.3; Volume 2, Annex C; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Wildfire Prevention	Volume 1, Chapter 3.3; Volume 2, Annex C; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Forestry Outreach	Volume 1, Chapter 3.3; Volume 2, Annex C; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Forest Land Improvement	Volume 1, Chapter 3.3; Volume 2, Annex C; Volume 4	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial
Fish and Wildlife Planning	Volume 1, Chapter 3.4; Volume 2, Annex D; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Fish and Wildlife Project Management	Volume 1, Chapter 3.4; Volume 2, Annex D; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Fish and Wildlife Inventory and Monitoring	Volume 1, Chapter 3.4; Volume 2, Annex D; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Fish and Wildlife Outreach	Volume 1, Chapter 3.4; Volume 2, Annex D; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Fish and Wildlife Habitat Improvement	Volume 1, Chapter 3.4; Volume 2, Annex D; Volume 4	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial
Habitat Management and Protection	Volume 1, Chapter 3.4; Volume 2, Annex D; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Population Management	Volume 1, Chapter 3.4; Volume 2, Annex D; Volume 4	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial

Standard Procedure Category	Location in INRMP	Soil Resources	Vegetation Resources	Water Resources	Fish and Wildlife Resources	Public Access and Recreation	Cultural Resources	Air Quality
Watershed and Wetland Planning	Volume 1, Chapter 3.2; Volume 2, Annex B; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Watershed and Wetland Inventory and Monitoring	Volume 1, Chapter 3.2; Volume 2, Annex B; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Watershed and Wetland Project Management	Volume 1, Chapter 3.2; Volume 2, Annex B; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Watershed and Wetland Protection	Volume 1, Chapter 3.2; Volume 2, Annex B; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Erosion Control and Streambank Stabilization	Volume 1, Chapter 3.2; Volume 2, Annex B; Volume 4	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial
Vegetation Management	Volume 1, Chapter 3.2; Volume 2, Annex B; Volume 4	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial
Watershed and Wetland Outreach	Volume 1, Chapter 3.2; Volume 2, Annex B; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Outdoor Recreation Planning	Volume 1, Chapter 3.5; Volume 2, Annex E; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Outdoor Recreation Inventory and Monitoring	Volume 1, Chapter 3.5; Volume 2, Annex E; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Outdoor Recreation Project Management	Volume 1, Chapter 3.5; Volume 2, Annex E; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Public Access	Volume 1, Chapter 3.5; Volume 2, Annex E; Volume 4	Minor	Minor	Minor	Minor	N/A	Minor	Minor
Recreational Activities	Volume 1, Chapter 3.5; Volume 2, Annex E; Volume 4	Minor	Minor	Minor	Minor	N/A	Minor	Minor
Trespass Structure Abatement	Volume 1, Chapter 3.5; Volume 2, Annex E; Volume 4	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial	Minor to Beneficial
Subsistence	Volume 1, Chapter 3.5; Volume 2, Annex E; Volume 4	None	None	None	None	None	None	None
Outdoor Recreation Outreach	Volume 1, Chapter 3.5; Volume 2, Annex E; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial
Threatened and Endangered Species Monitoring	Volume 1, Chapter 3.6; Volume 2, Annex F; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial

Standard Procedure Category	Location in INRMP	Soil Resources	Vegetation Resources	Water Resources	Fish and Wildlife Resources	Public Access and Recreation	Cultural Resources	Air Quality
Threatened and Endangered Species Protection	Volume 1, Chapter 3.6; Volume 2, Annex F; Volume 4	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Beneficial

APPENDIX D: Integrated Natural Resources Management Plan PROJECT ASSESSMENT CHECKLIST

PROJECT _____

DESCRIPTION AND LOCATION _____
_____
_____
_____

FORM COMPLETED BY _____ **DATE**_____

In reference to the above project, check yes or no for each item below. If "yes" is indicated for any of the questions, additional NEPA analysis may be needed for the project. If "yes" is not indicated for any of the questions, the sample Record of Environmental Consideration (REC) should be used. USAGAK NEPA staff should be provided a copy of this checklist and consulted prior to project activity. Project managers should maintain this checklist as part of the project administrative record.

Project

Yes	No	
☐	☐	Is this project in addition to those listed in Appendix A of the *USAG-AK Integrated Natural Resources Management Plan Environmental Assessment*?
☐	☐	Is a procedure, method, practice, or technique being used for this project that is not listed in either Table 2.1 or Appendix B of the *USAG-AK Integrated Natural Resources Management Plan Environmental Assessment*?
☐	☐	Is the project or its potential impacts considered environmentally controversial?
☐	☐	Could the project result in high or uncertain environmental risks?

Soil Resources

Yes	No	
☐	☐	Is permafrost present within the project or construction footprint?
☐	☐	Has the Department of Public Works (DPW) determined that a dig permit is necessary?
☐	☐	Could impacts to soils resulting from this project be greater than those described in Section 3.1, Soil Resources, of the *USAG-AK Integrated Natural Resources Management Plan Environmental Assessment*?

Vegetation

Yes	No	
☐	☐	Could the project significantly contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area (E.O. 13112)?
☐	☐	Will the project occur in an area where there are federally listed, endangered, or threatened vegetation?
☐	☐	Could impacts to vegetation resulting from this project be greater than those described in Section 3.2, Vegetation, of the *USAG-AK Integrated Natural Resources Management Plan Environmental Assessment*?

Wetlands

Yes	No	
☐	☐	Is the project located within a wetland?
☐	☐	Will dredging, disposal of dredged material, excavation, or filling of a wetland be involved, or could the project result in modifications or adverse effects to wetlands or waters of the U.S.?
☐	☐	Could impacts to wetlands resulting from this project be greater than those described in Section 3.3, Wetlands, of the *USAG-AK Integrated Natural Resources Management Plan Environmental Assessment*?

Water Resources

Yes	No	
☐	☐	Is the project located within a floodplain (E.O. 11988)?
☐	☐	Is any part of the project footprint depicted as a red area on the environmental limitations overlay?
☐	☐	Will the project expose one or more acres of soil?
☐	☐	Will the project involve discharge (or runoff) of sediment into a waterway or storm sewer?
☐	☐	Will the project result in diversion or obstruction of stream flow?
☐	☐	Will the project impact a wild or scenic river?
☐	☐	Could the project result in potential impacts to surface water quality?
☐	☐	Could impacts to waters resulting from this project be greater than those described in Section 3.4, Water Resources, of the *USAG-AK Integrated Natural Resources Management Plan Environmental Assessment*?

Wildlife and Fisheries

Yes	No	
☐	☐	Will the project occur in an area where there are migratory birds or federally listed, endangered, or threatened wildlife or habitat?
☐	☐	Could the project affect the marine environment?
☐	☐	Could impacts to wildlife and fisheries resulting from this project be greater than those described in Section 3.5, Wildlife and Fisheries, of the *USAG-AK Integrated Natural Resources Management Plan Environmental Assessment*?

Fire Management

Yes	No	
☐	☐	Could this project interfere with Alaska Fire Service or military firefighting efforts?
☐	☐	Could impacts to fire management resulting from this project be greater than those described in Section 3.6, Fire Management, of the *USAG-AK Integrated Natural Resources Management Plan Environmental Assessment*?

Public Access and Recreation

Yes	No	
☐	☐	Will the project significantly hinder compliance with the Sikes Act?

☐	☐	Could impacts to public access and recreation resulting from this project be greater than those described in Section 3.7, Public Access and Recreation, of the *USAG-AK Integrated Natural Resources Management Plan Environmental Assessment*?

Cultural Resources

Yes	No	
☐	☐	Could the project involve disturbance of previously undisturbed ground?
☐	☐	Has the project undergone Cultural Resource Management staff review?
☐	☐	Could impacts to cultural resources resulting from this project be greater than those described in Section 3.8, Cultural Resources, of the *USAG-AK Integrated Natural Resources Management Plan Environmental Assessment*?
☐	☐	Could impacts to subsistence resulting from this project be greater than those described in Section 3.8, Cultural Resources, of the *USAG-AK Integrated Natural Resources Management Plan Environmental Assessment*?

Human Health and Safety

Yes	No	
☐	☐	Will the project involve the demolition of a structure?
☐	☐	Could impacts to human health and safety resulting from this project be greater than those described in Section 3.9, Human Health and Safety, of the *USAG-AK Integrated Natural Resources Management Plan Environmental Assessment*?

Socioeconomics

Yes	No	
☐	☐	Could the project have disproportionately high and adverse effect on low income or minority populations (E.O. 12898)?
☐	☐	Could impacts to socioeconomics resulting from this project be greater than those described in Section 3.10, Socioeconomics, of the *USAG-AK Integrated Natural Resources Management Plan Environmental Assessment*?

Noise

Yes	No	
☐	☐	Could the project generate significant short-term or long-term noise impacts?
☐	☐	Could impacts to noise resulting from this project be greater than those described in Section 3.11, Noise, of the *USAG-AK Integrated Natural Resources Management Plan Environmental Assessment*?

Air Quality

Yes	No	
☐	☐	Could emissions resulting from the project cause the installation to exceed regulated air pollutant criteria?
☐	☐	Could impacts to air quality resulting from this project be greater than those described in Section 3.12, Air Quality, of the *USAG-AK Integrated Natural Resources Management Plan Environmental Assessment*?

Cumulative Impacts

Yes	No	
☐	☐	Could the project have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects?
☐	☐	Could cumulative impacts resulting from this project be greater than those described in Section 3.13, Cumulative Impacts, of the *USAG-AK Integrated Natural Resources Management Plan Environmental Assessment*?

APPENDIX E: SAMPLE RECORD OF ENVIRONMENTAL CONSIDERATION (REC)

RECORD OF ENVIRONMENTAL CONSIDERATION

TITLE: Prescribed Fire at the Stuart Creek Impact Area, Yukon Training Area, Fort Wainwright, Alaska

DESCRIPTION OF PROPOSED ACTION: The Bureau of Land Management's Alaska Fire Service (AFS) proposes to conduct a prescribed burn on lands within Donnelly Training Area on Fort Wainwright Army Installation (FWA) at Oklahoma Range. The total area would be approximately 40,000 acres (see attached map).

The Oklahoma Range is located fifteen miles southwest of Delta Junction, Alaska with its center located at the approximate Universal Transverse Mercator (UTM) coordinates of VG 538000 x 7079000. The burn area is located south and west of 100 Mile Creek and along the eastern edge of the Little Delta River. Rivers, creeks and high alpine areas surround the burn unit. Vegetation within the burn units consists of areas dominated by grass, forbs, and willow with scattered birch and spruce trees. Grasses cover approximately 95% of the burn units and dominate in the wetter areas. Smoke volume and extended combustion are expected to be low due to the light fuel loading. Risk of fire escaping the area will be low due to high moisture content of adjacent fuels along the perimeter prior to ignition, surrounding rivers and creeks, and the presence of adequate holding forces (fire fighting personnel).

The environmental impacts associated with this type of project were analyzed in the *Environmental Assessment and Final Finding of No Significant Impact, Integrated Training Area Management Program Management Plan (ITAM EA 2005)*. The analyses of this Record of Environmental Consideration (REC) are considered in light of the environmental analysis provided in the 2007-2011 INRMP EA to determine whether this action represents a significant change from that previously assessed.

The Bureau of Land Management's AFS prepares a Prescribed Fire Burn Plan prior to conducting a prescribed burn. Prescribed burns can not be conducted without the development, review and approval of a burn plan by USAG-AK, USARAK and BLM-AFS. A Prescribed Fire Burn Plan summarizes burn methods and objectives, risk analysis, smoke management, public safety and notification methods, local, state and federal permitting requirements, and contingency plans, among other items.

PURPOSE AND NEED OF THE PROPOSED ACTION: The proposed prescribed burn is intended to minimize the risk of wildfire starts during training by reducing grass and fine fuel loading on the range. The proposed burning activity also provides for firefighter and public safety and offers training on prescribed burning techniques for AFS personnel. Failure to implement this project would result in increased wildfire danger on the ranges during training events.

ANTICIPATED DATE AND/OR DURATION OF THE PROPOSED ACTION: Burning activities are anticipated to begin in mid-April of 2007, depending on green-up conditions. This project may be postponed until the fall or winter in anticipation of possible unfavorable weather conditions and/or AFS scheduling conflicts. This prescribed burn is scheduled for maintenance burning at one to two year intervals during the spring and fall months through 2010. The duration of the prescribed burn is anticipated to be no longer than one month.

MITIGATION AND/OR SPECIAL CONDITIONS: The AFS has prepared a Prescribed Fire Burn Plan for this action and would be consulted prior to burning activities. Local air quality guidelines

regarding prescribed burning will be followed. If poor air mixing heights or air quality conditions exist, all burning activities must be postponed until conditions improve.

Prescribed burning should be conducted as early in the spring as possible to minimize impacts to bird nesting periods.

U.S. Army Alaska Donnelly Training Area Range Control must be contacted at (907) 873-4714 prior to any burning activities. All AFS personnel will be briefed on the potential and hazards of unexploded ordnance within the immediate area.

Existing roads and trails would be used for site access. This project will not create any sub-surface ground disturbance. In the event that sub-surface disturbance is required, the Environmental Resources Department archaeologist will be notified prior to any digging or earthwork. In the event that cultural resources are disturbed or discovered without digging or earthwork during this project, the Environmental Resources Department archaeologist shall be notified.

CONCLUSION: The environmental impacts associated with the prescribed burning of approximately 40,000 acres are not sufficiently different from those analyzed in the *Environmental Assessment and Finding of No Significant Impact, Integrated Training Area Management Program Management Plan Dec 2006 (2007-2011 INRMP EA)*. The proposed actions at Oklahoma Range are not sufficient to warrant preparation of a separate environmental assessment. The proposed action would not degrade the existing environment, is not environmentally controversial, nor would it adversely affect environmentally sensitive resources. Anticipated impacts associated with this project are comparable with those addressed in the 2007-2011 INRMP.

Prepared by: _____

CARRIE MCENTEER
NEPA Coordinator, USAG-AK
Fort Wainwright, Alaska

Reviewed by: _____

KEVIN GARDNER
Chief, Environmental Department
Directorate of Public Works

Approved by: _____

ALLAN D. LUCHT
Director
Directorate of Public Works

ITAM PROJECT ASSESSMENT CHECKLIST

PROJECT: Prescribed Fire at Oklahoma Range on Fort Wainwright Donnelly Training Area, Alaska

DESCRIPTION AND LOCATION: The Oklahoma Range is located fifteen miles southwest of Delta Junction, Alaska with its center located at the approximate Universal Transverse Mercator (UTM) coordinates of VG 538000 x 7079000.

FORM COMPLETED BY: Carrie McEnteer **DATE:** 9 March 07

In reference to the above project, check yes or no for each item below. If "yes" is indicated for any of the questions, additional NEPA analysis may be needed for the project. If "yes" is not indicated for any of the questions, the sample Record of Environmental Consideration (REC) should be used. USAGAK NEPA staff should be provided a copy of this checklist and consulted prior to project activity. Project managers should maintain this checklist as part of the project administrative record.

Project

Yes No

X ☐ Is this project in addition to those listed in Appendix A (LRAM Five-Year Project List) of the *USAG-AK INRMP EA*?

☐ X Is this project in addition to those listed in Appendix B (Standard INRMP Projects) of the *USAG-AK INRMP*?

☐ X Is a procedure, method, practice, or technique being used for this project that is not listed in either Table 2.1 or Appendix B of the *USARAK USAG-AK INRMP EA?*

☐ X Is the project or its potential impacts considered environmentally controversial?

☐ X Could the project result in high or uncertain environmental risks?

Soil Resources

Yes No

☐ X Is permafrost present within the project or construction footprint?

☐ X Has the Department of Public Works (DPW) determined that a dig permit is necessary?

☐ X Could impacts to soils resulting from this project be greater than those described in Section 3.1, Soil Resources, of the *USAG-AK INRMP EA*?

Vegetation

Yes No

☐ X Could the project significantly contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area (E.O. 13112)?

☐ X Will the project occur in an area where there are federally listed, endangered, or threatened vegetation?

☐ X Could impacts to vegetation resulting from this project be greater than those described in Section 3.2, Vegetation, of the *USAG-AK INRMP EA*?

Wetlands

Yes No

☐ ☐ Is the project located within a wetland?

☐ X Will the project involve dredging, disposal of dredged material, excavation, or filling of a wetland as described under Section 404 of the Clean Water Act?

☐ X Could the project result in modifications or adverse effects to wetlands?

☐ X Could impacts to wetlands resulting from this project be greater than those described in Section 3.3, Water resources, of the *USAG-AK INRMP EA*?

Water Resources

Yes No

☐ X Is the project located within a floodplain (E.O. 11988)?

☐ X Is any part of the project footprint depicted as a red area on the environmental limitations overlay?

☐ X Will the project expose one or more acres of soil?

☐ X Will the project involve discharge (or runoff) of sediment into a waterway or storm sewer?

☐ X Will the project result in diversion or obstruction of stream flow?

☐ X Will the project impact a wild or scenic river?

☐ X Will the project involve dredging or filling of a water body as described under Section 404 of the Clean Water Act?

☐ X Will the project involve construction, excavation, or deposition of materials in, over, or under a water body, or would any work affect the course, location, condition, or capacity of a water body as described under Section 10 of the Rivers and Harbors Act?

☐ X Could the project result in potential impacts to surface water quality?

☐ X Could impacts to waters resulting from this project be greater than those described in Section 3.4, Water Resources, of the *USAG-AK INRMP EA*?

Wildlife and Fisheries

Yes No

X ☐ Will the project occur in an area where there are migratory birds or federally listed, endangered, or threatened wildlife or habitat?

☐ X Could the project affect the marine environment?

☐ X Could impacts to wildlife and fisheries resulting from this project be greater than those described in Section 3.5, Wildlife and Fisheries, of the *USAG-AK INRMP EA*?

Fire Management

Yes No

☐ X Could this project interfere with Alaska Fire Service or military firefighting efforts?

☐ X Could impacts to fire management resulting from this project be greater than those described in Section 3.3, Vegetation, of the *USAG-AK INRMP EA*?

Public Access and Recreation

Yes No

☐ X Will the project significantly hinder compliance with the Sikes Act?

☐ X Could impacts to public access and recreation resulting from this project be greater than those described in Section 3.6, Public Access and Recreation, of the *USAG-AK INRMP EA*?

Cultural Resources

Yes No

☐ X Could the project involve disturbance of previously undisturbed ground?

X ☐ Has the project undergone Cultural Resource Management staff review?

☐ X Could impacts to cultural resources resulting from this project be greater than those described in Section 3.7, Cultural Resources, of the *USAG-AK INRMP EA*?

☐ X Could impacts to subsistence resulting from this project be greater than those described in Section 3.7, Cultural Resources, of the *USAG-AK INRMP EA*?

Human Health and Safety

Yes No

☐ X Will the project involve the demolition of a structure?

X ☐ Could impacts to human health and safety resulting from this project be greater than those described in Section 3.9, Human Health and Safety, of the *USARAK ITAM Program Management Plan EA*?

Socioeconomics

Yes No

☐ X Could the project have disproportionately high and adverse effect on low income or minority populations (E.O. 12898)?

☐ X Could impacts to socioeconomics resulting from this project be greater than those described in Section 3.10, Socioeconomics, of the *USARAK ITAM Program Management Plan EA*?

Noise

Yes No

☐ X Could the project generate significant short-term or long-term noise impacts?

☐ X Could impacts to noise resulting from this project be greater than those described in Section 3.11, Noise, of the *USAG-AK INRMP EA*?