U.S. Army Garrison Alaska

In Cooperation with Bureau of Land Management

Draft Legislative Environmental Impact Statement for the Public Law 106-65 Land Withdrawal Extension

August 2022

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Draft
Legislative Environmental Impact Statement for the Public Law 106-65 Land Withdrawal Extension

Fort Wainwright, Alaska

August 2022

APPROVED BY:

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Colonel, U.S. Army
Commanding

5 August 2022
Date

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To the Reader:

Thank you for your interest in the Draft Legislative Environmental Impact Statement (LEIS) for the Public Law 106-65 Land Withdrawal Extension at U.S. Army Garrison (USAG) Alaska. Federal, state, and local agencies, Alaska Native tribes, Alaska Native tribal organizations, and the public are invited to participate and comment on the Draft LEIS by participating in a meeting and/or submitting written comments. In the interest of public health, the USAG Alaska will hold public meetings either in a virtual environment, in-person, or a combination of the two to provide an opportunity for public input. The Army will publish notices in local newspapers and on their website to announce the dates and times of the public meetings.

The Notice of Availability of the Draft LEIS will be published in the *Federal Register* and will provide summary information about the Draft LEIS. Written comments must be sent within 60 days of publication of the Notice of Availability in the *Federal Register*. An electronic copy of the Draft LEIS will be made available for public review online at: https://home.army.mil/alaska/index.php/fort-wainwright/NEPA.

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Draft Legislative Environmental Impact Statement
for the Public Law 106-65 Land Withdrawal Extension

Lead/Responsible Agency:	U.S. Army
Cooperating Agency:	Bureau of Land Management
Title of the Proposed Action:	Public Law 106-65 Land Withdrawal Extension at U.S. Army Garrison Alaska
Designation:	Draft Legislative Environmental Impact Statement
Prepared by:	U.S. Army Garrison Alaska

Abstract:

USAG Alaska is proposing to request that Congress extend the current withdrawal of the Yukon and Donnelly Training Areas for continued military use for 25 years or more. The LEIS indicates that withdrawal extension would result in no significant adverse impacts on the human environment.

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EXECUTIVE SUMMARY

Introduction and Background

This Draft Legislative Environmental Impact Statement (LEIS) addresses a proposal by the U.S. Army Garrison (USAG) Alaska relating to federal public lands in Alaska that have previously been withdrawn for military use. The current withdrawal will expire on November 6, 2026. The proposed action would request that Congress extend the withdrawal for 25 years or more, until such time as the Department of the Army (Army) determines it no longer needs the lands for military purposes. The Army will analyze a No Action Alternative in addition to the proposed action. For the purposes of this LEIS, withdrawal for 25 years or for a longer period (to include an indefinite withdrawal) will be treated as a single action alternative, as the management and uses of the withdrawn lands would be the same for either duration.

The Engle Act requires land withdrawals in excess of 5,000 acres to be authorized by Congress through legislation. In October 1999, through the National Defense Authorization Act for Fiscal Year 2000 (Public Law [PL] 106-65), Congress withdrew 869,862 acres of Alaska public lands from all forms of appropriation under public land laws and reserved them for use by the Army. These lands comprise the Yukon Training Area (YTA) (formerly Fort Wainwright Yukon Training Range), Donnelly Training Area East (DTAE) (formerly Fort Greely Training Range East), and Donnelly Training Area West (DTAW) (formerly Fort Greely Training Range West).

The U.S. Department of the Interior (DOI) has authority to process federal land withdrawal applications (Title 43 of the Code of Federal Regulations [43 CFR] Part 2300). PL 106-65 requires the Army to notify the DOI and Congress whether there is a continuing military need for the withdrawn lands. The Army and the DOI must then submit a legislative proposal for the proposed action to Congress. The Army has determined there is a continuing military need for the three training areas, which are federal lands managed by the Bureau of Land Management (BLM) that Congress has withdrawn and reserved for military use, and is requesting to extend its use of these lands.

Summary of Proposed Action

The Army proposes to request that Congress extend the current withdrawal from public use of YTA, DTAE, and DTAW for 25 years or more, until such time as the Army determines it no longer needs the lands for military purposes. The proposed action would ensure the long-term availability of the lands to support ongoing development of training infrastructure and technology, while effectively utilizing resources (both dollars and personnel) to protect resource values and implement environmental resource management measures.

The Army's selection of the proposed action's time period is based on requirements for substantial land mass to support military training in arctic and subarctic environments, which will continue to be critical to national defense preparedness. The military's operational planning horizon would be limited by a withdrawal extension of less than 25 years. Moreover, the economic and human resources commitment required for more frequent extensions would place a substantial burden on the Army.

Purpose and Need for the Proposed Action

USAG Alaska is based at Fort Wainwright (FWA), located in the interior of Alaska adjacent to Fairbanks. FWA is also home to the 11th Airborne Division, the current Army unit stationed in Alaska that will carry out the Army's newly released Arctic Strategy. The mission of USAG Alaska is to integrate resources and deliver installation services to enable the readiness of Army forces in Alaska while enhancing the quality of life for soldiers, their families, and communities. The mission of the 11th Airborne Division is to provide trained and ready forces in support of worldwide unified land operations and to support the U.S. Indo-Pacific Command Theater Security Cooperation Program in contributing to a stable and secure operational environment.

The Army requires the continued use of YTA, DTAE, and DTAW to execute and fulfill its mission in Alaska. The withdrawn lands provide the Army with the necessary space and unique environmental conditions to complete training and testing required

by established training doctrine. Uninterrupted access to suitable training lands is needed to ensure that the Army will continue to produce a force trained to mobilize, deploy, fight, and win anywhere in the world.

YTA has a broad range of facilities to support both ground and aviation training. The training ground is suitable year-round for artillery and mortar indirect fire weapons, aerial gunnery, small arms, platoon- to brigade-sized exercises, road marches, and bivouacs. DTAE and DTAW are used for annual readiness training exercises that involve up to 14,000 troops for division-sized exercises and have a broad range of facilities to support both ground and aviation training.

A theater of military operations in a northern region presents unique tactical challenges. Low temperatures, frozen ground, snow, ice, and a long period of darkness during the winter hinder potential military operations in these environments. Arctic warfare skills continue to be essential in the face of changes in warfare technology. The arctic and subarctic military training and testing conducted on the withdrawn lands cannot be duplicated at any other Army installation.

Scope of the Environmental Impact Statement

The Army has prepared this Draft LEIS to inform decision-makers, the public, Alaska Native tribal governments, regulatory agencies, and other interested parties about the potential adverse and beneficial environmental impacts of implementing the proposed action. The Draft LEIS evaluates the potential direct, indirect, and cumulative impacts associated with implementing two alternatives: Action Alternative 1 and a No Action Alternative. It has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended; NEPA-implementing regulations issued by the President's Council on Environmental Quality; and the Army's NEPA-implementing regulation.

The Army published a Notice of Intent to prepare this LEIS in the *Federal Register* on September 24, 2021. The publication initiated a 30-day comment period that ran from September 24 through October 25, 2021, during which the Army conducted two

virtual scoping meetings—one for members of the public and one for agency representatives.

In accordance with 40 CFR § 1506.8, a Final LEIS is not required for the LEIS process. Since only Congress can withdraw land in excess of 5,000 acres for defense purposes, the Army will not prepare a final LEIS or issue a Record of Decision. Instead, the Department of Defense (DoD) and the DOI will prepare draft legislation and submit it to Congress.

The draft legislation will contain the agencies' recommendations based on the impact analysis in this LEIS. Congress can extend the withdrawal by passing legislation consistent with the agencies' recommendations or with different provisions. Alternatively, Congress can decline to extend the withdrawal by not enacting legislation.

Publication and public review of the Draft LEIS are scheduled for 2022. Public comments on the Draft LEIS will be incorporated and submitted as part of the legislative proposal submitted to Congress.

Alternatives Considered

The Army developed possible alternatives for the continued military use of the withdrawn lands in consideration of input received during the scoping process from state and federal resource agencies, Alaska Native tribes, and the public. Training needs and military operational parameters were used to determine if an alternative would satisfy the purpose of and need for the proposed action. A detailed analysis is provided in the LEIS for the alternatives described below.

No Action Alternative

Under the No Action Alternative, Congress would not extend the withdrawal. Upon expiration of the current withdrawal on November 6, 2026, the lands would no longer be available for military use by the Army. The resulting effect on military operations would include a reduction in cold-weather defense preparedness. The extent of this reduction would depend on whether viable substitute lands are available that could

meet the Army's purpose and need. Implications for other, applicable DOI Public Land Orders and the presence of contamination on lands that would no longer be withdrawn and reserved for defense purposes are described in this LEIS.

Action Alternative 1—Extend Withdrawal for 25 Years or More

Under Action Alternative 1, subject to valid existing rights, the withdrawn lands would continue to be withdrawn for a period of 25 years or more from all forms of appropriation under the public land laws, including mining laws, mineral leasing laws, and geothermal leasing laws, until such time as the Army determines it no longer needs the lands for military purposes. These lands would be reserved for use by the Army for military maneuvering, training, equipment development and testing, and other defense-related purposes.

If the withdrawal period is extended, the Secretary of the Interior would continue to manage the lands subject to conditions and restrictions necessary to permit the military use of these lands. Management of these lands would follow all existing, applicable management plans and policies. The Secretary of the Army would close any road, trail, or portion of the lands to public use as needed for public safety, military operations, or national security. The Secretary of the Interior would issue a lease, easement, right-of-way, or authorization for non-military use of these lands with the concurrence of the Secretary of the Army. Hunting, fishing, and trapping on these lands would be permitted in accordance with the provisions of Title 10 of the United States Code (USC) § 2671.

The Army is not proposing that additional land be withdrawn. Military activities conducted on the withdrawn lands would be consistent with those conducted since the previous withdrawal in 1999. Training actions would include those that were evaluated in a previous LEIS (USARAK 1999) and additional training and management programs that have been evaluated in subsequent NEPA documents.

Summary of Environmental Consequences

Resource areas analyzed for environmental consequences include land use and visual resources, noise, recreation, utilities, traffic and transportation, airspace, public health and safety, hazardous materials, solid and hazardous wastes, air quality, earth resources, water resources, biological resources, wildland fire, cultural resources, socioeconomics and environmental justice, and subsistence uses.

Under the No Action Alternative, Congress would not authorize an extended withdrawal of the training lands. Lands that were determined to be suitable and returned to the public domain would be managed by BLM. Overall, the cessation of training operations from withdrawn lands would provide beneficial impacts on visual resources, noise, recreation, traffic and transportation, civilian airspace, public health and safety, air quality, soils and permafrost, water resources, biological resources, and subsistence uses in the region. Significant adverse impacts are anticipated for socioeconomics. Loss of the PL 106-65 training lands would constitute a serious impact on military readiness and the mission of the Army.

Under Action Alternative 1, there would be no substantive changes to current conditions or management. No new lands would be included in the withdrawn lands. Management status and operations would not change. Adherence to federal, state, and local rules and regulations would continue. As a result, there would be no changes to the impacts that already exist from use of the withdrawn lands to support military mission readiness.

Table ES-1 summarizes the anticipated beneficial and adverse impacts of the No Action Alternative and Action Alternative 1.

The impact analysis considered any cumulative effects of the implementation of the proposed alternatives in combination with other past, present, and reasonably foreseeable projects in the region that could result in significant impacts on the human environment. The No Action Alternative typically does not result in any cumulative effects, as it usually does not constitute any change in existing condition. Since the No Action Alternative considered in this LEIS constitutes a substantial

change from the current use and management of the training lands, it was assessed along with the proposed action for cumulative effects.

Best Management Practices and Mitigation Measures

The Army is committed to avoiding, minimizing, or mitigating adverse effects on environmental resources to the extent practicable and would implement Best Management Practices (BMPs) and Standard Operating Procedures (SOPs). The level and intensity of impacts summarized in Table ES-1 reflect the implementation of management plans, BMPs, and SOPs that are intended to avoid or offset impacts to natural, cultural, or socioeconomic resources.

Table ES-1. Summary of Environmental Impacts

Section	No Action Alternative	Action Alternative 1—Extend Withdrawal for 25 Years or More
Land Use and Visual Resources	Permanent beneficial impacts on local visual resources after cessation of training activities allows natural vegetative succession.	No change from existing conditions. Land use would continue to be managed by the Army and BLM to ensure compatibility and public safety. Moderate adverse impacts on land use from continued restrictions on public access while the lands are reserved for military use. Long-term minor adverse impacts on visual resources would continue in localized areas within withdrawn lands. No impacts on long-range viewsheds or scenic areas.
Noise	Beneficial impacts resulting from reduced aircraft and helicopter flights over withdrawn lands and associated reduction in noise generation.	No change from existing conditions. Ongoing long-term moderate adverse impacts from continued noise generated via aviation activities. Minor adverse impacts associated with live fire exercises, weapons deployment, and other training activities.
Recreation	Beneficial impacts as new types of recreation are allowed with reduced closure areas and increased quality of recreational land. Minor adverse impacts resulting from reduced trail maintenance and public communication channels currently provided by the Army.	No change to recreational land uses. Ongoing long-term moderate adverse impacts resulting from continued closure of ranges and impact areas, noise, and visual impacts to recreationists.

Section	No Action Alternative	Action Alternative 1—Extend Withdrawal for 25 Years or More
Utilities	Utility improvements or development may occur if approved by BLM. Any proposed utility projects would be subject to separate NEPA evaluation, ensuring avoidance or minimization of significant adverse impacts.	No change from existing conditions. No anticipated long- or short-term impacts.
Traffic and Transportation	Beneficial impacts resulting from reduction in traffic from troop movements and personal vehicles.	No change to current levels or types of roadway use in the region. Ongoing long-term minor adverse impacts from continued use of transportation infrastructure over time and temporary increased congestion due to military conveys.
Airspace	Beneficial impacts to civilian airspace use resulting from changes in airspace management, though military use for non-hazardous activities would continue.	No change from existing conditions. Ongoing long-term minor adverse impacts resulting from civilian airspace use restrictions.
Public Health and Safety	Beneficial impacts on public health and safety resulting from absence of all military training maneuvers including weaponry testing.	No change from existing conditions. Long-term minor adverse impacts on public health and safety would continue into the future under existing safety programs.
Hazardous Materials, Solid and Hazardous Wastes	Moderate long-term adverse impacts, as remediation would likely take several decades. Hazardous materials would remain onsite and access to contaminated areas would be restricted, pending remediation, posing moderate adverse impacts on visitors and wildlife.	No change from existing conditions. Existing hazardous materials use and storage management would continue to address leaks, storage, and exposure of materials. Ongoing long-term moderate adverse impacts would result from continued use and disposal of hazardous materials during training activities.
Air Quality	Beneficial impacts would result from reduced vehicle use in training areas, incrementally reducing emissions and the formation of ice fog.	No change from existing conditions. Ongoing minor adverse impacts on air quality would continue into the long term due to emissions of nitrogen dioxide, carbon monoxide, and volatile organic compounds. No impacts on climate change. Negligible effect on visibility degradation in Denali National Park.
Earth Resources	Beneficial impacts on soils and permafrost resulting from cessation of training exercises.	No change from existing conditions. Conservation measures in place to protect soils ensure that adverse impacts on soils and permafrost are less than significant.

Section	No Action Alternative	Action Alternative 1—Extend Withdrawal for 25 Years or More
Water Resources	Beneficial impacts on water quality would result from cessation of military activities, which would reduce deposition of pollutants into withdrawn lands, reduce erosional concerns, and limit alteration of floodplains.	No change from existing conditions. Pollutants would continue to be introduced into water bodies and floodplains would be altered during training activities. Continued water quality monitoring, remediation of affected areas, and spill response plans would ensure that long-term adverse impacts remain minor to moderate.
Biological Resources	Beneficial impacts on fish, wildlife, and habitats in the region after cessation of training activities.	No change from existing conditions. Ongoing long-term moderate adverse impacts on birds, wildlife, and habitats resulting from training activities. Moderate adverse impacts on aquatic habitat and fish. Minor to moderate adverse impacts on invasive and problematic species.
Wildland Fire	Beneficial impacts from reduced use of the area and cessation of fire starts due to military training. Moderate adverse impact from loss of support from USAG Alaska to BLM for fire suppression, preparedness, and fuels reduction.	No change from existing conditions. Existing wildland fire management provisions would continue into the long term, and impacts would be minor.
Cultural Resources	Potential minor adverse impacts on archeological sites with reopening of withdrawn lands to public uses. No impacts to properties of traditional religious and cultural significance.	No change to existing cultural resources management or consultation with affiliated Native tribal partners. Ongoing potential minor adverse impacts on archeological sites resulting from training activities with continued application of Integrated Cultural Resources Management Plan. No impacts to properties of traditional religious and cultural significance.
Socioeconomics, and Environmental Justice	Significant adverse impacts from loss of military operations and personnel expenditures in the region. No disproportionate impacts on environmental justice populations.	No change from existing conditions. Ongoing long-term beneficial impact to the economy of the region. No disproportionate impacts on environmental justice populations.
Subsistence	Long-term net beneficial effects on resource abundance, availability, and access for subsistence users and opening of lands to federal subsistence opportunities under Alaska National Interest Lands Conservation Act (ANILCA).	No change from existing conditions. Negligible to minor adverse effects on resource abundance and availability, and moderate adverse effects on resource access expected from continued military operations on the lands. No opportunity for the withdrawn lands to become eligible for federal subsistence under ANILCA.

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ACRONYMS AND ABBREVIATIONS

µg/m^3	micrograms per cubic meter
AAC	Alaska Administrative Code
AAF	Army Airfield
AADT	Average Annual Daily Traffic
AAQS	Alaska Air Quality Standard
ACUB	Army Compatible Use Buffer
ADEC	Alaska Department of Environmental Conservation
ADFG	Alaska Department of Fish and Game
ADNL	A-weighted Day-night Average Sound Levels
ADNR	Alaska Department of Natural Resources
AFB	Air Force Base
AFS	Alaska Fire Service
AFTAC	Air Force Technical Applications Center
AGL	Above Ground Level
AKDOT&PF	Alaska Department of Transportation and Public Facilities
ANILCA	Alaska National Interest Lands Conservation Act
AOP	Annual Operating Plan
APZ	Accident Potential Zone
AQCR	Air Quality Control Region
AQCZ	Air Quality Control Zone
Army	U.S. Department of the Army
ARPA	Archaeological Resources Protection Act
ARRC	Alaska Railroad Corporation
ARRM	Army Range Requirements Model
AS	Alaska Statute
ATC	Air Traffic Control
ATCAA	Air Traffic Control Assigned Airspace
AVC	Alaska Vegetation Classification
AWC	Anadromous Waters Catalogue
BAX	Battle Area Complex
BCT	Brigade Combat Team

BIG	Allen Army Airforce Base
BLM	Bureau of Land Management
BMP	Best Management Practice
BP	Before Present
CAA	Clean Air Act
CACTF	Combined Arms Collective Training Facility
CALFEX	Combined Arms Live Fire Exercise
CDNL	C-weighted Day-night Average Sound Levels
CEMML	Colorado State University Center for Environmental Management of Military Lands
Census	U.S. Census Bureau
CEQ	Council on Environmental Quality
CFA	Controlled Firing Area
Cfs	Cubic Feet per Second
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CRREL	Cold Regions Research & Engineering Laboratory
CRTC	Cold Regions Test Center
CSIS	Community Subsistence Information System
CWA	Clean Water Act
dB	Decibel
dBA	A-weighted decibel
DoD	Department of Defense
DOI	Department of the Interior
DTA	Donnelly Training Area
DTAE	Donnelly Training Area East
DTAW	Donnelly Training Area West
EA	Environmental Assessment
eDNA	Environmental DNA
EIL	Eielson Air Force Base
EIS	Environmental Impact Statement

EO	Executive Order
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERC	Eielson Range Control
ESA	Endangered Species Act
ESMP	Explosives Safety Management Plan
FAA	Federal Aviation Administration
FAI	Fairbanks International Airport
FARP	Forward Arming and Refueling Point
FBK	Ladd Army Air Base
FEMA	Federal Emergency Management Agency
FLS	Flight Landing Strip
FNSB	Fairbanks North Star Borough
FONSI	Finding of No Significant Impact
FR	Federal Register
FWA	Fort Wainwright
GHG	Greenhouse Gas
GIS	Geographic Information System
GMU	Game Management Unit
HAP	Hazardous Air Pollutant
HHD	Headquarters and Headquarters Detachment
Hz	Hertz
ICRMP	Integrated Cultural Resource Management Plan
ICUZ	Installation Compatible Use Zone
IFR	Instrument Flight Rules
INRMP	Integrated Natural Resource Management Plan
IPM	Integrated Pest Management
IR	Instrumental Flight
ITAM	Integrated Training Area Management
JBER	Joint Base Elmendorf-Richardson
LEIS	Legislative Environmental Impact Statement
MCOC	Munitions Constituents of Concern

MCL	Maximum Contaminant Level
MOA	Military Operations Area
MSL	Above Mean Sea Level
MTR	Military Training Routes
NAAQS	National Ambient Air Quality Standard
NAGPRA	Native American Graves Protection and Repatriation Act
NAS	National Airspace System
NCOA	Noncommissioned Officer Academy
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOTAMs	Notice to Air Missions
NRCS	National Resources Conservation Service
NWI	National Wetlands Inventory
NWTC	Northern Warfare Training Center
O_3	Ozone
ORAP	Operational Range Assessment Program
ORV	Off-Road Recreational Vehicle
PAIO	Plans, Analysis, and Integration Office
Pb	Lead
PL	Public Law
PLO	Public Land Order
PM	Particulate Matter
$PM_{2.5}$	Particulate Matter 2.5 micrometers in diameter or smaller
PM_{10}	Particulate Matter between 2.5 and 10 micrometers in diameter
POLs	Petroleum, Oil, and Lubricants
PRPA	Paleontological Resources Protection Act
RA	Restricted Area
RAP	Recreation Access Permit
RCRA	Resource Conservation and Recovery Act

ROD	Record of Decision
RMP	Resource Management Plan
ROI	Region of Influence
SDSWCD	Salcha-Delta Soil and Water Conservation District
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SOP	Standard Operating Procedure
SPCCP	Spill Prevention Control and Countermeasures Plan
SQG	Small Quantity Generator
SRP	Sustainable Range Program
SUA	Special Use Airspace
SUAIS	Special Use Airspace Information Service
TLRA	Tanana Lakes Recreation Area
TRADOC	Training and Doctrine Command, U.S. Army
TRI	Toxic Release Inventory
TRSA	Terminal Radar Service Area
U.S.	United States
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USAG	U.S. Army Garrison
USARAK	U.S. Army Alaska
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
UXO	Unexploded Ordnance
VFR	Visual Flight Rules
VOC	Volatile Organic Compound
VR	Visual Flight
WOTUS	Waters of the United States
YTA	Yukon Training Area

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1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

The United States (U.S.) Army Garrison (USAG) Alaska proposes to request that Congress extend the current withdrawal of federal public lands in Alaska for continued military use for 25 years or more, until such time as the Department of the Army (Army) determines it no longer needs the land for military purposes.

In October 1999 Congress, through the National Defense Authorization Act for Fiscal Year 2000 (Public Law [PL] 106-65), withdrew 869,862 acres of Alaska public land comprising Yukon Training Area (YTA), Donnelly Training Area East (DTAE), and Donnelly Training Area West (DTAW) from all forms of appropriation under public land laws and reserved them for use by the Army. The withdrawal extends to November 6, 2026. The Army has determined there is a continuing military need for these lands, which are federal lands under the management of the Bureau of Land Management (BLM) withdrawn from public use for military purposes, and is requesting that Congress extend its use of the three training areas.

A formal legislative proposal is required by PL 106-65 for continued military use of YTA, DTAE, and DTAW by the Department of Defense (DoD) beyond 2026. A Legislative Environmental Impact Statement (LEIS) must be prepared as part of the legislative proposal. For the purposes of this LEIS, withdrawal for 25 years or for a longer period (to include an indefinite withdrawal) will be treated as a single action alternative, as the management and uses of the withdrawn lands would be the same for either duration. The current land withdrawal will expire on November 6, 2026, unless Congress enacts legislation to extend the withdrawal.

The Engle Act (PL 85-337, 43 United States Code [USC] § 155 ff.) requires land withdrawals in excess of 5,000 acres be authorized by Congress through legislation. The U.S. Department of the Interior (DOI) has authority to process federal land withdrawal applications (Title 43 of the Code of Federal Regulations [43 CFR] Part 2300). PL 106-65 requires the Army to notify the DOI and Congress whether there is

a continuing military need for the withdrawn lands. Subsequently, the Army and the DOI shall submit a legislative proposal for the proposed action to Congress.

This LEIS is prepared under the provisions of, and in accordance with, the National Environmental Policy Act of 1969 (NEPA; 42 USC §4321 et seq.), the Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508), and 32 CFR Part 651 (Environmental Analysis of Army Actions). Since Congress can withdraw land in excess of 5,000 acres for defense purposes, the Army will not issue a Record of Decision (ROD) following completion of the LEIS. Instead, the Army and the DOI will prepare and submit draft legislation to Congress.

1.2 PROJECT LOCATION

The Army acknowledges that the lands it manages and utilizes for the readiness of the force have been managed for generations by its first stewards. The Dena people of Alaska—past, present, and future—and their dedication to this homeland will be honored by the Army's continually improving stewardship. The Army will work through the government-to-government relationships with Alaska's tribal citizenry to learn and work in partnership toward sustainable management of those lands for as long as they are needed in support of its warriors.

YTA is a rectangular, 390 square-mile parcel covering approximately 246,277 acres. It is located approximately 16 miles east-southeast of Fairbanks and immediately east of, and adjacent to, Eielson Air Force Base (AFB). YTA lies east of the Tanana River between the Chena and Salcha Rivers, and northeast of Richardson Highway. Road access is available year-round throughout the training area (Figure 1.3-1).

DTAE and DTAW are located in the Tanana River Valley in central Alaska, north of the Alaska Range, approximately 80 miles southeast of Fort Wainwright (FWA) near the city of Delta Junction, Alaska. The two parcels cover approximately 623,585 total acres. The two training areas are separated by the Fort Greely main post and Richardson Highway (Figure 1.3-1). DTAE is an 81 square-mile parcel approximately 2.5 miles southeast of Delta Junction between the Richardson and Alaska Highways.

Land and water acreage within the exterior boundary of this area totals 51,590 acres. DTAW is an 894 square-mile parcel located south of Delta Junction between the Richardson Highway and the Little Delta River. Land and water acreage within the exterior boundary of this area totals 571,995 acres. (The acreages in this description are taken from the notice published as required by the National Defense Authorization Act for Fiscal Year 2000 [65 Federal Register [FR] 49012]. Any changes to acreages as described by 65 FR 49012 will be rectified after a cadastral survey is completed in 2022.)

1.3 BACKGROUND INFORMATION

The withdrawn lands were formerly under the jurisdiction of BLM, which manages public lands for multiple uses, including recreation, extractive uses, subsistence uses, and open space. The lands are now managed by both the Army and BLM. Under PL 106-65, BLM can issue leases, easements, rights of way, or other authorization for non-military uses of the withdrawn lands subject to agreement by the Army.

The mission of the 11th Airborne Division is to provide trained and ready forces in support of worldwide unified land operations and to support U.S. Indo-Pacific Command Theater Security Cooperation Program in contributing to a stable and secure operational environment. On order, the 11th Airborne Division executes Joint Force Land Component Command functions in support of Homeland Defense and Defense Support of Civil Authorities in Alaska.

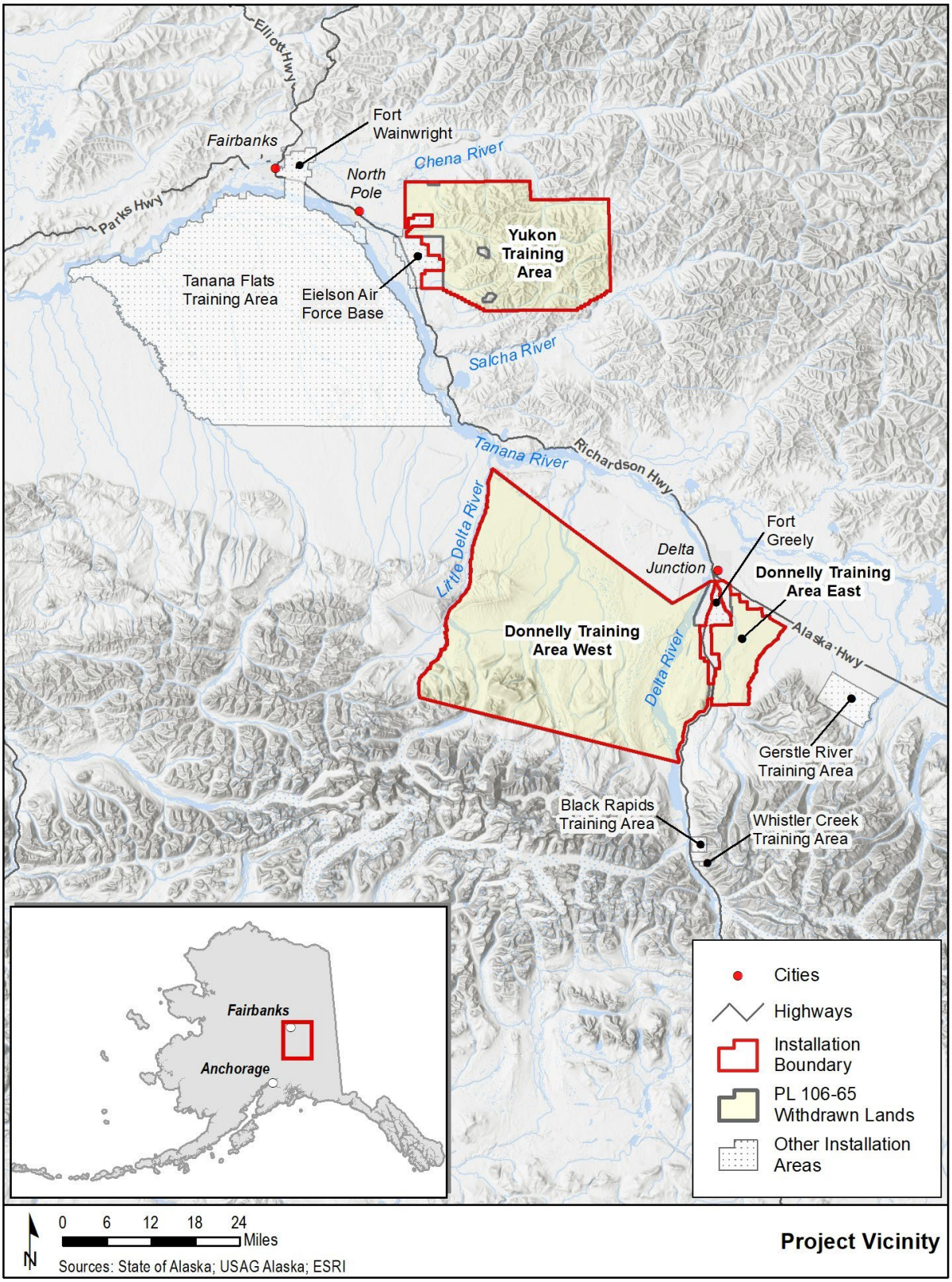

Figure 1.3-1. Project Location and Vicinity

The mission of USAG Alaska is to integrate resources and deliver installation services to enable the readiness of Army forces in Alaska while enhancing the quality of life for soldiers, their families, and communities. USAG Alaska works closely with other military organizations to execute training and testing missions on the withdrawn lands analyzed in this LEIS.

1.3.1 TENANTS

The lands covered in this withdrawal extension application also serve military tenants other than USAG Alaska, as described in the following paragraphs. Future unit and stationing changes that occur would be subject to their own environmental impact analyses.

1.3.1.1 Arctic Support Command

This brigade consists of one battalion (17th Combat Sustainment Support Battalion), the Noncommissioned Officer Academy (NCOA), the Northern Warfare Training Center (NWTC), and Headquarters and Headquarters Detachment (HHD) of the 11th Airborne Division . The battalion, NCOA, and HHD 11th Airborne Division are located at Joint Base Elmendorf-Richardson (JBER), Alaska. The headquarters for the Arctic Support Command is located at FWA.

1.3.1.2 11th Airborne Division

The 11th Airborne Division is the current Army unit stationed in Alaska that will carry out the Army's newly released Arctic Strategy. The prior 1st Stryker Brigade Combat Team, 25th Infantry Division, is now the 1st Brigade Combat Team (BCT), 11th Airborne Division, based out of FWA that actively uses the withdrawn lands on a year-round basis. The prior 4th Infantry Brigade Combat Team (Airborne), 25th Infantry Division, is now the 2nd BCT, 11th Airborne Division. They are home-stationed at JBER and also actively use the withdrawn training lands. Both BCTs participate in annual Combat Training Center training events along with other national and international units.

1.3.1.3 Northern Warfare Training Center

The NWTC is responsible for training military forces for action in arctic and subarctic regions. The mission of the NWTC is to provide cold-weather and mountain warfare training to U.S. military and designated personnel to enhance war-fighting capabilities of the U.S. and coalition partners. The NWTC conducts high-altitude search and rescue missions, tests and evaluates mountaineering techniques and equipment, and trains and equips the military mountaineering team of the U.S. Army Mountain Team. Instruction in winter skills includes snowshoe movement, all-terrain skiing, route selection, risk management, and shelter construction. Summer skills instruction includes technical climbing, fixed-rope installations, glacier travel, stream crossing, route selection, and risk management. The NWTC provides training to support annual exercises, such as Arctic Edge. The NWTC is headquartered at FWA and uses DTAE as a backup location for training courses.

1.3.1.4 Cold Regions Test Center

The Cold Regions Test Center (CRTC) executes a full range of cold-weather or temperate climate tests for soldier equipment, defense technology, artillery, and other training needs. The CRTC utilizes DTAE and DTAW for their unique testing environments. The CRTC is also charged with planning, conducting, and reporting on environmental phases of development tests, and providing advice and guidance on test and evaluation matters to material producers, other armed services, and private industry.

1.3.1.5 U.S. Air Force

The U.S. Air Force (USAF) is a major user of the withdrawn lands. The Air Force Technical Applications Center (AFTAC) provides national authorities with technical measurements to monitor nuclear treaty compliance and develops advanced monitoring technologies to preserve national security. AFTAC maintains a seismic observatory at YTA for data collection and communication.

The USAF 354th Fighter Wing is the northernmost U.S. fighter wing in the world. The 11th Air Force plans, conducts, and coordinates air operations in the restricted airspace (R-2202 and R-2205) over the withdrawn lands.

1.3.1.6 U.S. Alaskan Command

The U.S. Alaskan Command, as the DoD's regional joint headquarters in Alaska, has coordinated with each branch of the U.S. armed forces to develop a strategy to identify joint training opportunities in Alaska, maximize the utilization of training resources, and improve joint context training at all levels. . All U.S. armed forces train with an emphasis on perfecting joint warfighting doctrine and tactics. These joint training events are effective and enable real-world proficiency, producing joint forces that are ready for deployment worldwide.

1.3.2 TRAINING NEEDS

Military land uses in and around the withdrawn lands take four general forms:

- Cantonment or main post areas
- Impact areas
- Training areas
- Ranges and test centers

The withdrawn lands are used only as impact areas, training areas, and ranges and test centers. Cantonment areas operate primarily as conduits for troops, equipment, and supplies routed to and from the withdrawn lands in support of training activities.

1.3.2.1 Impact Areas

Impact areas are used to contain fired or launched ammunition and explosives, and the resulting fragments, debris, and components from various indirect and direct fire weapon systems. Temporary impact areas are used for limited periods of time and for non-dud producing ammunition and explosives and should be cleared and returned to other training support following the end of the firing exercise. Non-dud

producing ordnance is ordnance that fails to function as designed but does not yield a dud that might detonate unexpectantly. Dedicated impact areas are used indefinitely and are normally used for non-sensitive ammunition and explosives. Access to such areas is strictly controlled due to the high safety risk to personnel. High hazard impact areas are permanently designated and are used to contain sensitive high explosive ammunition and explosives, and the resulting fragments, debris, and components. Access to these areas is also limited and strictly controlled due to the extreme hazard of unexploded ordnance.

1.3.2.2 Training Areas

Training areas are management areas where the Army conducts specific training and testing. They include facilities such as ranges, maneuver land, proficiency courses, and direct-support facilities that are dedicated to preparing and sustaining personnel and units to meet mission roles and standards. These facilities include the following:

- Maneuver areas that provide space for ground and air combat forces to practice movements and tactics for offensive and defensive operations
- Bivouac areas where training units establish temporary camps and/or assemble prior to conducting training missions
- Landing zones and pickup zones used for training tactical helicopter operations, landing and takeoff procedures, and inserting troops, equipment, and rotary wing aircraft in cleared areas
- Firing points used to conduct indirect fire of multiple types of weapon systems into the impact areas
- Forward arming and refueling points equipped and deployed to provide fuel and ammunition necessary for the employment of aviation maneuver units in combat
- Observation points used to adjust the firing of indirect fires or close air support into the impact areas
- Assault airstrips used for aircraft landing and take-off operations

- Road corridors and maneuver trails designed to provide access and support based on specific mission needs

The majority of training area acreage is typically undeveloped, allowing for offensive and defensive operations, mounted or dismounted tactical movement, and land navigation. Sites within a training area that support specific training tasks and testing operations may be minimally developed, primarily for temporary camp sites; helicopter pads; firing, observation, and refueling points; and gravel roads and trails.

1.3.2.3 Range and Test Centers

Range and test centers are areas where training and testing support structures have been constructed. Ranges are facilities for weapons firing, demolition, and assault courses, usually containing buildings, targets, or berms. Test complexes include buildings with offices, labs, mobility courses, maintenance areas, and other specialized functions where proximity to training areas, impact areas, and ranges is needed. Testing can take place at any of the training areas and facilities and will generally mimic training missions while controlling as many influencing factors as possible.

1.3.3 MILITARY OPERATIONAL PARAMETERS

Technological changes in warfare continue to affect training concepts and the space required to conduct effective training. Training involves the management of a three-dimensional battlefield, including artillery, missiles, and attack and assault helicopters, combined with USAF air support. Acreage availability should represent the scale of the modern battlefield. Acreage available for maneuvering may be limited due to ranges, impact areas, trafficable terrain, weather, nearby cantonment and built areas, and protected natural areas. Safety zones associated with direct and indirect weapons ranges may further restrict maneuvers on training lands. Training land requirements are dependent on the types of units using the land, their missions and campaign plans, types of weapons in use, live fire training strategy, non-tenant training needs, and the type of terrain available.

The Army Range Requirements Model (ARRM) assembles data from multiple sources to derive the Army's doctrinal range and training land requirements in accordance with Army Regulation 350-19, The Sustainable Range Program (SRP). ARRM contains data on range and training land assets and unit requirements based on training events that are measured in range days at Army installations. Required area for maneuver space (in kilometer square days) and for impact areas (in acres) to complete the training tasks are determined by U.S. Army Training and Doctrine Command (TRADOC) proponents for each task that each type of Army unit conducts at each echelon (platoon, company, battalion, and brigade). These area requirements are multiplied by the unit density, the number of repetitions to complete and maintain proficiency, and the number of days per iteration.

ARRM identifies doctrinal requirements for ranges, training land, and maneuver impact miles and uses a basic algorithm (Quantity Available - Quantity Required = Excess or Shortfall) to model those resource needs. Factors that drive range requirements include the Army Campaign Plan, unit stationing and weapons authorizations, relevant TRADOC circulars, live fire training strategy, and non-tenant training loads.

1.3.4 CURRENT USES

The U.S. military continues to use the withdrawn lands for the same purposes and training actions that necessitated the last withdrawal extension in 1999. Table 1.3-1 through Table 1.3-3 define the level of use of the applicable facilities in the withdrawn lands and provide context for discussion of the need for the project (Section 1.5) and the scope of this LEIS (Section 1.6).

Table 1.3-1. Military Use of YTA, DTAE, and DTAW in Soldier Days

	Yukon Training Area		Donnelly Training Areas	
Facility Type	**Total Soldier Days (2010-2019)**	**Average Soldier Days per Year (2010-2019)**	**Total Soldier Days (2010-2019)**	**Average Soldier Days per Year (2010-2019)**
Training Area	285,530	28,553	339,192	33,919
Drop Zone	53,185	5,319	49,951	4,995
Firing Point / Firing Range	148,448	14,845	188,488	18,849
Observation Point	68,485	6,849	73,892	7,389
Airspace	36,001	3,600	187,685	18,769
Other	90,339	9,034	13,373	1,337

Soldier days equal the number of soldiers trained in a specific task and can vary from a few hours to multiple days depending on the training event.

Source: USARAK 2021

Table 1.3-2. Military Utilization of Facilities at YTA

	1995-1996		2010-2019	
Facility Type	**Total Days [a]**	**Average Days per Year [a]**	**Total Days [b]**	**Average Days per Year [b]**
Training Areas	961	481	4,087	409
Drop Zones	185	93	689	69
Firing Points /Firing Ranges	551	276	5,440	544
Observation Points	146	73	1,972	197
Airspace	N/A	N/A	1,582	158
Other	57	29	3,404	340

Individual site use days are counted independently; therefore, training days are not necessarily equivalent to calendar days.

[a] Source: USARAK 1999

[b] Source: USARAK 2021

Table 1.3-3. Military Utilization of Facilities at DTAE and DTAW

	1988-1995		2010-2019	
Facility Type	**Total Days [a]**	**Average Days per Year [a]**	**Total Days [b]**	**Average Days per Year [b]**
Training Areas	26,239	3,280	7,763	776
Drop Zones	2,094	262	786	79
Firing Points /Firing Ranges	2,150	269	3,620	362
Observation Points	5,639	705	3,209	321

Facility Type	1988-1995 Total Days [a]	1988-1995 Average Days per Year [a]	2010-2019 Total Days [b]	2010-2019 Average Days per Year [b]
Airspace	N/A	N/A	8,418	842
Other	1,162	145	733	73

Individual site use days are counted independently; therefore, training days are not necessarily equivalent to calendar days.

[a] Source: USARAK 1999

[b] Source: USARAK 2021

Table 1.3-1 summarizes the use of facilities on the training lands in total and average soldier days from 2010 to 2019. Table 1.3-2 and Table 1.3-3 summarize the total and average number of site use days each facility was used. Multiple facilities that fall into the same category may be used on the same calendar day. For example, two firing points may be used on one date, but this would add two days to the total utilization count for the firing points/firing ranges category.

Types of training activities that occur at each of the facility types are summarized in Table 1.3-4. Approximate unit strengths are defined in Table 1.3-5.

Table 1.3-4. Types of Training Activities in the Withdrawn Lands

Facility Type	Definition	Associated Infrastructure and Activities	Typical Unit Strength on a Training Day	Typical Equipment Used
Training Areas	General lands and facilities dedicated to preparing and sustaining personnel in occupational skills and standards developed. This also includes maneuver areas, which are spaces for ground and air combat forces to practice movements and tactics. Different types of units may support one another (combined arms), or a unit may operate on its own to practice a specific training strategy.	• Bivouac training • Foot-use and maneuver exercises • Firing ranges • Drop zones • Airstrips • Landing zones • Road corridors • Equipment testing • Ammunition supply points • USAF exercises • Driver's training • Vehicle testing	DTAE/DTAW: Platoon to division sized exercises YTA: Platoon to company sized exercises	• Vehicles • Artillery or ammunition • Weapons systems • Fuel • Aircraft • Tents • Mobile kitchens • Port-a-johns • Heavy equipment for earth-moving
Drop Zones	Cleared areas used for inserting troops or equipment.	• Airborne assault • Air assault in support of combined arms • Aeromedical evacuation • Aircraft landing zones • USAF exercises	DTAE/DTAW: Platoon to brigade sized exercises YTA: Platoon to company sized exercises	• Aircraft • Vehicles • Fuel • Parachutes
Firing Points/ Firing Ranges	Areas from which multiple types of weapons systems are fired and dedicated to preparing and sustaining personnel in weapon systems use and proficiency, usually cleared of vegetation and distinctly designated.	• Ammunitions and weapons testing • Artillery training • Mortar training • Combined Arms Live Fire Exercises	DTAE/DTAW: Platoon to battalion sized exercises YTA: Platoon to company sized exercises	• Weapons systems • Vehicles • Aircraft • Artillery or ammunition

Facility Type	Definition	Associated Infrastructure and Activities	Typical Unit Strength on a Training Day	Typical Equipment Used
Observation Points	Areas that provide views of impact areas during firing training or testing.	• Observation tower or bunker • Artillery firing • Artillery observation • Guided missile tests • Rocket firing tests	DTAE/DTAW: Platoon to company sized exercises YTA: Platoon sized exercises	• Weapons systems • Radar • Vehicles
Other	Includes individual assault airstrips, winter foot use and ski trails, and other various training facilities that do not fall under the other listed categories.	• Joint training exercises (RED FLAG-AK) • Aircraft landing and take-off operations • Biathlon training • Foot-use • Defensive strategies • Demolitions • Cold-weather familiarization training • Obstacle courses	DTAE/DTAW: Platoon to division sized exercises YTA: Platoon to company sized exercises	• Vehicles • Aircraft • Ahkios • Skis • Snowshoes • Unmanned aircraft

Table 1.3-5. Approximate Unit Strengths

Unit	Number of Soldiers
Platoon	30 – 50
Company/Squadron/Troop	100 – 300
Battalion	500 - 1,000
Brigade	2,000 - 6,000
Division	15,000 - 18,000

1.4 PURPOSE

The purpose of the proposed action is to obtain an extension of the land withdrawal of the three training areas for 25 years or more.

1.5 NEED

The Army requires the continued use of YTA, DTAE, and DTAW to execute and fulfill its mission in Alaska. The withdrawn lands provide the Army with the necessary space and unique environmental conditions to complete training and testing required by established training doctrine. Uninterrupted access to suitable training lands is needed to ensure that the Army will continue to produce a force trained to mobilize, deploy, fight, and win anywhere in the world.

Many military operations are affected by the environment under which they are conducted. Therefore, Army training conditions must match or closely resemble all possible environments throughout the world, including arctic and subarctic conditions. The effect of arctic and subarctic environmental conditions on personnel and materials must be understood for survival. Historically, an error that recurs with regularity has been unpreparedness for winter warfare. A theater of military operations in a northern region presents unique tactical challenges. Low temperatures, frozen ground, snow, ice, and a long period of darkness during the winter hinder potential military operations in these environments. Arctic warfare skills continue to be essential in the face of changes in warfare technology. The arctic and subarctic military training and testing conducted on the withdrawn lands cannot be duplicated at any other Army installation.

The CRTC is the only Army facility that tests outdoors at temperatures below freezing, and DTA's winter season allows a long period for repetitive, rigorous testing. Its location in interior Alaska has a winter climate that allows testing of military equipment at temperatures from -5 °F to below -50 °F. Cold-weather testing at these severe winter temperatures, and for the extended duration as occurs at DTAE and DTAW, normally cannot be accomplished at any other Army installation in the United States. Many of the activities necessary to support and conduct testing are routine in nature, involving frequently occurring tests, periodic maintenance activities, and infrastructure improvement projects. DTAW provides the necessary impact area and buffer zone to permit testing of long- and medium-range weapon systems, artillery, and rockets. Major field evaluations are conducted on all types of wheeled and

tracked vehicles, including cross-country mobility during summer and winter; trail breaking operations; difficult terrain performance; durability; reliability; petroleum, oil, and lubricant consumption; and maneuverability. YTA, DTAE, and DTAW are essential to the Army's cold-weather preparedness.

Heavier and faster vehicles, longer combat engagement distances, and the increased frequency of combined arms exercises—including operational exercises with multiple units and/or branches of the military—have made it essential to retain existing training lands and maintain them for realistic training scenarios under all environmental conditions. Military units need as much space to fire and maneuver in training as they would in combat. DTAE and DTAW provide large contiguous training areas and associated impact areas to allow training with a large variety of conventional Army and USAF weapons. Testing and training requirements of existing and developing sophisticated weapon systems require large tracts of land, which are provided by the vast acreage of YTA, DTAE, and DTAW.

Multiple military units rely on the unique arctic and subarctic conditions of the withdrawn training lands to conduct large-scale joint operations and accomplish their missions in Alaska. The ability to conduct air-to-air and air-to-ground operations in the same airspace ensures the effectiveness of training for both the USAF and the Army. Designated impact areas and associated airspace within the withdrawn lands are critical for military aircraft air-to-ground training.

Air drop of both personnel and equipment is essential to support forced-entry missions critical to modern day warfare. The Donnelly Drop Zone in DTAE offers the ability to conduct mass tactical operations of up to battalion-size and large heavy drop resupply missions. The Donnelly Drop Zone is one of the most optimal drop zones in the Army's inventory, with desirable physical size, terrain, wind currents, and accessibility. The capabilities of this drop zone are not available anywhere else in Alaska. The loss of the Donnelly Drop Zone would seriously degrade the ability of the 11th Airborne Division to accomplish its mission as the primary strategic response force for the Pacific Theater. This drop zone is also used extensively to conduct joint exercises with allied and sister service units.

The only air-to-ground ranges available in Alaska are located at Stuart Creek in YTA, Oklahoma/Delta Creek in DTAW, JBER, and Blair Lakes on the nearby Tanana Flats Training Area (see Figure 1.3-1). Blair Lakes is a non-tactical range. Only the Stuart Creek and Oklahoma/Delta Creek impact areas meet the tactical training requirements of the 11th Air Force aircraft. A single range cannot handle multiple flights of fighter aircraft simultaneously. Both YTA and DTAW are needed to fulfill aircraft training operations for the 11th Air Force, a primary tenant of the withdrawn lands.

The Army requires the opportunities offered by the combined and synergistic effect of Alaska's withdrawn lands and the overlying Military Operations Areas (MOAs) and Restricted Areas (RAs). The ability to concurrently employ air and ground conventional weapons in combination with large-scale maneuvering makes Alaska, and the withdrawn lands in particular, a prime choice for joint training operations.

Efficient and predictable training requires uninterrupted access to training lands close to established military installations to minimize cost and maximize time effectiveness of exercises. Training lands must be geographically located to meet unit resource planning for home station training strategy based on frequency and duration of training requirements, such as those specified in Training Circular 25-1. Use of alternate training lands outside of those specifications would incur substantially increased travel costs and logistical challenges to the Army and its tenants. The value of the withdrawn lands is particularly high given their proximity to FWA, which allows for efficient movement of troops, equipment, and supplies in and out of the withdrawn lands.

The combat readiness of the permanently stationed U.S. military forces in Alaska, and all U.S. armed forces, would be compromised without effective arctic and subarctic training and testing provided by the withdrawn lands addressed in this LEIS. In turn, the loss of the use of the withdrawn lands would threaten the military's national defense readiness and its ability to protect U.S. armed forces and interests worldwide.

1.6 SCOPE OF THE LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

This LEIS evaluates the potential environmental consequences of implementing a no action alternative and the proposed action. This document analyzes actions occurring within the withdrawn lands at a qualitative level due to the large scale and wide range of current and ongoing training actions that occur at YTA, DTAE, and DTAW. The resulting evaluation identifies types of actions that may result in significant beneficial impacts, adverse impacts, or impacts requiring mitigation. The Army will use this information in the legislative proposal to continue military use of the lands.

1.6.1 FOCUS OF THE EVALUATION

Because the proposed action would not change the area of the withdrawn lands or result in substantive changes to the cantonment areas of the adjacent military bases or the surrounding communities, the evaluation is focused on ongoing training, testing, and operations within the withdrawn lands. Analysis of resource topics for which potential effects cannot be restricted to the withdrawn lands, such as air quality, noise, and socioeconomics, is performed on a larger scale to include the region of influence for such resource types. Additional effects that have a close causal relationship to the alternatives, such as those that may result from use of the cantonment areas or surrounding transportation infrastructure during troop movements or supply chain logistics, are also described. Descriptions of ongoing actions or types of actions are provided in the following section and provide the basis for evaluation of potential environmental impacts in this LEIS.

New types of training and management measures will likely be needed as the military responds to changing conditions around the world. New projects are not analyzed in this LEIS but will be the subject of separate NEPA analysis when proposed actions are described well enough to be analyzed.

1.6.2 CLASSES OF ACTIONS

In addition to the ongoing training programs and actions described in this section, the Army implements actions to protect natural and cultural resources within the withdrawn lands while maintaining infrastructure to support an evolving military force. The Army's approach to managing natural resources is described in the Integrated Natural Resources Management Plan (INRMP) (USAG Alaska 2020a). The approach to managing cultural resources is described in the Integrated Cultural Resources Management Plan (ICRMP) (USAG Alaska 2020b). Range management measures are described in the U.S. Army Alaska's (USARAK) Range Complex Master Plan database.

Although not all types of training or operations measures can be described in this LEIS, they can be generally organized into classes of actions related to training, stewardship, improvements and modifications to existing structures, and routine operations and maintenance. Table 1.6-1 lists these classes of actions along with examples of projects that have occurred or can be expected to occur on the withdrawn lands. The list of classes of actions in Table 1.6-1 is not exhaustive of the types of activities that may occur under the proposed term of the lands withdrawal. Rather, the listed activities are considered representative in that they are intended to represent broad categories of actions that the Army may need to implement over the life of the withdrawal.

Table 1.6-1. Classes of Actions and Example Projects

Types of Actions	Example Projects or Actions
Training	• Aerial and ground-delivered munitions training and impact areas • Overland maneuvers and bivouac training • Joint training exercises • USAF support facilities for flying exercises, including restricted airspace and landing strips • Range Operation Complex use • Drop zone or landing zone use

Types of Actions	Example Projects or Actions
Stewardship	• Invasive species management • Native species planting and restoration • Fuels reduction • Riparian restoration • Wildlife monitoring • Wildland fire management • Inventory and mapping of natural and cultural resources
Improvements and Modifications to Existing Facilities	• Upgrades to access routes or trails • Landing pad and airstrip improvements • Repairs or updates to signage and other communications features • Replacement of bridges to accommodate heavier vehicles • Fence installation • Infrastructure improvements
Routine Operations and Maintenance	• Pavement repair • Fencing repair • Accessibility upgrades • Trail maintenance • Erosion control • Drop zone vegetation clearing • Bridge maintenance and repair • Boundary line delineation • Equipment and weapons testing • Fuel storage

1.6.3 OTHER RELEVANT ENVIRONMENTAL DOCUMENTS

Additional examples of known and reasonably foreseeable projects and training activities representative of continued military use of the withdrawn lands are identified and incorporated by reference from other environmental documents prepared by the military since 1999. Such actions include the addition of soldiers and new equipment, general increased use of training lands, and a variety of range development projects. The environmental documents provide a synopsis of previous environmental analysis of Army transformation, stationing actions, and evolution of day-to-day operations. Table 1.6-2 provides a brief summary of each document and describes how its analysis and subsequent decisions are relevant to this LEIS.

Table 1.6-2. Summary of Relevant Environmental Documents

Title	Summary	Actions Covered	Areas Covered	Mitigation	Relation to Proposed Action
Alaska Army Lands Withdrawal Renewal, Final LEIS, 1999	Demonstrates the need for and examines the renewal of the existing military land withdrawals in Alaska.	• Training • Testing • Ongoing management of withdrawn lands	YTA, DTAE, and DTAW	• Numerous measures are in place to mitigate impacts to land use, air quality, soils, water resources, vegetation, wildlife, cultural resources, public access and more.	Foundational reference for the ongoing and anticipated use of the withdrawn lands analyzed in this assessment.
Transformation of USARAK, Final Environmental Impact Statement (EIS) & ROD, 2004	Analyzes the impacts to USARAK lands and surrounding communities and land users associated with the transformation of the 172nd Infantry Brigade (Separate) at FWA and Fort Richardson into the 1/25th Stryker Brigade Combat Team	• Stationing • Construction • Training • Systems acquisition • Deployment • Land transactions • Institutional matters (day-to-day actions, plans, and programs not accounted for in other activities) that support the expansion and transformations specific for USAG Alaska	YTA, DTAE and DTAW, in addition to cantonment areas and other military units in AK	• Environmental Management Program • Sustainable Range Program • Integrated Training Area Management Plans • FWA Integrated Natural Resources Management Plan (INRMP) • FWA Integrated Cultural Resources Management Plan (ICRMP) • Other resource specific measures	Foundational reference for the military directives of USAG Alaska and their dedicated mission in Alaska.
USAF F-22A Beddown—Elmendorf Air Force Base, Final Environmental Assessment (EA) 2006	Examines the environmental impacts of replacing two operational squadrons at Elmendorf AFB with F-22A aircraft.	• Increased personnel • Construction of new facilities • Modification of existing facilities • Increased activity in existing Alaskan MOAs	Elmendorf AFB, YTA, DTAE, and DTAW	• FWA ICRMP • Existing measures for noise, air quality, and access	Foundational reference for USAF joint training exercises within MOAs and airspace.

Title	Summary	Actions Covered	Areas Covered	Mitigation	Relation to Proposed Action
USARAK Construction and Operation of a Battle Area Complex and a Combined Arms Collective Training Facility within U.S. Army Training Lands, Final EIS 2006	Analyzes the potential impacts of two new training facilities encompassing approximately 30,000 acres of land.	• Construction of new roads, buildings, and other facilities • Additional training activities and personnel • Increased acreage of maneuvering and surface danger zones	DTAE	• FWA ICRMP • FWA INRMP • Additional project-specific measures to address soils, air quality, water resources, vegetation, wildlife, subsistence, and public access	Includes specific improvements and training activities conducted on withdrawn lands part of DTAE.
Army Growth and Force Structure Realignment to Support Operations in the Pacific Theater, Final Supplemental Programmatic EIS, 2008	Evaluates the effects associated with growing and realigning the Army's force structure to support military operations in the Pacific Theater, including the addition of approximately 2,200 new soldiers in Alaska.	• Increased personnel • Stationing • Training	Cantonment and training areas at Fort Richardson and FWA.	• FWA INRMP • FWA ICRMP • Other training lands management plans	Supplemental reference for personnel impacts and potential increased use of the withdrawn training lands.
Use of the M1117 Armored Security Vehicle at Army Installations in the U.S., Programmatic EA & Finding of No Significant Impact (FONSI), 2008	Analyzes the impacts to all military installations associated with the replacement and testing of new armored vehicle fleets.	• Replacement of armored vehicles	All U.S. Army installations	• Best Management Practices (BMPs) for training with new vehicles in sensitive areas	Programmatic reference for vehicular impacts on military installations.

Title	Summary	Actions Covered	Areas Covered	Mitigation	Relation to Proposed Action
Stationing and Training of Increased Aviation Assets within USARAK, Final EIS, 2009	Examines the proposed aviation expansion for FWA described as part of USARAK's growth and transformation evaluated in the 2004 EIS.	• Increased personnel • Stationing • Construction • Demolition • Training • Increased airfield operations at Ladd Army Airfield	YTA, DTAE and DTAW, in addition to cantonment areas and other military units in AK	• Environmental Management Programs • Project and resource specific BMPs	Incorporates increased airspace use by USAG Alaska in addition to existing use of Alaskan airspace by USAF.
USAG Alaska Range Complex and Training Lands Upgrades, Programmatic EA & FONSI, 2010	Analyzes the environmental impacts of a group of site-specific range improvement projects, develops the small arms complexes at each installation as adaptable use zones, and establishes and analyzes environmental stewardship range construction guidelines.	• Various site-specific range improvement projects • Development of small arms complexes at each installation as adaptable use zones • Establishment of environmental stewardship range construction guidelines	YTA, DTAE, and DTAW	• Cultural resource management in accordance with the FWA ICRMP • Measures to protect surface waters • Measures to identify and conserve wetlands and other vegetative communities • Other standard operating procedures (SOPs) and BMPs	Supplemental reference for the types of site-specific tiered environmental assessments that may occur subsequent to the land withdrawal extension.
CRTC—Army Testing, Infrastructure Improvement and Enhanced Environmental Procedures, Programmatic EA & FONSI, 2012	Analyzes the anticipated impacts of continued test operations and infrastructure improvements on Army lands in Alaska, as well as enhanced procedures for reviewing future environmental impacts.	• Continued testing at the CRTC • Infrastructure improvements • Streamlining of future environmental analysis	CRTC training and testing areas at Fort Greely main post, DTAE, and DTAW	• FWA INRMP • Other BMPs for natural resource protection	Foundational reference for testing specific to military operations in arctic and subarctic environments.

Title	Summary	Actions Covered	Areas Covered	Mitigation	Relation to Proposed Action
Army 2020 Force Structure Realignment, Programmatic EA/ Supplemental Programmatic EA & FONSI, 2013	The 2013 EA and 2014 supplemental EA analyze potential reduction in forces of up to 11,100 personnel at FWA and JBER or an increase of up to 2,000 personnel.	• Fluctuations in personnel and stationing	30 U.S. Army locations were considered under the proposed action, including FWA and JBER	• Cultural resource management in accordance with the FWA ICRMP	Supplemental reference that builds off the 2004 Transformation EIS for changes to the stationing and training of military personnel in AK.
The Modernization and Enhancement of Ranges, Airspace, and Training Areas in the Joint Pacific Alaska Range Complex in AK, Final EIS, 2013	Evaluates the potential environmental impacts for reasonably foreseeable proposed projects associated with identified joint training opportunities among military units in Alaska, efficient utilization of training resources, and improvements to joint training.	• Expanded and increased MOAs • Expanded RAs for joint trainings • Enhanced ground maneuver space • Air and ground-delivered munitions trainings • Drop zone and live fire range use	All lands, waters, and airspace used for military training and testing in Alaska	• Measures pertaining to airspace, air quality, noise, safety, access, and others • Existing management plans • FWA INRMP • FWA ICRMP	Foundational reference for the expansion and improvements of training facilities utilized for joint exercises.
USAF F-35A Operation Beddown—Pacific, Final EIS, 2016	Examines the environmental impacts from basing an additional two squadrons of F-35A aircraft at Eielson AFB.	• Increased personnel • Construction of new facilities • Modification of existing facilities • Increased activity in existing Alaskan MOAs	Eielson AFB, YTA, DTAE, and DTAW	• FWA ICRMP • Existing measures for noise, air quality, and access • Additional protective measures for noise, wetlands, and floodplains	Foundational reference for USAF joint training exercises within MOAs and airspace.
USAG Alaska ICRMP, 2020	Outlines treatment for, and management of, cultural resources on USAG Alaska lands.	• Review of historic properties, archeological sites, and tribal resources • Subsistence use	FWA and Fort Greely cantonment and training areas	• N/A	Meets legal responsibilities for cultural resources management on the proposed withdrawn lands.

Title	Summary	Actions Covered	Areas Covered	Mitigation	Relation to Proposed Action
USAG Alaska INRMP, 2020	Describes standard policies and procedures for managing natural resources to ensure sustainability of USAG Alaska lands.	• Endangered and protected species protocols • Invasive species management • Mineral extraction	FWA and Fort Greely cantonment and training areas	• N/A	Meets legal responsibilities for natural resources management on the proposed withdrawn lands.

Impacts from some of the classes of actions identified in Table 1.6-1 have already been addressed in previously completed NEPA documents. Impacts that have not yet been evaluated will be analyzed in this LEIS.

Environmental review of future actions may be accomplished through the application of categorical exclusions, environmental assessments, and environmental impact statements as defined in Army NEPA implementation regulations found at 32 CFR Part 651 Appendix B.

1.7 DECISION TO BE MADE

The Engle Act requires that withdrawals of public land greater than 5,000 acres for defense purposes be approved by Congress. The Alaska Army lands included in the proposed action for continued military use are each greater than 5,000 acres and total approximately 869,862 acres.

CEQ regulations found at 40 CFR Part 1506.8 describe the necessary steps for completion and submittal of an LEIS. These regulations specify that agencies shall prepare an LEIS in the same manner as a draft Environmental Impact Statement (EIS) but only need to prepare a final LEIS in any of the following cases:

- If the Congressional committee ruling on the proposal requires such a document
- If the proposal results from a study process required by a statute such as the Wild and Scenic Rivers Act
- If Congressional approval is requested for federal construction or other projects that the agency recommends be located at specific geographic locations
- If the agency decides to prepare both a draft and a final LEIS

Since only Congress can withdraw land in excess of 5,000 acres for defense purposes, the Army will not prepare a final LEIS or issue a ROD. Instead, the DoD and the DOI will prepare draft legislation and submit it to Congress. The draft

legislation will contain the agencies' recommendations based on the impact analysis in this LEIS. Congress can extend the withdrawal by passing legislation consistent with the agencies' recommendations or with different provisions. Alternatively, Congress can decline to extend the withdrawal by not enacting legislation. Any mitigation measures implemented as part of the continued military use of the withdrawn lands will be incorporated into the legislation approved by Congress.

Publication and public review of the Draft LEIS are scheduled for late fall and winter of 2022. In accordance with 40 CFR § 1506.8, a Final LEIS is not required for the legislative EIS process. Public comments on the Draft LEIS will be incorporated and submitted as part of the legislative proposal submitted to Congress in fall 2023. The legislation authorizing the military's current use of the withdrawn lands expires in November 2026.

1.8 REGULATORY FRAMEWORK

DoD and DOI actions are subject to regulations and executive orders (EOs) that establish standards for managing and protecting environmental, cultural, and socioeconomic resources. The evaluation in Chapter 4.0 assesses each alternative for compliance with applicable standards and guidance for each resource topic. The primary regulations and EOs that apply to this project include, but are not limited to, those listed in Table 1.8-1.

Table 1.8-1. Statutes and Regulations Considered in this LEIS

Statutes and Regulations	Citations
Alaska Statehood Act	PL 85-508 and 48 USC Ch 2
Alaska Native Claims Settlement Act	43 USC § Ch 33
Alaska National Interest Lands Conservation Act	PL 96-487 (94 Stat. 2371)
American Indian Religious Freedom Act of 1978	42 USC § 1996
Archaeological Resources Protection Act of 1979	16 USC §§ 470aa – 470mm
Army NEPA Regulation	32 CFR Part 651
Bald and Golden Eagle Protection Act of 1940	16 USC § 668 et seq.
Bureau of Land Management withdrawal regulations	43 CFR Part 2300
Clean Air Act, as amended	42 USC § 7401 – 7671q

Statutes and Regulations	Citations
Clean Water Act, as amended	33 USC 1251 – 1387 §§ 401, 402, and 404
Comprehensive Environmental Response, Compensation, and Liability Act of 1980	42 USC § 9601
Council on Environmental Quality regulations	40 CFR Parts 1500 – 1508
Endangered Species Act, as amended	16 USC §§ 1531 – 1544
Engle Act	PL 85-337 and 43 USC 156
Federal Land Policy and Management Act	43 USC § 1714
Fish and Wildlife Coordination Act	16 USC §661 et seq.
Migratory Bird Treaty Act	16 USC §§ 703 – 712
National Defense Authorization Act for Fiscal Year 2000 (includes Military Lands Withdrawal Act dated October 5, 1999)	PL 106-65
National Environmental Policy Act of 1969	42 USC §4321 et seq.
National Historic Preservation Act	16 USC §§ 470 and 36 CFR 800
Native American Graves Protection and Repatriation Act of 1990	25 USC § 3001 et seq.
Rivers and Harbors Act of 1899	33 USC § 10
Sikes Act	16 USC §§ 670a-670o
Withdrawal of Lands for Classification and for Protection of the Public Interest in the Lands in Military Reservations, March 15, 1972	PLO 5187
Consultation and Coordination with Indian Tribal Governments	EO 13175
Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	EO 12898
Federal Compliance with Pollution Control Standards	EO 12088
Floodplain Protection	EO 11988
Invasive Species	EO 13112
Protection and Enhancement of the Cultural Environment	EO 11593
Protection and Enhancement of Environmental Quality	EO 11514 as amended by EO 11991
Protection of Wetlands	EO 11990
Superfund Implementation	EO 12580
Protection of Children from Environmental Health Risks and Safety Risks	EO 13045
Tackling the Climate Crisis at Home and Abroad	EO 14008

1.9 PUBLIC PARTICIPATION

The Army and BLM encourage public participation in the NEPA process and have developed a robust program to ensure that stakeholders—including individuals, Alaska Native tribes, non-profit organizations, and agency staff—are given opportunities to review documents and provide comments. Publicly available documents, background information on the proposed action, a project schedule, contact information, and opportunities for public involvement are accessible on the project website, located at https://home.army.mil/alaska/index.php/fort-wainwright/NEPA.

1.9.1 SCOPING

Scoping is the early and open process to determine the scope of analysis in an LEIS needed to fulfill the Army's due diligence under NEPA. Scoping allows the Army to identify significant issues to be analyzed in depth in the LEIS and eliminate others that are not significant or have been covered by prior environmental reviews from further analysis (40 CFR 1501.9). It includes formal and informal coordination and consultation with other federal, state, and local agencies and tribes, as well as public engagement.

The Army published a Notice of Intent (NOI) to prepare this LEIS in the *Federal Register* on September 24, 2021 (86 FR 183). The publication of the NOI initiated a 30-day comment period that ran from September 24 through October 25, 2021, during which the Army conducted two virtual scoping meetings for members of the public and agency representatives, respectively. Members of the public, government agencies, Alaska Native tribes and tribal organizations, private organizations, and other interested parties were invited to comment on the proposed scope and content of the LEIS at the meetings or through mail, email, or the project website. Representative copies of letters sent to tribal organizations and local, state, and federal agencies to solicit participation are provided in Appendix 1.0. The Army published a series of notices in the *Fairbanks Daily News-Miner* and the *Delta Wind,* and also ran daily public service announcements on radio station KUAC. Digital

advertisements were placed on the State of Alaska Online Public Notice website, USAG Facebook page, Directorate of Public Works Facebook page, Environmental Division Facebook page, and What's Up Listserv. These announcements were intended to inform the local community of the Army's intent to prepare the LEIS and to hold a public scoping meeting to discuss the proposed project and solicit public comments for consideration in the development of alternatives and subsequent efforts for impacts analysis. The Army collected thirty-three distinct comments that included suggestions for the resource areas to be included in the LEIS and appropriate level of analysis, questions on the development of alternatives and the rationale for choosing the preferred alternative, and interest in impacts to land management under each alternative. Materials and related information from the scoping period, including meeting transcripts and comments received, can be found in Appendix 2.0.

1.9.2 COOPERATING AGENCY

The BLM has agreed to participate as a cooperating agency in the preparation of this LEIS. The Secretary of the Interior and the Secretary of the Army manage the lands subject to conditions and restrictions necessary to permit the non-military use of these lands. The Army is required to prepare and submit a withdrawal extension application to BLM, and the DoD and DOI will work together to draft the proposed legislation to be submitted to Congress.

1.9.3 PUBLIC INVOLVEMENT ACTIVITIES

The Army has developed a variety of methods to engage the public in the most effective manner possible. Another set of meetings will occur once the notice of availability for the Draft LEIS has been published in the *Federal Register*. Additional information about future public involvement opportunities and how to provide comments in this LEIS can be found on the project website (https://home.army.mil/alaska/index.php/fort-wainwright/NEPA). The Army will publicize upcoming meetings through local newspapers, press releases,

announcement boards, flyers, mailings, and email communication and will solicit feedback and comments during the next comment period.

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2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

NEPA requires the preparer of an EIS to define and consider a range of reasonable alternatives. Reasonable alternatives are those that are technically and economically feasible, meet the purpose and need for the proposed action, and, where applicable, meet the goals of the applicant (40 CFR 1508.1(z)). The Army developed possible alternatives for the continued military use of the withdrawn lands based on the input received from various state and federal resource agencies, Native Alaskan tribes, and the public during the scoping process.

Training needs and military operational parameters were used to determine if an alternative would satisfy the purpose of and need for the proposed action. During this screening process, the Army determined that to meet the purpose and need, an alternative must directly facilitate the military achieving its mission in Alaska by fulfilling the required training needs described in Section 1.3.2 and providing the acreage needed for modern training and testing as described in Section 1.3.3. Given that the Army has invested significant resources in developing training infrastructure in the areas withdrawn by PL 106-65, any action other than the ability to use the withdrawn lands would not meet the purpose and need. The screening process and the alternatives considered but eliminated from further evaluation are briefly described in the following sections.

2.2 PROPOSED ACTION

The Army proposes to request that Congress extend the current withdrawal from public use of YTA, DTAE, and DTAW (approximately 869,862 acres total) for 25 years or more until such time as the Army determines it no longer needs the lands for military purposes. The Army's selection of the proposed action's time period is based on requirements of substantial land mass to support military training in arctic and subarctic environments, which will continue to be critical to national defense

preparedness. The military's operational planning horizon is limited by withdrawal extensions of less than 25 years. Moreover, the economic and human resources commitment required for more frequent extensions places a substantial burden on the Army.

The Army's proposed action considers the long-term availability of the lands to support ongoing development of training infrastructure and technology, while effectively utilizing resources (both dollars and personnel) to protect resource values and implement environmental resource management measures.

2.3 SCREENING CRITERIA

The Army and BLM developed the screening criteria described in the following sections to evaluate reasonable alternatives and determine their ability to satisfy the purpose of and need for the proposed action. Alternatives that failed to meet one or more of the screening criteria were eliminated from further consideration in the LEIS. Preliminary alternatives that were subject to screening and the results of the screening process are described in Section 2.5.

2.3.1 SCREENING CRITERION 1: TRAINING NEEDS

The action must facilitate the Army and its tenants in achieving their mission in Alaska by fulfilling the required training needs. Training needs are met at the withdrawn lands designated as impact areas, training areas, and range and test centers, as described in Section 1.3.2. These three types of areas are designated due to their ability to support specific training tasks and testing operations, their proximity to interrelated resources and infrastructure, and their situations relative to surrounding land uses. Most of these areas have been used in their current form for decades, are permanently designated to serve their current purpose, and may include infrastructure and access features that would be difficult to replicate elsewhere.

2.3.2 SCREENING CRITERION 2: ARMY OPERATIONAL PARAMETERS

The action must facilitate the Army achieving its mission in Alaska by providing the required acreage for modern training and testing. As described in Section 1.3.3, to replicate real-world combat situations as fully as possible, training acreage must represent the scale of the modern battlefield, taking into consideration limiting factors such as land use designations, trafficable terrain, and weather. Training land requirements are determined through long-term planning efforts that are informed by the needs of the various Army units that train in the withdrawn lands.

2.3.3 SCREENING CRITERION 3: FEASIBILITY

The action must allow for cost-effective, uninterrupted training opportunities similar in scale and quality to current conditions. The need for the proposed land withdrawal extension was determined by the Army based on long-term training requirements, the practicality and cost-effectiveness of moving or expanding training lands, and the technological and logistical challenges that a given alternative would represent. Based on the requirement for uninterrupted access to suitable training areas, any alternative that would curtail training opportunities would not meet the purpose and need for the proposed action.

2.4 ALTERNATIVES CONSIDERED

In addition to a No Action Alternative, under which the withdrawal would not be extended, the Army and BLM screened the action alternatives in Table 2.4-1 for their ability to meet the purpose and need.

Table 2.4-1. Alternatives Considered in the Screening Process

Alternative	Description
1	Extend Withdrawal for 25 Years or More
2	Transfer Administrative Jurisdiction from DOI to DoD
3	Extend Withdrawal for Less than 25 Years
4	Partial Land Withdrawal
5	Acquire Additional Training Lands
6	Acquire Alternate Training Lands
7	Use Existing Alternate Training Lands

2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER CONSIDERATION

The following sections describe alternatives that were eliminated from further consideration because they did not meet one or more of the screening criteria.

2.5.1 ALTERNATIVE 2: TRANSFER ADMINISTRATIVE JURISDICTION FROM DEPARTMENT OF INTERIOR TO DEPARTMENT OF DEFENSE

This alternative would permanently transfer administrative jurisdiction of the training lands from DOI to DoD for military use by Public Law. Under this alternative, in addition to transferring administrative jurisdiction to the DoD, Congress may enact that the land become property under the Federal Property and Administrative Services Act of 1949. If this were to occur, the Army would use and manage the land under its own authorities, including, if specified by Congress, the ability to dispose of the land out of federal ownership. The Army would have the right to grant others use of the land in accordance with authorities and delegations specific to the Army or DoD. BLM would not retain any management authority for these lands under this alternative, unless specified by this or other applicable legislation. Congress is not likely to pursue this alternative as the circumstances in Alaska are unlike instances of intermingled land status where Congress has previously taken such an action.

Because a permanent transfer would not likely be approved by Congress, it does not meet the feasibility screening criterion and is not carried forward for full analysis. Further, training actions implemented under this alternative would be the same as those described under Alternative 1; impacts that would be overwhelmingly the same as those identified under Alternative 1, so detailed analysis of this alternative is not necessary.

2.5.2 Alternative 3: Extend Withdrawal for Less than 25 Years

The Army considered an alternative that would withdraw the same training lands for a period of less than 25 years rather than requesting a minimum 25-year extension, the time period which was granted previously under PL 106-65. Under this alternative, the military's use and management of the withdrawn lands would remain the same but for a shorter time period. Given that the Army has identified that a long-term withdrawal extension is needed to ensure predictable training conditions and to justify investment in the training lands (see screening criteria in Section 2.3), an extension of less than 25 years does not meet the need for the proposed action.

2.5.3 Alternative 4: Partial Land Withdrawal

The Army considered an alternative to extend the use of only two of the three withdrawn areas. This alternative would eliminate the withdrawal of YTA, DTAE, or DTAW. This alternative would also consider excluding certain areas from the withdrawal frequently used for recreational purposes.

The need for each of the three withdrawn training areas is defined in Section 1.5. The loss of any one of the training areas would result in considerable costs of time and travel incurred by the Army to access other military training sites in Alaska.

The training and testing environments on each of the three withdrawn lands include extreme winter temperatures for extended durations that cannot be duplicated at any other existing Army locations. In addition, the capabilities of the drop zones and impact areas located within YTA, DTAE, and DTAW are not available elsewhere in Alaska. A single range cannot handle multiple flights of fighter aircraft simultaneously,

and therefore cannot meet the tactical training requirements of the 11th Air Force. The current boundaries of each of the training areas includes necessary acreage to perform military activities realistically and safely. The loss of any of these facilities would seriously degrade the ability of the Army and other tenants of the withdrawn lands to accomplish their missions or conduct joint exercises with allied and related service units.

Present Army training and testing needs require the use of all existing military lands to fulfill their mission in Alaska. Therefore, the Army eliminated this alternative from further study.

2.5.4 Alternative 5: Acquiring Additional Training Lands

The Army considered acquiring more land in addition to extending the current land withdrawal to enable greater weapons system training by the USAF while increasing the Army's ability to conduct joint training by linking training areas. Although the Army has not performed a detailed assessment of the amount of additional land that would be needed for such training or where such land might be found, additional land acquisition falls outside the scope of this withdrawal extension action and could be cost prohibitive.

Additional training lands may offer training opportunities similar to those found within the existing withdrawn lands, but acquisition would be subject to DoD's planning and procurement process. The procurement process involves several steps, including developing an acquisition proposal, attaining Congressional approval, and programming the money through DoD's budgetary process. In addition to acquiring the lands, the process leading up to using the lands for training purposes would require extensive environmental review, coordination with Alaska Native entities and permitting agencies, coordination with tenants' planning processes, and development of infrastructure on the acquired lands. As each of these steps may take several years, the cumulative planning, acquisition, and development process of new training lands could extend past the expiration of the current withdrawal of YTA, DTAE, and DTAW, resulting in disruption of current training activities. For these reasons, this alternative was eliminated from further study.

2.5.5 ALTERNATIVE 6: ACQUIRING ALTERNATE TRAINING LANDS

The Army considered an alternative to acquire alternate sites in Alaska to relocate its training and testing activities. It would be unreasonable and impractical to relocate military training and testing activities to other public lands and establish new high hazard impact areas. Complete cleanup and decontamination at the existing high hazard impact areas would be expensive and technologically challenging. Additionally, land acquisition would likely result in disruptions of training activities similar to those described for Alternative 5.

2.5.6 ALTERNATIVE 7: USE OF EXISTING ALTERNATE TRAINING LANDS

The Army considered an alternative to consolidate the existing training capabilities and capacity to 11th Airborne Division training areas not covered under PL 106-65. These training areas include the Richardson Training Area, Tanana Flats Training Area, Gerstle River Training Area, and Black Rapids Training Area. It would be unreasonable and impractical to consolidate military training and testing activities to these areas, as there are either no excess training lands available at any of these locations or they lack existing, critical infrastructure necessary to facilitate uninterrupted access to training opportunities for the Army and its partners following the loss of the PL 106-65 lands. Consolidating the mission capabilities present at DTAE, DTAW, and YTA would result in further training constraints in the training areas not withdrawn under PL 106-65.

2.6 ALTERNATIVES CARRIED FORWARD FOR ANALYSIS

This section describes the alternatives carried forward for detailed analysis in this LEIS. Although the No Action Alternative would not meet the purpose and need for the proposed action, it provides a baseline comparison for the action alternative, in accordance with 40 CFR Part 1502. The action alternative is assumed to meet the Army's goal of continuing to provide comprehensive cold-weather training and testing opportunities at YTA, DTAE, and DTAW.

2.6.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, Congress would not extend the withdrawal. Upon expiration of the current withdrawal on November 6, 2026, the lands would no longer be available for military use by the Army. The resulting effect on military operations would include a reduction in cold-weather defense preparedness in the Arctic.

Upon expiration of the withdrawal, DOI would determine whether the lands were suitable for restoration to the public domain in accordance with all applicable federal requirements (43 CFR 2374.2, 40 CFR 312.20). If the lands were determined to be contaminated to an extent that would prevent their acceptance into the public domain, the Army would take appropriate steps to warn the public of risks associated with entry into contaminated areas, decontaminate the lands to the applicable levels as required, and report to the DOI on decontamination efforts (PL 106-65 Section 3017(e)).

Non-contaminated lands determined suitable and returned to the public domain would be managed by BLM in accordance with applicable laws, regulations, and BLM's current resource management plans (RMPs) (BLM 2002a, 2002b) until new plans could be developed. This LEIS assumes that lands currently available for public use would be accepted back into the public domain and continue to be open for casual uses including recreation, hunting, and federal priority for subsistence following the expiration of the withdrawal.

In addition to the PL 106-65 withdrawal, the training lands would also be withdrawn by Public Land Order (PLO) 5187 (37 FR 5591). Published in 1972, PLO 5187, as amended, preceded PL 106-65 and withdrew military lands in Alaska from all forms of appropriation under the public land laws, including selections by the State of Alaska under the Alaska Statehood Act, location and entry under the mining laws, and leasing under the Mineral Leasing Act. Therefore, upon expiration of the PL 106-65 withdrawal, the lands would not immediately be open to any form of appropriation under the public land laws. Any selections by the State of Alaska under the Alaska Statehood Act (PL 85-508) would only become valid if PLO 5187 were revoked or modified, which would require future NEPA analysis.

Any future administrative changes to the management of the lands beyond the immediate actions of Army decontamination efforts and BLM's suitability determination for returning the lands to the public domain fall outside the scope of this LEIS.

2.6.2 ALTERNATIVE 1: EXTEND WITHDRAWAL FOR 25 YEARS OR MORE

Under Alternative 1, and subject to valid existing rights, the withdrawn lands would continue to be withdrawn from all forms of appropriation under the public land laws, including mining laws, mineral leasing laws, and geothermal leasing laws, for 25 years or more, until such time as the Army determines it no longer needs the lands for military purposes. These lands would be reserved for use by the Army for military maneuvering, training, equipment development and testing, and other defense-related purposes.

If the withdrawal period is extended, the Secretary of the Interior would continue to manage the lands subject to conditions and restrictions necessary to permit the military use of these lands. Management of these lands would follow all existing, applicable management plans and policies, including those outlined in Section 2.6.2.3. The Secretary of the Army would close any road, trail, or portion of the lands to public use as needed for public safety, military operations, or national security. The Secretary of the Interior would issue a lease, easement, right-of-way, or authorization for non-military use of these lands with the concurrence of the Secretary of the Army. Hunting, fishing, and trapping on these lands would be permitted in accordance with the provisions of 10 USC § 2671.

The Army is proposing that Congress only extend the period of use of the existing withdrawn areas, not expand or add impact areas on the withdrawn lands. Military activities conducted on the withdrawn lands would be consistent with those conducted since the previous withdrawal in 1999 under PL 106-65 (see Section 1.6). Training actions include those that were evaluated in a previous LEIS (USARAK 1999) and additional training and management programs that have been evaluated in subsequent NEPA documents. Ongoing training actions or programs and their associated environmental documentation are summarized in Table 1.6-2 in Section

1.6.3. Training activities and operations specific to YTA, DTAE, and DTAW are described in the following sections.

2.6.2.1 Yukon Training Area

YTA has a broad range of facilities to support both ground and aviation training. The training ground is suitable year-round for artillery and mortar indirect fire weapons, aerial gunnery, small arms, platoon- to brigade-sized exercises, road marches, and bivouacs. Facilities include automated collective live fire ranges (Digital Multi-Purpose Training Range and the Infantry Platoon Battle Course), a Combined Arms Live Fire Exercise (CALFEX) area, two Infantry Squad Battle Courses, a Flight Landing Strip (FLS), three Forward Arming and Refueling Points (FARPs), and a drop zone (Figure 2.6-1).

The Stuart Creek Impact Area is the only dudded impact area in YTA. This impact area has portions that are known to contain improved conventional munitions such as cluster bombs. It is used by both Army and USAF personnel for aerial gunnery, bombing, surface-to-air, air-to-surface, and direct and indirect fire exercises. Access to these areas is restricted and requires additional safety procedures. This impact area is used for both aerial and ground delivered munitions.

In addition to the Army training facilities, USAF has constructed and uses numerous range support facilities throughout the training area. These facilities support major flying exercises, such as Red Flag-Alaska, and are normally off limits. One RA designated by the Federal Aviation Administration (FAA), R-2205, covers the majority of the training area. FWA Range Operations controls use of this airspace, and it is closed to all aircraft up to an altitude of 20,000 feet above mean sea level during periods of scheduled activity. USAF is a major user of YTA for routine training and major flying exercises.

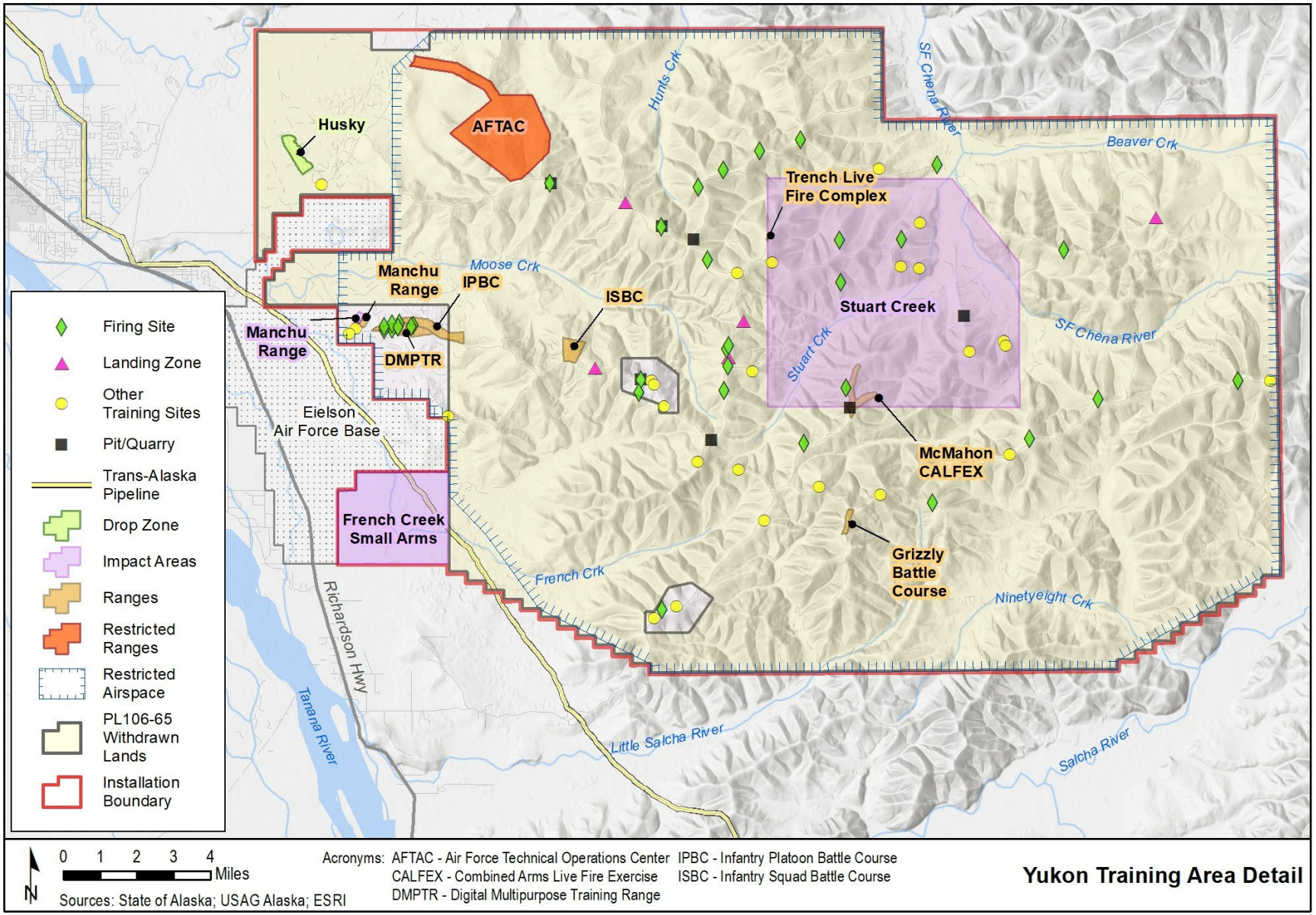


Figure 2.6-1. Yukon Training Area Detail Map

2.6.2.2 Donnelly Training Area East and Donnelly Training Area West

DTAE and DTAW are a part of the FWA training grounds (see Figure 2.6-2). These training areas are used for annual readiness training exercises that involve up to 14,000 troops for division-sized exercises. These exercises include the use of other Alaska installations, but DTAE and DTAW serve as the main training grounds.

DTAE and DTAW have nine adjoining impact areas, totaling approximately 141,000 acres. The primarily utilized impact areas are Mississippi Impact Area and Oklahoma Impact Area. Access to these areas is restricted, and use requires specific safety procedures. Impact areas are available for both aerial and ground delivered munitions.

Year-round access by road is available throughout DTAE. DTAW contains landing and drop zones accessible by aircraft. The Delta River flows north through DTAW's eastern portion, making it an excellent but challenging area for river crossing operations during the entire year. When the Delta River is frozen, usually November to April, winter trails are used for ground access to DTAW.

Two FAA-designated RAs—R-2201 and R-2202—are located over DTAE and DTAW. Donnelly Training Area Range Operations controls use of this airspace, and it is closed to all aircraft during periods of scheduled activity. DTAE and DTAW are used by USAF for training and major flying exercises. There are four Controlled Firing Areas adjoining R-2202 to the east.

DTAE and DTAW have a broad range of facilities to support both ground and aviation training. Facilities include automated collective live fire ranges (Collective Training Range, Aerial Gunnery Range, Combined Arms Collective Training Facility, and Battle Area Complex [BAX]), a CALFEX area, a C-17 FLS, seven FARPs, and several drop zones. In addition to the Army training facilities, USAF has emplaced numerous range support facilities throughout the training areas. These facilities support major flying exercises such as Red Flag-Alaska and are normally off limits. DTAE and DTAW also host the Cold Regions Test Center described in Section 1.3.1.4.

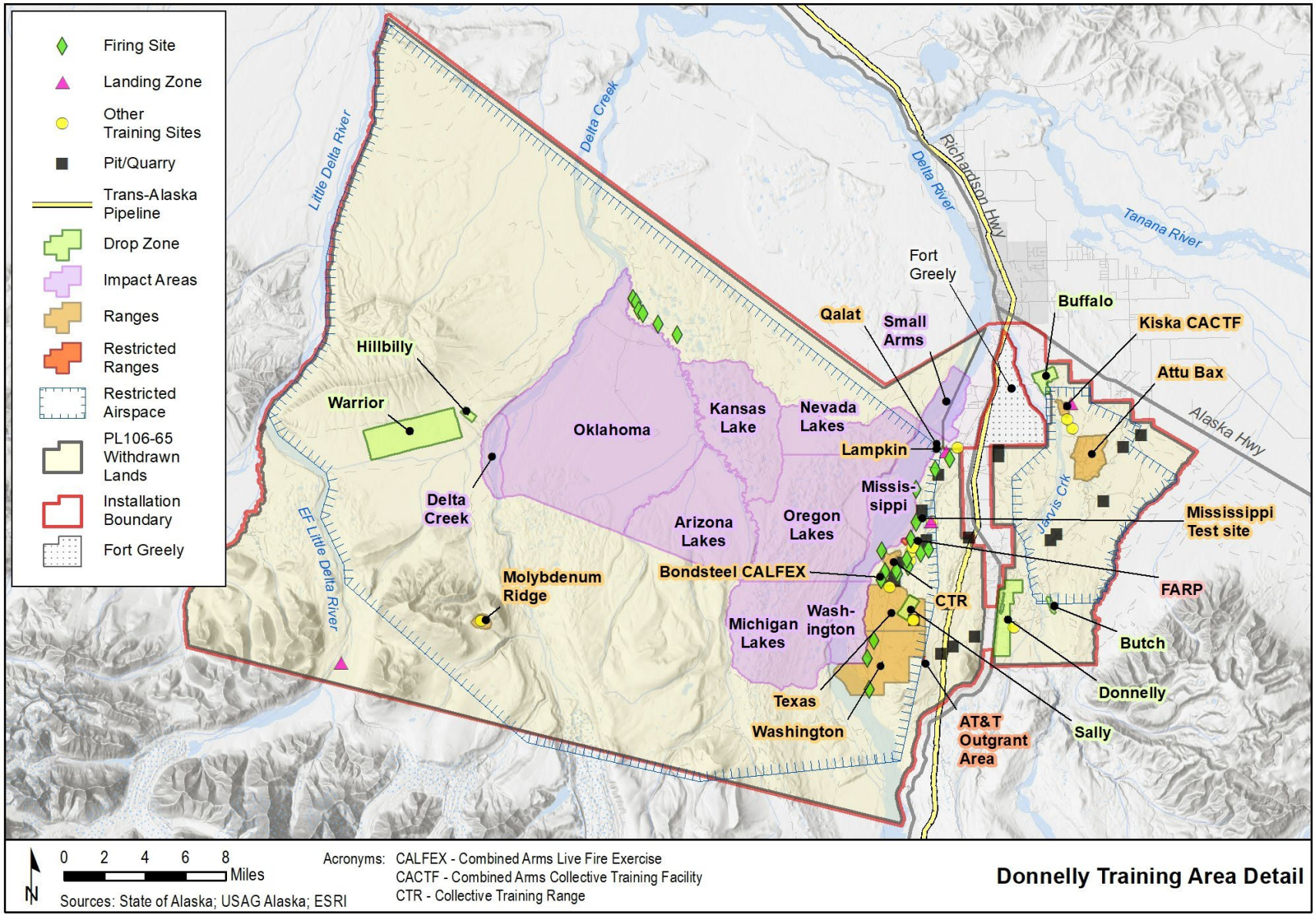


Figure 2.6-2. Donnelly Training Area Detail Map

2.6.2.3 Impact Avoidance Measures and Monitoring Procedures

Various plans and programs are implemented on the withdrawn lands to achieve the military's mission while offering resource protection and managing public use. These programs, which include ongoing measures for managing and protecting natural and cultural resources as well as mitigation measures put in place to address the effects of ongoing training and operations, would continue for the duration of the proposed withdrawal extension. The sections below describe the primary programs and best management practices (BMPs) the Army has implemented to diminish the potential impacts of training and operations on the withdrawn lands. No new mitigation measures outside of the BMPs and standard operating procedures (SOPs) described in existing plans and programs have been proposed as part of this LEIS.

2.6.2.3.1 Sustainable Range Program

The Sustainable Range Program (SRP) is the Army's overall approach for improving the way in which it designs, manages, and uses its ranges to ensure long-term sustainability. SRP is defined by its core programs, the Range and Training Land Program and the Integrated Training Area Management (ITAM) Program, which focus on the capability of the Army's ranges and training land.

The Range Complex Master Plan for FWA is a living document developed by the SRP to establish the range, maneuver, and testing land requirements needed to support the 11th Airborne Division's training and testing missions.

The SRP planning process integrates mission support, environmental stewardship, and economic feasibility and defines procedures for determining range projects and training land requirements to support live-fire and maneuver training. The planning process occurs annually.

The ITAM Program—managed by Army Headquarters, ITAM Lead Agents, Army Execution and Supported Commands, and installations—is responsible for maintaining training land to help the Army meet its training requirements. To accomplish this mission, ITAM relies on five components:

- Training Requirements Integration
- Land Rehabilitation and Maintenance
- Range and Training Land Assessment
- Sustainable Range Awareness
- SRP Geographic Information Systems

2.6.2.3.2 Conservation Management Plans and NEPA Documentation

USAG Alaska's Environmental Division oversees the development and implementation of conservation measures on the withdrawn lands with respect to environmental considerations identified in management plans and NEPA documentation. Table 2.6-1 identifies applicable NEPA documents, management plans, and Environmental Division SOPs that are used to ensure that resource protection measures are identified and followed on a project-by-project basis.

Table 2.6-1. USAG Alaska Environmental Documentation

Title	Publication Date
Cold Regions Test Center, Army Testing, Infrastructure Improvement and Enhanced Environmental Procedures; Final Finding of No Significant Impact and Programmatic Environmental Assessment	February 2012
USAG Alaska Army Compatible Use Buffer Zone Plan	November 2021
USAG Alaska Directorate of Public Works Environmental Division, Environmental Requirements for Construction, Demolition, and Renovation Projects, Version 9	October 2019
USAG Alaska Hazardous Material and Waste Management Plan	December 2013
USAG Alaska Integrated Cultural Resources Management Plan	March 2020
USAG Alaska Integrated Natural Resources Management Plan	June 2020
USAG Alaska Integrated Solid Waste Management Plan, Fort Wainwright	February 2015
USAG Alaska Installation Compatible Use Zone Study	December 2017

Title	Publication Date
USAG Alaska Range Complex and Training Lands Upgrades; Final Finding of No Significant Impact and Programmatic Environmental Assessment	March 2010
USAG Alaska Spill Prevention, Control, and Countermeasure Plan	January 2018
USAG Alaska Wildlife Aircraft Strike Hazard Plan	January 2019
USAG Alaska Public Affairs Office, Noise Compliant Management Plan	July 2020

2.6.2.3.3 Reporting Requirements

To satisfy PL 106-65 reporting requirements, the Army completed the documents listed in Table 2.6-2.

Table 2.6-2. Reporting Requirements Mandated in PL 106-65

Section	Requirement	Action
Section 3014(c)	Management plans for the withdrawn areas	• USAG Alaska, Integrated Natural Resources Management Plan. June 2020 • Memorandum of Understanding between the U.S. Department of the Interior Bureau of Land Management and U.S. Army Garrison Fort Wainwright Concerning Management of Lands in Alaska Withdrawn by PL 106-65 for Military Use. March 2016 • BLM Area RMPs
Section 3014(d)	Brushfire documentation	• USAG Alaska / 11th Airborne Division / BLM / BLM Alaska Fire Service Annual Operating Plan for Wildland Fire Management Services
Section 3017(b)	Annual decontamination reporting	• PL 106-65 Decontamination Reports from 2000, 2002 – 2006 • Annual 11th Airborne Division and Eielson Air Force Base range clean-up reports
Section 3016(b)	Sikes Act reporting	• Memorandum of Understanding between the U.S. Department of the Interior Bureau of Land Management and U.S. Army Garrison Fort Wainwright Concerning Management of Lands in Alaska Withdrawn by PL 106-65 for Military Use. March 2016 • USAG Alaska 2019 Natural Resources Management Report to the Bureau of Land Management. February 2020

2.7 SUMMARY RESULTS OF SCREENING

Table 2.7-1 presents summary results of the screening process for the identified alternatives.

Table 2.7-1. Results of the Screening Process

Alternative	Does the Alternative Meet the Screening Criteria?		
	1. Training Needs	**2. Army Operational Parameters**	**3. Feasibility**
No Action Alternative	No—Under the No Action Alternative, the proposed land withdrawal extension would not occur, and the training opportunities would be lost.	No—Under the No Action Alternative, the proposed land withdrawal would not occur, and the acreage needed for operations would be lost for use by the Army.	No—The expiration of the withdrawal would result in interruption of training activities.
Alternative 1: Extend Withdrawal for 25 Years or More	Yes— The Army would retain training opportunities on the withdrawn lands. Current and foreseeable training actions would continue.	Yes—The Army would continue to have access to the withdrawn lands, which are considered sufficient for current and foreseeable operational needs.	Yes—This alternative would allow for uninterrupted access to training lands.
Alternative 2: Transfer Administrative Jurisdiction from DOI to DoD	Yes—The Army would retain training opportunities on the withdrawn lands.	Yes—The Army would continue to have access to the withdrawn lands, which are considered sufficient for current and foreseeable operational needs.	No—This alternative would not guarantee uninterrupted access to training facilities.
Alternative 3: Extend Withdrawal for Less than 25 Years	Yes— The Army would retain training opportunities on the withdrawn lands. Current and foreseeable training actions would continue.	Yes—The Army would continue to have access to the withdrawn lands, which are considered sufficient for current and foreseeable operational needs.	No—A reduced land withdrawal period would require additional costs and resources to maintain uninterrupted access to the training lands over a shortened time period.
Alternative 4: Partial Land Withdrawal	No—Training opportunities would be diminished due to reduced access.	No—Reduced training area would not offer acreage needed for a full array of operational needs.	Yes—This alternative meets this criterion assuming that the partial land withdrawal is completed prior to expiration of the current withdrawal.

Alternative	Does the Alternative Meet the Screening Criteria?		
	1. Training Needs	**2. Army Operational Parameters**	**3. Feasibility**
Alternative 5: Acquire Additional Training Lands	Yes— The Army would retain training opportunities on the withdrawn lands. Current and foreseeable training actions would continue, in addition to new training opportunities on additionally acquired lands.	Yes—This alternative would result in acquiring a greater amount of land with a sufficient range of environmental and physical conditions to support current and foreseeable operational needs.	No—The process of identifying, acquiring, and developing additional lands could extend beyond the expiration date of the current withdrawal, resulting in interruption of training opportunities.
Alternative 6: Acquire Alternate Training Lands	Yes—This alternative assumes that alternate training lands would offer a similar array of environmental and physical features.	Yes—This alternative assumes that an area of equal or greater size with a sufficient range of environmental and physical conditions is available to support current and foreseeable operational needs.	No—The process of identifying, acquiring, and developing alternate lands would extend beyond the expiration date of the current withdrawal, resulting in interruption of training opportunities.
Alternative 7: Use of Existing Alternate Training Lands	No—Training opportunities would be diminished due to a substantial decrease in impact areas, training areas, and established ranges. Size constraints prevent full consolidation of military training capabilities provided under the withdrawn lands.	No— 11th Airborne Division training lands not covered under PL 106-65 are significantly undersized and would not meet operational needs.	No—It would not be feasible to consolidate infrastructure to other 11th Airborne Division training lands due to the amount of land required to support range and training requirements.

3.0 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This chapter describes the affected environment of the withdrawn lands and the regional setting in which they are found. The affected environment includes the areas and the resources that may experience environmental effects resulting from implementing the alternatives described in Chapter 2.0. For each resource area or other topic of evaluation, a region of influence (ROI) is described. The ROI varies among resource areas and defines the geographic extent of potential effects from the alternatives on the important elements of that resource.

3.2 LAND USE AND VISUAL RESOURCES

Land use refers to real property classifications that indicate natural conditions or human activity. Natural land use categories include properties that are unimproved, undeveloped, or used for preservation or conservation. Human land use categories include residential, commercial, industrial, agricultural, institutional, and recreational.

Visual resources include natural or human built features such as buildings, natural areas, or traditional cultural properties.

3.2.1 REGION OF INFLUENCE

The ROI for land use includes the withdrawn lands and the land that immediately surrounds them. The ROI for visual resources includes the withdrawn lands and viewsheds that include the withdrawn lands, on both a local and long-range basis. Distant views extend out from the ROI as far south as the Alaska Range.

3.2.2 LAWS AND REGULATIONS

The primary laws, regulations, and authorities that apply to land use for this project include, but are not limited to, those listed in Table 3.2-1. There are no federal or

state laws or regulations regarding visual resources, and there are no state restrictions that apply to scenic byways.

Table 3.2-1. Laws, Regulations, and Authorities Related to Land Use

Regulation or Authority	Description
Sikes Act (16 USC 670)	• Requires that secretaries of military departments carry out programs to provide for the conservation and rehabilitation of natural resources on military installations that are consistent with the use of military installations to ensure the preparedness of the Armed Forces. • Requires the sustainable multipurpose use of natural resources, including hunting, fishing, trapping, and non-consumptive uses. • Allows for public access to military installations to facilitate recreational use, subject to safety requirements and military security.
PL 94-579, Federal Land Policy and Management Act of 1976, as amended	• Requires that federal land should remain under federal ownership and established a regulatory system for BLM to manage federal lands. • Established a multiple use management policy under which BLM would balance its management of the land to meet diverse needs, including recreation, grazing, timber and mineral production, fish and wildlife protection, and oil and gas production. • Affirmed existing grazing rights, water rights, oil and gas leases, and mining claims.
PL 106-65, National Defense Authorization Act for Fiscal Year 2000 (includes Military Lands Withdrawal Act dated October 5, 1999)	• Authorized appropriations for fiscal year 2000 for military activities. • Withdrew approximately 869,862 acres of public land comprising YTA, DTAE, and DTAW from all forms of appropriation under public land laws and reserved them for use by the Army. The withdrawal extends to November 6, 2026.
Alaska Native Claims Settlement Act	• Section 17(d) authorized the Secretary of the Interior to classify or reclassify any withdrawn lands in Alaska, or to open them for appropriation under public land laws.
PLO 5187, Withdrawal of Lands for Classification and for Protection of the Public Interest in the Lands in Military Reservations, 1972	• Withdrew all lands embraced in defense or military reservation in Alaska of whatever nature from appropriation under all public land laws, including mining and leasing laws.
Army Regulation 200-1	• Offers land use recommendations to facilitate future on- and off-installation development that would be unaffected by military noise. These guidelines can be used to identify areas where noise-sensitive development, including housing, schools, and medical facilities, should be discouraged.
USARAK Regulation 350-2, Training; Range Safety (airspace included)	• Provides procedures for planning, access requests, and operating instructions for 11th Airborne Division ranges and training areas. It provides standards and procedures for safe firing of ammunition, demolitions, lasers, guided missiles, and rockets for training.

Regulation or Authority	Description
DoD 4715.3 Environmental Conservation	• Provides new and updated policy for the integrated management of natural resources on property and lands managed or controlled by DoD. It applies to all DoD operations, activities, real property, and property interests owned, leased, permitted, or controlled by the United States, including public lands withdrawn from all forms of appropriation.
Title 10, United States Code, Section 2684a, Agreements to Limit Encroachments and Other Constraints on Military Training, Testing, and Operations	• Enacted by Congress as Section 2811 of the National Defense Authorization Act for fiscal year 2003. • Allows the DoD to work in partnership with states, other governments, and public or private environmental and conservation groups to achieve a common goal of sustainability.
Memorandum of Understanding between BLM and USAG Alaska Concerning Management of Lands in Alaska Withdrawn by PL 106-65 for Military Use	• Ensures coordination between the two agencies for management of withdrawn lands.
FWA Installation Compatible Use Zone Study	• Quantifies the noise environment from military training sources and recommends the most appropriate uses of noise-impacted areas. • Implements Army policy for planning, initiating, and carrying out actions and programs designed to minimize adverse impacts upon the quality of the human environment without impairing the Army's mission. • Promotes land use that is compatible with the military noise environment through communication, cooperation and collaboration between USAG Alaska and the surrounding community.

3.2.3 General Land Use, Ownership, and Management Plan

PL 106-65 authorized long-term withdrawal of training lands at YTA, DTAE, and DTAW. Although the withdrawn lands are under long-term Army management, they are public lands under jurisdiction by DOI. Through PL 106-65, BLM retains jurisdiction over non-military uses. The withdrawn lands are not available for disposal by state or native selection, or for sale under the Federal Lands Policy and Management Act.

3.2.3.1 On-Installation Land Use

Military activities are the primary land use on withdrawn lands. Such activities include maneuvering, training, equipment development and testing, and other defense-

related purposes. As mandated by the Sikes Act, allowances are made for recreational and subsistence use by the public, whenever that use does not conflict with military training and testing. Ranges and impact areas are permanently off limits to the public, with limited exceptions such as a sports fire range. Smaller areas may be fenced off for security of certain military assets such as buildings, ranges, and ammunition supply points (U.S. Army 2012).

The majority of withdrawn lands are categorized as ranges and training land, though smaller areas are dedicated to airfields, industrial, and community uses (USAG FWA 2017). Figure 2.6-1 and Figure 2.6-2 show land uses within the withdrawn lands.

Impact areas are used to contain fired or launched ammunition and explosives and the resulting fragments, debris and components from various indirect fire and direct fire weapon systems. Temporary impact areas are used for a limited period of time and for non-dud-producing ammunition and explosives. Dedicated impact areas are used indefinitely and access is strictly controlled due to the high risk to personnel. High-hazard impact areas are permanently designated and are used to contain high-explosive ammunition, explosives and the resulting fragments, debris and components. Access is limited and strictly controlled due to the extreme hazard of unexploded ordnance.

Training areas are management areas where specific training and testing occurs. The majority of training area acreage is undeveloped, allowing for offensive and defensive operations, mounted or dismounted tactical movement, and land navigation. Training sites within training areas support specific training tasks and testing operations, and have been minimally developed, primarily by clearing vegetation and/or installing gravel hardening pads and trails. These include:

- Tactical assembly/bivouac sites where troops establish temporary camps and/or assemble prior to conducting training missions
- Landing zones/pickup zones for training tactical helicopter operations
- Artillery and mortar firing points used to conduct indirect fire into the impact areas

- Observation points used to adjust the firing of indirect fires or close air support into the impact areas
- Forward arming and refueling points used to train tactics for providing fuel and ammunition to aviation units in forward combat locations
- Tactical use, movement, and maneuver trails to support tactical training events

Designated training areas comprise a subset of the total acreage of the training lands. Designated military training sites and impact areas at YTA comprise approximately 60,000 acres of the approximately 246,000 acres of land withdrawn under PL 106-65 (Table 3.2-2). Designated military training sites and impact areas at DTA comprise approximately 164,000 acres of the approximately 625,000 acres of land withdrawn under PL 106-65 (Table 3.2-3).

Table 3.2-2. Training Land Designations at YTA

Land Designation	**Total Acres**
YTA Training Area	257,068
PL 106-65 Withdrawn Lands in YTA	246,277
Drop Zones	224
Firing Ranges	978
Observation Points	4
Other Training Sites	138
Pit/Quarry	28
Landing Zone	65
Impact Areas	56,037
Restricted Ranges	2,993

Table 3.2-3. Training Land Designations at DTA

Land Designation	Total Acres
DTA Training Area	633,991
PL 106-65 Withdrawn Lands in DTA	623,585
Drop Zones	7,482
Firing Ranges	12,268
Observation Points	3
Other training Sites	973
Pit/Quarry	151
Landing Zone	103
Impact Areas	140,695
Restricted Ranges	1,877
Ammunition Storage	7
Forward Arming Refueling	3

Range and test facilities are areas where training and testing support buildings and other structures have been constructed. Ranges are facilities for weapons firing, demolition, and assault courses, usually containing buildings, targets, or berms. Test complexes include buildings with offices, labs, mobility courses, maintenance areas, and other specialized functions where proximity to training areas, impact areas and ranges is needed. Testing can take place at any of the training areas and facilities and generally mimics training missions while controlling as many influencing factors as possible. Training support buildings fall under the industrial land use. YTA contains 17 structures, DTAW contains 81 structures, and DTAE contains 12 structures (USAG Alaska IGI&S 2021).

The Army provides outgrants to other agencies for use of the withdrawn lands. These include YTA outgrants to the AFTAC Exclusive Use Area, AFTAC Joint Use Area, Air Force Active Areas, and a small outgrant to AT&T Alascom in DTAW (USAG Alaska IGI&S 2021).

The Trans-Alaska Oil Pipeline System transports crude oil from Prudhoe Bay to Valdez and is authorized by a right-of-way grant pursuant to the Trans-Alaska Pipeline Authorization Act of 1973, and the Mineral Leasing Act of 1920, as amended. The right-of-way varies in width from approximately 64 feet wide to 122 feet wide where it crosses through the withdrawn lands.

3.2.3.2 Off-Installation Land Use

Lands surrounding withdrawn lands are under federal, state, local, and native ownership (BLM 2021a). Figures 3.2-1 and Figure 3.2-2 show land uses adjacent to the withdrawn lands. The majority of lands that buffer the withdrawn lands are state owned or outgranted to state agencies, including the Alaska Department of Natural Resources (ADNR) Division of Parks and Recreation, ADNR Division of Mining Land and Water, and the Alaska Mental Health Trust Authority. The U.S. Army Corps of Engineers (USACE) administers lands to the west of YTA and north of Eielson AFB for flood control purposes. A small percentage of boundary lands are under local government and private ownership, including lands conveyed pursuant to the Alaska Native Claims Settlement Act. BLM administers the federal public lands outside of the Army's jurisdiction.

Encroachment of incompatible land uses to the withdrawn lands poses threats to training activities and the Army’s mission. Encroachment is any internal or external factor that inhibits military readiness, including but not limited to the growing competition for land or airspace (DoD 2021b). The Army Compatible Use Buffer (ACUB) Plan provides a prioritized list of parcels that pose the greatest threat to use of withdrawn lands resulting from incompatible uses (USAG Alaska 2020c). In light of increases in population in the Fairbanks North Star Borough (FNSB) since the original buffer plan in 2011, the updated 2020 plan identifies urban encroachment as the primary threat. As a result, lands designated as Encroachment Priority Area 1D are urban developments in and around Delta Junction (USAG Alaska 2020c).

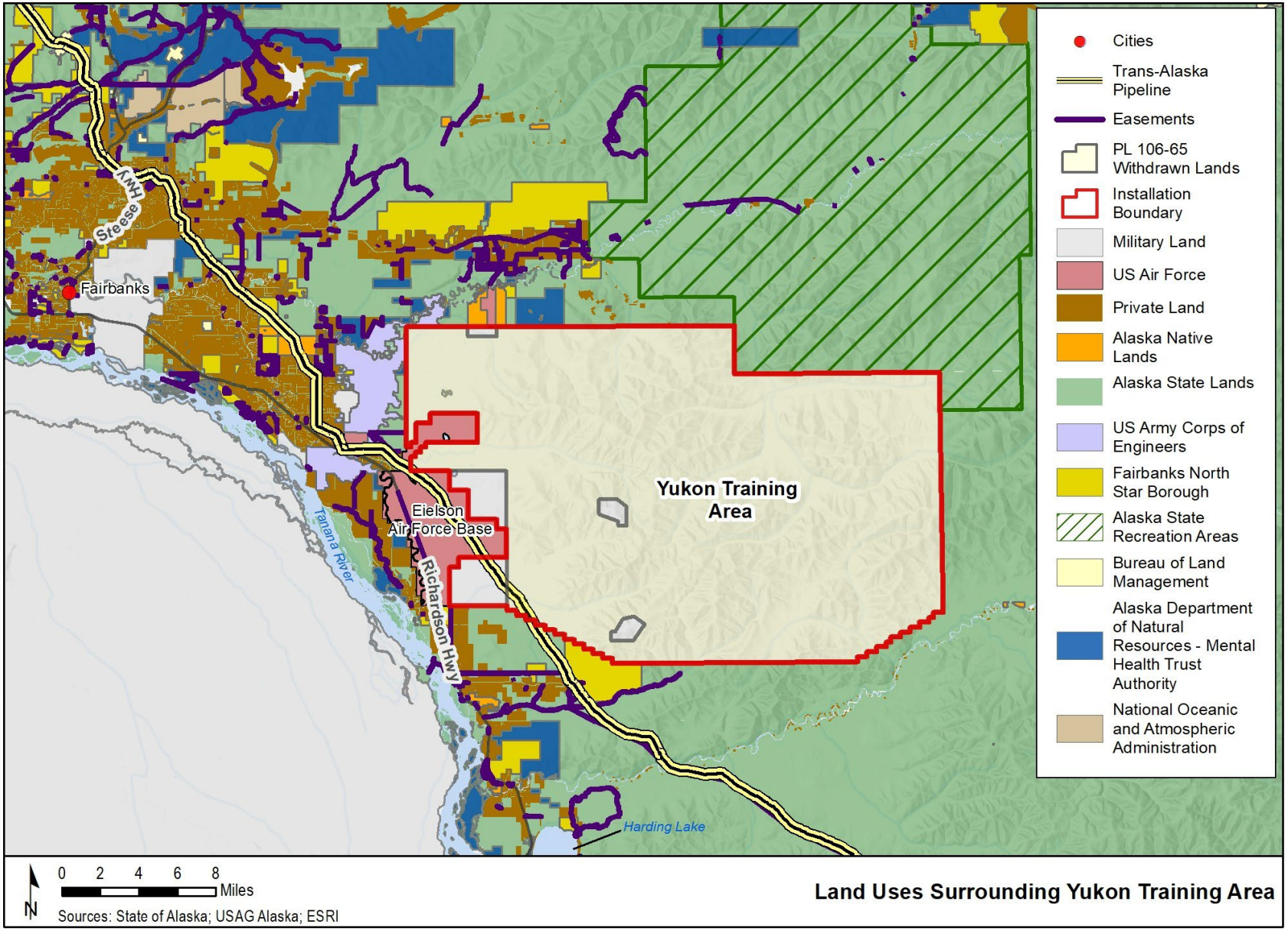


Figure 3.2-1. Land Uses Surrounding Yukon Training Area

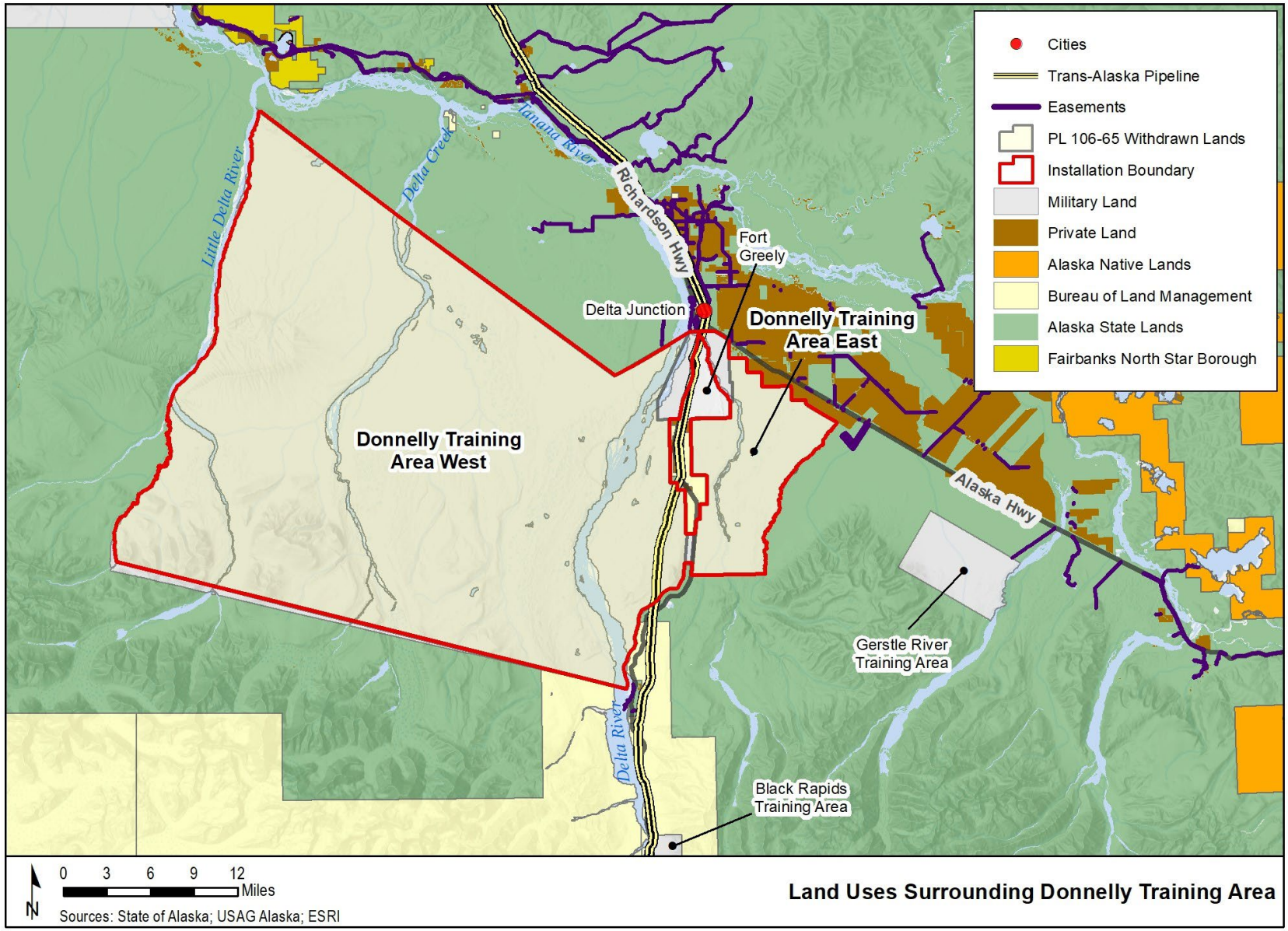


Figure 3.2-2. Land Uses Surrounding Donnelly Training Area

The Installation Compatible Use Zone (ICUZ) program implements Army policy for avoiding and minimizing adverse land use impacts. The ICUZ program promotes land use that is compatible with the military noise environment through communication, cooperation, and collaboration between USAG Alaska and the surrounding community.

3.2.4 VISUAL RESOURCES

Visual resources in withdrawn lands are characteristic of the natural formations of the Yukon-Tanana Upland section of the larger Northern Plateaus physiographic province. Views from within the withdrawn lands include riparian forests along river valleys, forested hillsides at low and moderate elevations, sparsely vegetated tundra surrounding the jagged mountain peaks of the Alaska Range to the south, and the Hayes Mountains, which comprise part of DTAW. At lower elevations, views may be restricted to local river valleys where year-round rivers and streams wind through forested valleys. During summer, stream headwaters flow down rocky narrow valleys before they reach wide slow-moving rivers edged with emergent vegetation and willows. Vast complexes of open water ponds, emergent vegetation, and forested wetlands occur in lowland valleys. Changes in visual character occur with the season—summers produce green forested hills and valleys, and winters bring frozen and snow-covered landscapes. The Alaska Range has several glaciers on its north flanks, visible from DTAW, and remains snow-topped throughout the year. The Hayes and Trident Glaciers flow into Delta Creek, and Gillam Glacier flows into the East Fork Delta River.

While the withdrawn lands are generally rugged and undeveloped to facilitate realistic training operations, limited military infrastructure has been constructed throughout YTA, DTAE, and DTAW. Minimally developed areas include firing ranges, aviation facilities, observation and refueling points, and test complexes, where buildings, mobility courses, maintenance areas, and other specialized functions are needed. The Army maintains a network of roads and trails, and some dirt roadways along ridgetops are visible.

YTA lands consist of gently sloped, round-topped hills generally between approximately 3,000 and 5,000 feet high. The lowest elevations of this training area are in the west near Moose Creek Bluff, where the Chena River valley dips to around 600 feet. The highest elevations are along the east boundary of YTA, south of the South Fork Chena River, where peaks are above 5,000 feet. Numerous small streams crisscross YTA, creating a complex of low elevation forested ridges separated by stream valleys. Vegetation communities primarily consist of open deciduous and spruce forests and dwarf to tall shrub layers (University of Alaska Anchorage 2021).

DTAW elevations range from about 1,000 feet along Delta River to about 6,000 feet in the southwest corner. Long range views include the Alaska Range to the south where Mt. Hayes is the highest peak, at 13,832 feet. Trees are more sparse in DTAE and DTAW. These areas primarily consist of low and dwarf shrub vegetation communities along the flanks of mountains with exposed rock peaks (University of Alaska Anchorage 2021). Herbaceous vegetation is often interspersed with dwarf shrubs. Deciduous and spruce open woodlands follow river valleys.

The Richardson Highway from Fort Greely to Fairbanks (Milepost 261 to Milepost 362) has been designated as a State Scenic Byway (AKDOT&PF 2021b). Designation of a State Scenic Byway identifies a route that provides access to Alaska's most scenic areas, cultural riches, natural resources, or recreational opportunities.

3.3 NOISE

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise can be defined as unwanted sound. Typical noise levels associated with various activities and environments are presented in Table 3.3-1. Further details regarding the fundamentals of noise are provided in Appendix 3.0.

Table 3.3-1. Typical Decibel Levels for A-Weighted Noise Levels

Sound Source or Activity	Noise level (dBA)	Subjective Impression
Jet aircraft takeoff from carrier (50 feet)	140	Threshold of pain
50-horsepower siren (100 feet)	130	Uncomfortably loud
Loud rock concert near stage **Jet takeoff (200 feet)**	120	
Float plane takeoff (100 feet)	110	Very loud
Jet takeoff (2,000 feet)	100	
Heavy truck or motorcycle (25 feet)	90	Loud
Garbage disposal **Food blender (2 feet)** **Pneumatic drill (50 feet)**	80	
Vacuum cleaner (10 feet)	70	Moderate
Passenger car at 65 miles per hour (25 feet)	65	
Large store air-conditioning unit (20 feet)	60	
Light auto traffic (100 feet)	50	Quiet
Quiet rural residential area with no activity	45	
Bedroom or quiet living room **Bird calls**	40	Faint
Typical wilderness area	35	
Quiet library, soft whisper (15 feet)	30	Very quiet
Wilderness with no wind or animal activity	25	Extremely quiet
High-quality recording studio	20	
Acoustic test chamber	10	Just audible
	0	Threshold of hearing

Source: EPA 1971

Because successive additions of sound vary the community noise level continuously, characterizing a community noise environment and evaluating cumulative noise impacts requires the measurement of noise exposure over a period of time. The time-varying characteristic of environmental noise is described using statistical noise

descriptors. The day-night noise level is discussed in this analysis and defined as follows:

ADNL: The day-night noise level (DNL) is the energy average of the A-weighted noise levels occurring during a 24-hour period. It accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night. Noise between 10:00 p.m. and 7:00 a.m. is weighted by adding 10 decibels (dBA) to take into account the greater annoyance of nighttime noises.

3.3.1 Region of Influence

The ROI for noise includes all the withdrawn lands as well as surrounding areas that may receive noise generated within the withdrawn lands.

3.3.2 Laws and Regulations

The primary laws, regulations, and authorities that apply to noise in and around the withdrawn lands include, but are not limited to, those listed in Table 3.3-2.

Table 3.3-2. Laws, Regulations, and Authorities Related to Noise

Regulation or Authority	Description
U.S. Army Regulation 200-1, Environmental Protection and Enhancement	• The primary tool the Army uses to analyze and manage noise generated by Army activities, including aircraft operations, range firing, and weapons testing (U.S. Army 2007).

Army Regulation 200-1 defines three noise zones, which are described in detail in Appendix 3.0. Table 3.3-3 lists the noise limits associated with each zone.

Table 3.3-3. Noise Limits per Noise Zone

	Noise Limits			
Noise Zone	Aviation ADNL (dBA)	Impulsive CDNL (dBC)	Small Arms dB Peak (dB)	Noise-Sensitive Land Use
I	< 65	< 62	< 87	Generally Compatible
II	65 – 75	62 – 70	87 – 104	Generally Not Compatible
III	> 75	> 70	> 104	Not Compatible

Source: Army Regulation 200-1

As recommended in Army Regulation 200-1, this assessment includes supplemental metrics to identify where noise from aviation overflights and demolition activity may periodically reach levels high enough to generate complaints (Appendix 3.0). Table 3.3-4 lists the USAG Alaska's Complaint Risk Guidelines for impulsive events.

Table 3.3-4. Complaint Risk Guidelines (Impulsive Events)

Perceptibility	dB Peak	Risk of Receiving Noise Complaints
May be Audible	< 115	Low
Noticeable, Distinct	115 – 130	Moderate
Very Loud, May Startle	> 130	High

Source: USAG Alaska 2017a

3.3.3 BASELINE CONDITIONS

3.3.3.1 Yukon Training Area

The current noise generating activities in YTA include small caliber weapons training (.50 caliber and below), large caliber weapons training (20mm and greater), and aviation activity (airstrips, drop zones, landing zones).

Table 3.3-5 and Table 3.3-6 provide the acreage for each noise zone. Figure 3.3-1 and Figure 3.3-2 show the noise zones for small and large caliber weapons. These are further described in Appendix 3.0.

Table 3.3-5. YTA Small Caliber Weapon Noise Zone Acreage

Noise Zone	Total Acreage	Eielson AFB Acreage
Noise Zone II (87 – 104 dB Peak)	13,069	1,602
Noise Zone III (> 104 dB Peak)	1,586	0

Source: USAG Alaska 2017a

Table 3.3-6. YTA Demolition and Large Caliber Weapon Noise Zone Acreage

Noise Zone	Total Acreage	Off-Post Acreage
Noise Zone II (62 – 70 dB CDNL)	6,458	0
Noise Zone III (>70 dB CDNL)	6,698	0

Reference: USAG Alaska 2017a

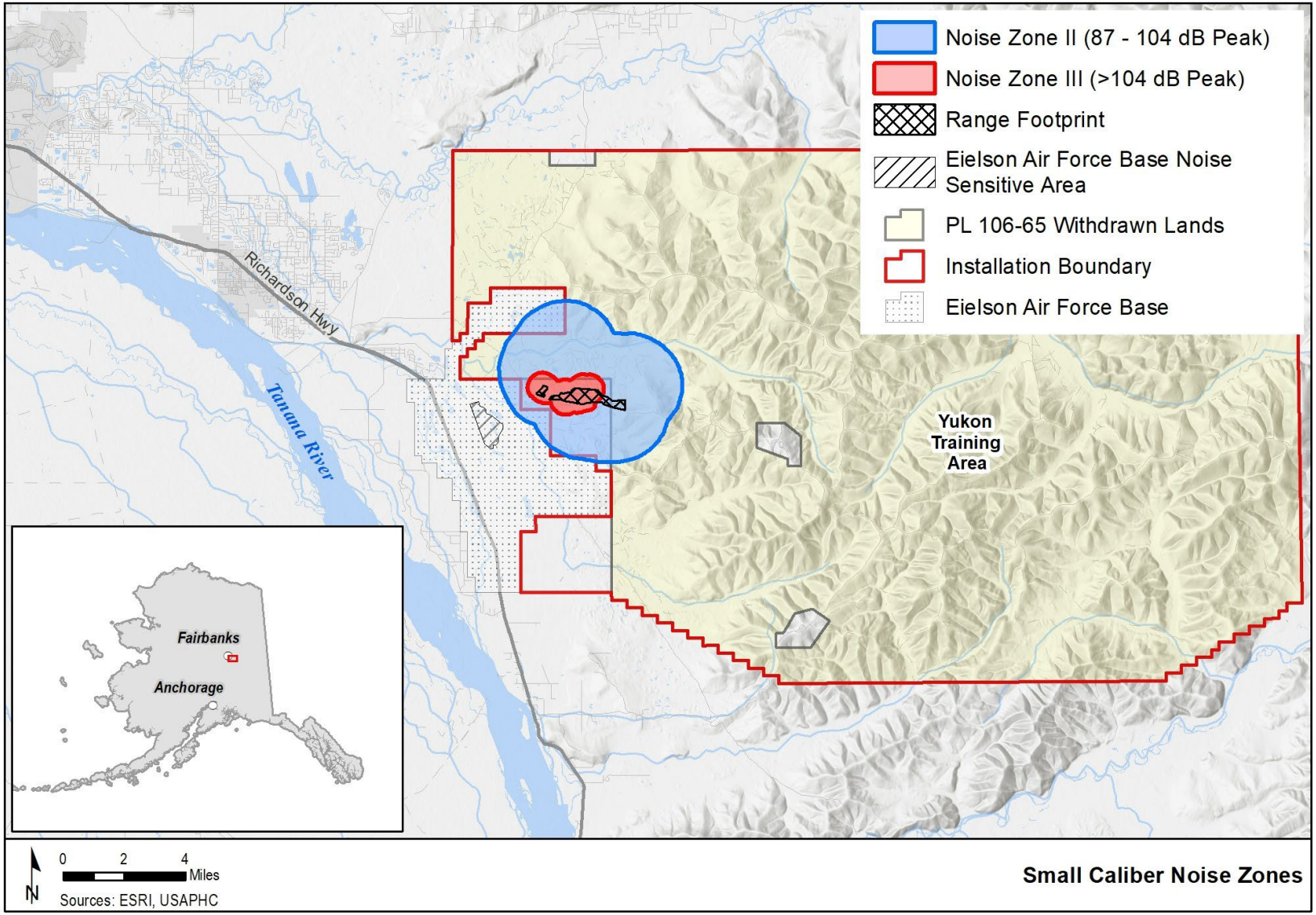


Figure 3.3-1. YTA Small Caliber Noise Zones

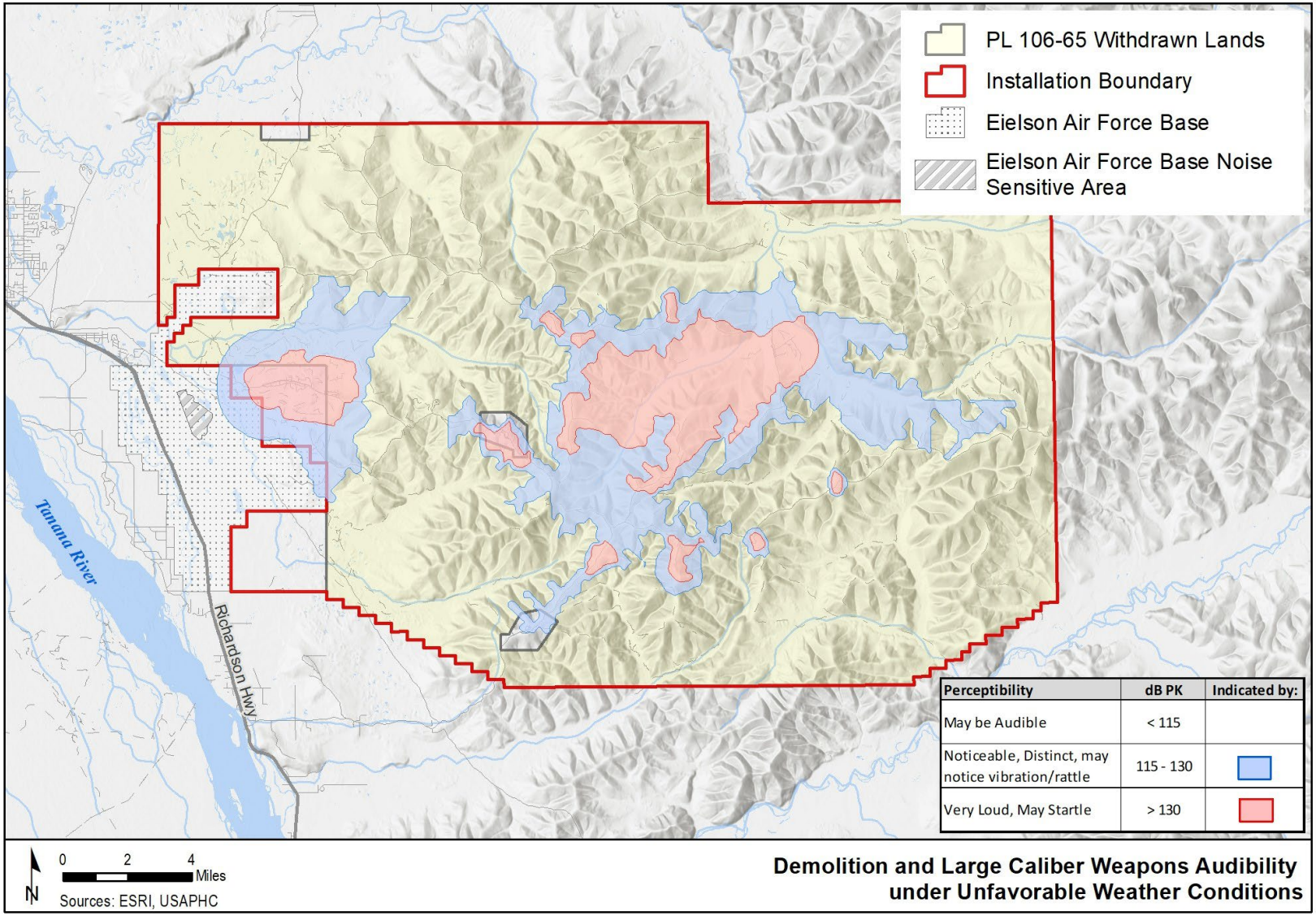


Figure 3.3-2. YTA Demolition and Large Caliber Weapons Peak Audibility

3.3.3.2 Donnelly Training Areas East and West

Military activities occurring in DTAE and DTAW include small caliber weapon firing, direct and indirect firing weapons training (i.e., howitzers, mortars), air-to-ground weapon firing, and drop zone use. Table 3.3-7 and Table 3.3-8 provide the acreage for each noise zone. Figure 3.3-3 and Figure 3.3-4 show the noise zones for the small and large caliber weapons. These are further described in Appendix 3.0.

Table 3.3-7. DTA Small Caliber Weapon Noise Zone Acreage

Noise Zone	Total Acreage	Off-Post Acreage*	Fort Greely Acreage
Noise Zone II (87 – 104 dB Peak)	8,765	42	1,519
Noise Zone III (> 104 dB Peak)	1,173	0	29

Source: USAG Alaska 2017a

*Off-post acreage is the non-military land south of Fort Greely separating the western and eastern training areas.

Table 3.3-8. DTA Demolition and Large Caliber Weapon Noise Zone Acreage

Noise Zone	Total Acreage	Off-Post Acreage
Noise Zone II (62-70 dB CDNL)	21,467	0
Noise Zone III (> 70 dB CDNL)	12,408	0

Source: USAG Alaska 2017a

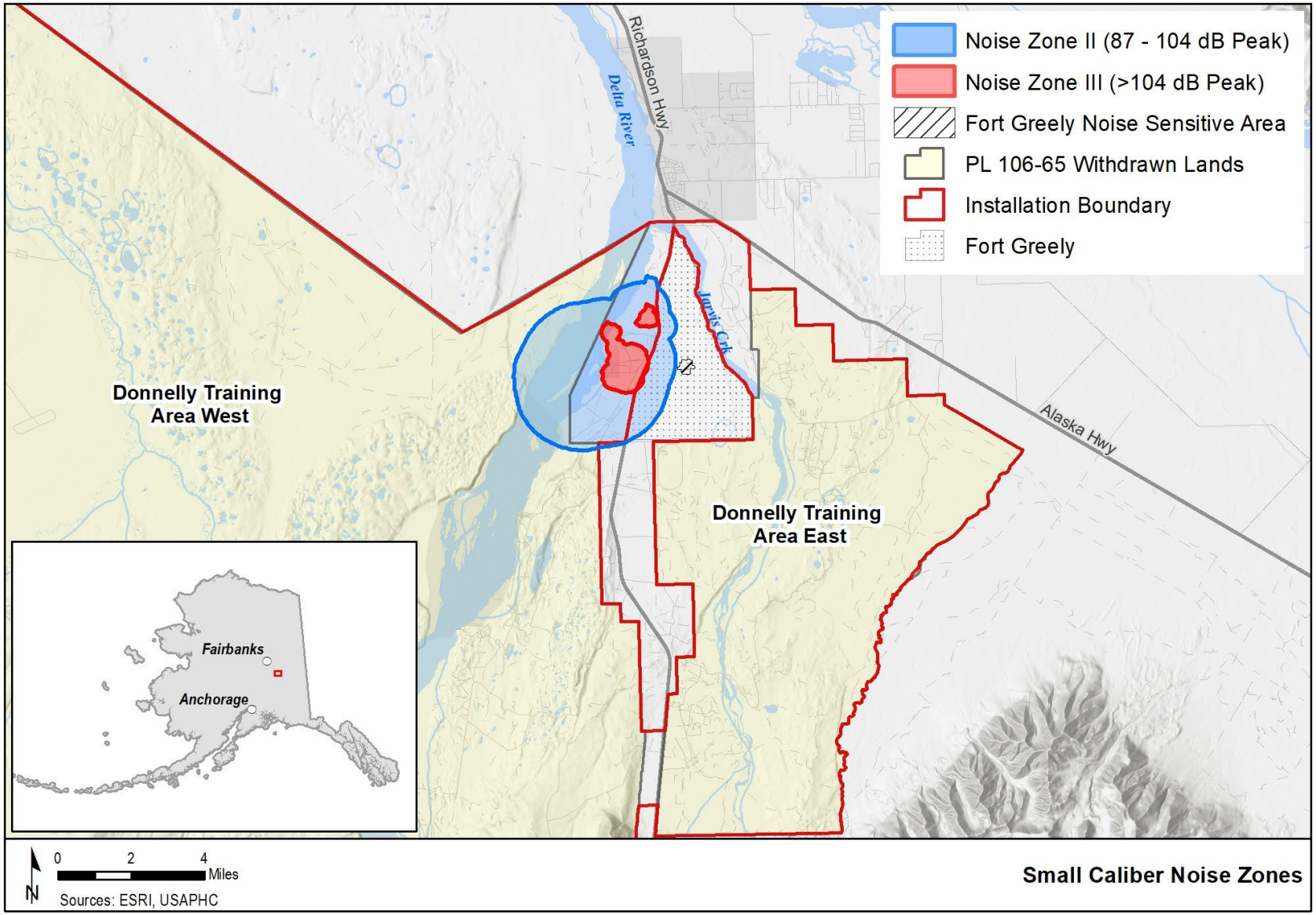


Figure 3.3-3. DTAE and DTAW Small Caliber Noise Zones

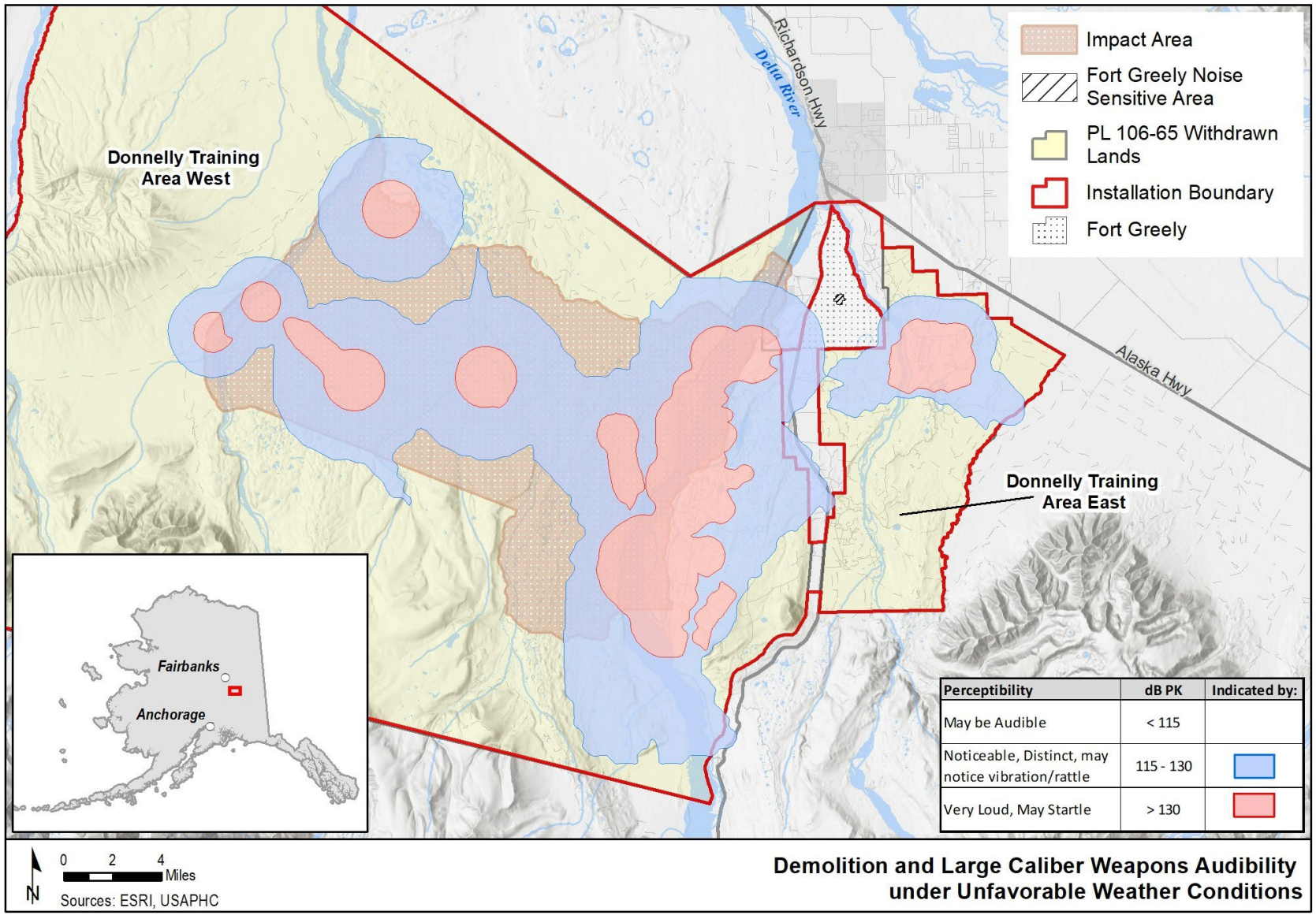


Figure 3.3-4. DTAE and DTAW Demolition and Large Caliber Weapons Peak Audibility

3.3.3.3 Aviation Overflights

Cumulative noise levels for aircrafts are assessed using the ADNL. The noise contours are obtained by averaging sound exposure levels over a 24-hour period and applying a weighting increment for nighttime noise. Due to this energy-averaging, it often takes a high number of events or operations (>250 flights per day) to generate an ADNL above 65. Even if operations are too infrequent to generate a noise zone, singular events have the potential to cause annoyance or produce noise complaints, such as an individual overflight departing or arriving at an Army Airfield (AAF) or using the flight corridors. This is further described in Appendix 3.0.

3.3.3.3.1 Aviation Noise Sensitive Areas

Aircraft have flight restrictions in the Lakloey Hill and the Pleasant Valley areas. The Lakloey Hill area is east of FWA along Badger Road. Aircraft have a minimum flight altitude of 500 feet above ground level (AGL) when passing over the Lakloey Hill area and within a 1 nautical mile radius of the Pleasant Valley area.

3.3.3.3.2 Overflight Annoyance

Scandinavian studies found that a good predictor of annoyance at airfields with 50 to 200 operations per day is the maximum level of the three loudest events (Rylander et al. 1974). While annoyance levels may be lower along less-frequented flight routes and corridors, the studies provide an indicator for annoyance potential from intermittent overflights. Table 3.3-9 lists the percent of the population that would consider itself highly annoyed from overflight based on A-weighted maximum noise levels that occur at FWA.

Table 3.3-9. Percentage of Population Highly Annoyed from Aircraft Noise

Maximum Level, dBA	Highly Annoyed
90	35%
85	28%
80	20%
75	13%
70	5%

Sources: Rylander et al. 1974 and USAG Alaska 2017a

Table 3.3-10 and Table 3.3-11 list the maximum A-weighted noise levels for aircraft during a flyover at constant speed. In general, rotary-wing aircraft operating at slower speeds are quieter than those operating at faster speeds. The primary aircraft operated by the Army within the training lands include UH-60 Blackhawks, AH-64 Apaches, and CH-47 Chinooks.

Table 3.3-10. Maximum Noise Levels of Fixed Wing Aircraft

	Maximum Level, dBA		
Slant Distance (feet)	**C-17**	**C-130**	**F-16**
500	98	92	110
1,000	90	85	102
2,000	80	77	95
2,500	76	75	92

Obtained via SelCalc Program (USAG Alaska 2017a)

Table 3.3-11. Maximum Noise Levels of Rotary Wing Aircraft[1]

	Maximum Level, dBA			
Slant Distance (feet)	**AH-64[2] 70 KIAS**	**CH-47[2] Light 130 KIAS**	**CH-47[2] Heavy* 120 KIAS**	**UH-60[2] 70 KIAS**
200	90	101	98	86
500	82	93	89	77
800	77	89	85	73
1,000	75	87	83	71
1,200	73	85	81	69
1,500	71	83	79	67
2,000	68	80	76	64
2,500	65	78	74	61

Source: USAG Alaska 2017a

[1] During flyover at constant airspeed.

[2] Obtained via AAM Program (Plotkin et al. 2013)

* Heavy = sling load

KIAS = knots indicated air speed

As detailed in the 2017 ICUZ Study Chapter 9 (USAG Alaska 2017a), the aviation noise model was used to calculate the ground-based distance from zero (directly

below sound source) to where the maximum A-weighted noise level would decay to 70 dBA or below (threshold for annoyance). The results show that over 10 percent of the population within ½ mile of heavy aircraft overflight would consider itself highly annoyed. For fast-moving aircraft, over 13 percent of the population would consider itself highly annoyed within 1 ½ miles of an overflight (Rylander et al. 1974).

3.4 RECREATION

This section describes conditions related to recreation in the withdrawn lands. Under PL 106-65, portions of the withdrawn lands are managed for public use, subject to any closures or restrictions deemed necessary for military operations, public safety, or national security.

None of the withdrawn lands have been developed specifically for recreational use. No camping sites, overnight or day use facilities, or roadways have been created for primarily recreational use. Recreation kiosks are located at public access points in all training areas to provide regulatory and safety information. Primary recreational uses on the withdrawn lands include hunting, fishing, trapping, and off-road recreational vehicle (ORV) use.

3.4.1 REGION OF INFLUENCE

The ROI for recreation includes the withdrawn lands and the land that immediately surrounds it. Recreation considerations include access points to the withdrawn lands and the areas within the military installation training areas that are accessible for recreational uses.

3.4.2 LAWS AND REGULATIONS

The primary laws, regulations, and authorities that apply to recreation within the withdrawn lands include, but are not limited to, those listed in Table 3.4-1.

Table 3.4-1. Laws, Regulations, and Authorities Related to Recreation

Regulation or Authority	Description
Sikes Act (16 USC 670)	• Requires that secretaries of the military departments carry out a program to provide for the conservation and rehabilitation of natural resources on military installations that is consistent with the use of military installations to ensure the preparedness of the Armed Forces. • Requires the sustainable multipurpose use of the resources, including hunting, fishing, trapping, and non-consumptive uses. • Allows for public access to military installations to facilitate recreational use, subject to safety requirements and military security.
National Defense Authorization Act for Fiscal Year 2000 (includes Military Lands Withdrawal Act of dated October 5, 1999)	• Allows for the use of withdrawn lands for public recreation to the extent consistent with applicable laws.
USARAK Regulation 190-13, Enforcement of Hunting, Trapping, and Fishing on Army Lands	• Covers enforcement of outdoor recreation policies at 11th Airborne Division lands and procedures for gaining recreational access; treatment of forest resources; treatment of cultural resources; hunting, fishing, and trapping; weapons possession and use; and ORV and watercraft use.
Section 810 of the Alaska National Interest Lands Conservation Act (ANILCA)	• Requires that federal agencies having jurisdiction over lands in Alaska evaluate the potential impacts of proposed actions on subsistence uses and needs, and take reasonable steps to minimize adverse impacts upon subsistence uses and resources that may result from operations.
Memorandum of Understanding between BLM and USAG Alaska Concerning Management of Lands in Alaska Withdrawn by PL 106-65 for Military Use	• Ensures coordination between the two agencies for management of withdrawn lands.
Federal Lands Policy and Management Act (FLPMA)	• Provides BLM underlying authority to issue leases, rights-of-way, or other authorizations for non-military use on withdrawn lands.

3.4.3 ACCESS

PL 106-65 included provisions for opening withdrawn lands to recreational use (Section 3014(a)). Recreational activities are permitted on withdrawn land, providing those activities do not conflict with the military mission or training activities and that those activities are not prohibited by regulation. The USARTRAK system (USAG Alaska iSportsman; https://usartrak.isportsman.net/) has been established to facilitate public recreational access to Army land and to keep the public informed of training

area closures. All recreational users 16 years of age or older must follow the two-step process required to gain access:

- First, all persons entering the withdrawn lands must obtain a Recreation Access Permit (RAP). Permits can be obtained on the USARTRAK system. As of April 2022, there is a $10 annual RAP fee. A safety liability release must be signed (in person or online) to receive a RAP. RAPs are good for one year from the date of issue and may be renewed upon expiration.
- Second, all visitors must check in to the USARTRAK system via the USAG Alaska iSportsman website or the USARTRAK Recreational Access Automated Phone System prior to entering withdrawn lands. The RAP allows the holder to access withdrawn lands for up to 14 days at a time. Check out is not required.

Not all withdrawn lands may be accessed with a RAP. Withdrawn lands are classified into several use zones. All areas that are determined open for recreational use may be closed temporarily during periods of military use. Off-limit and impact areas are restricted to public access and use at all times. Figure 3.4-1 shows the lands that are permanently closed to public access. All withdrawn lands are divided into training areas, which are subject to temporary closures based on training schedules. This information is provided via the interactive map at the USARTRAK website. Warning signs have also been installed along permanently closed lands, but not all restricted areas have posted warning signs. All recreational users are responsible for knowing and obeying temporary, long-term, or permanent closure areas. Georeferenced reference maps are available on the USARTRAK website and are updated annually to provide up-to-date location information.

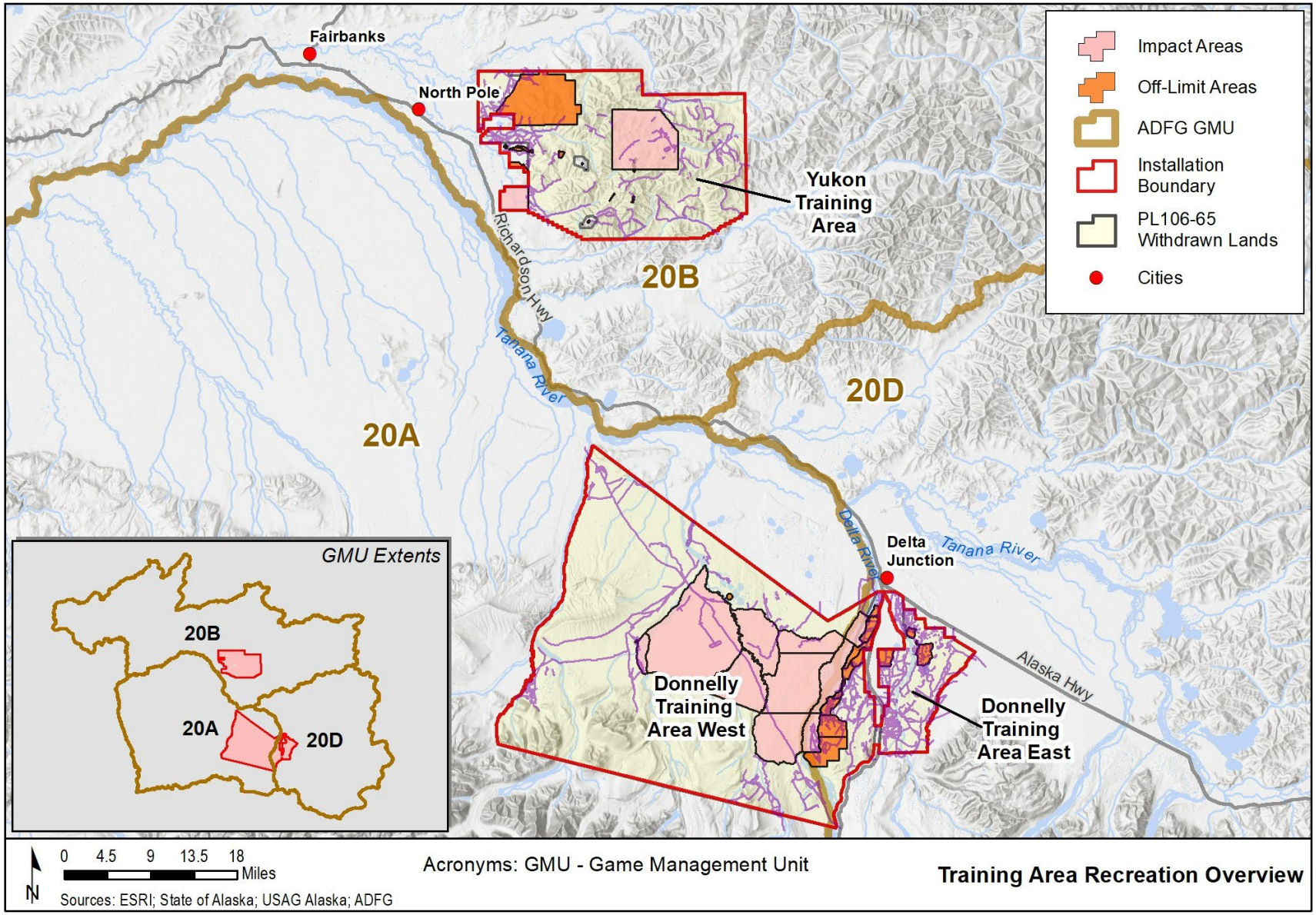


Figure 3.4-1. Recreation Vicinity Overview

3.4.4 ACTIVITIES

Once permission is obtained to access the withdrawn lands, visitors may engage in a number of recreational opportunities, including bear baiting, big game hunting, Christmas tree cutting, fishing, small game hunting, trapping, wood cutting, and berry picking. Other recreation may include camping, picnicking, hiking, ORV use, aerial tours, motorized watercraft use, river rafting, kayaking, dog sledding, visual resources appreciation, and birdwatching. There are also a number of specifically prohibited activities, which are summarized in the Regulation 190-13 and Outdoor Recreation Regulation Supplement (USARAK 2018). Notable prohibited activities include:

- Commercial recreation without specific approval of the Garrison Commander
- Building of structures without specific approval of the Garrison Commander
- Hang gliding, paragliding, or bungee-jumping
- Activities involving mineral removal (e.g., gold panning) or fossil removal
- Any digging in excess of six inches without a dig permit
- Disturbance or removal of artifacts, ancient or historical, without a permit for scientific research

Areas open to recreation are categorized as open use, modified use, or limited use areas (USARAK 2018). Open use areas are open to all types of off-road vehicles and other recreational activities year-round, but ORVs over 1,500 pounds must stay on existing roads and trails. Modified use areas are open to all types of ORVs when soils are frozen (having six or more inches of snow cover), and motorized watercraft must stay within existing open water channels. These areas are open to all other recreation activities year-round. Limited use areas are open to non-motorized recreation year-round but are not open to any type of ORV at any time, and motorized watercraft must stay within existing open water channels.

Several areas are permanently closed to recreational activities at all times. Figure 3.4-2 and Figure 3.4-3 show all recreational use areas in YTA, DTAE, and DTAW, as

well as mapped trail and fishing locations. ORV users must register their vehicles with Alaska Department of Motor Vehicles and follow all applicable regulations.

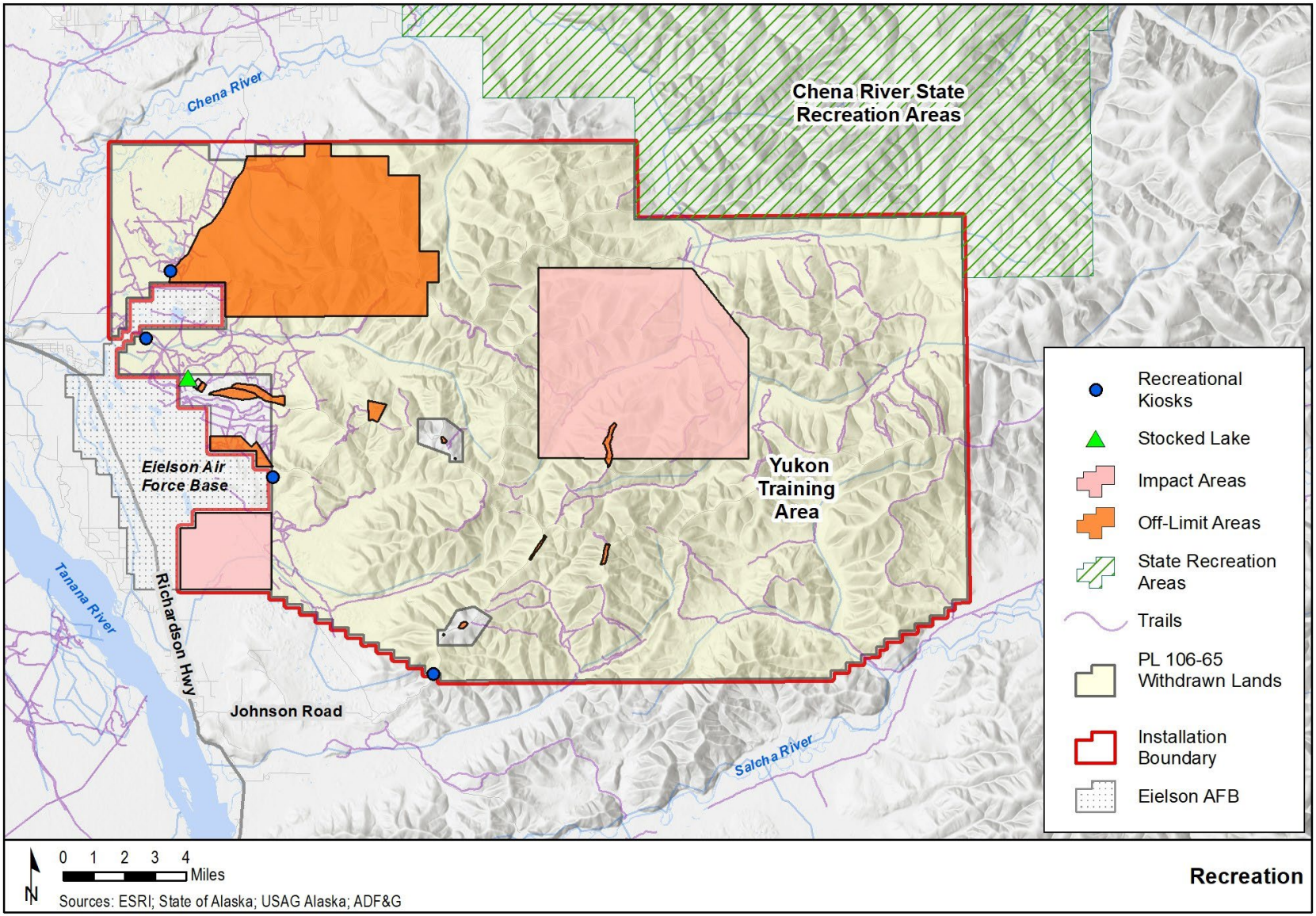


Figure 3.4-2. YTA Recreation Area

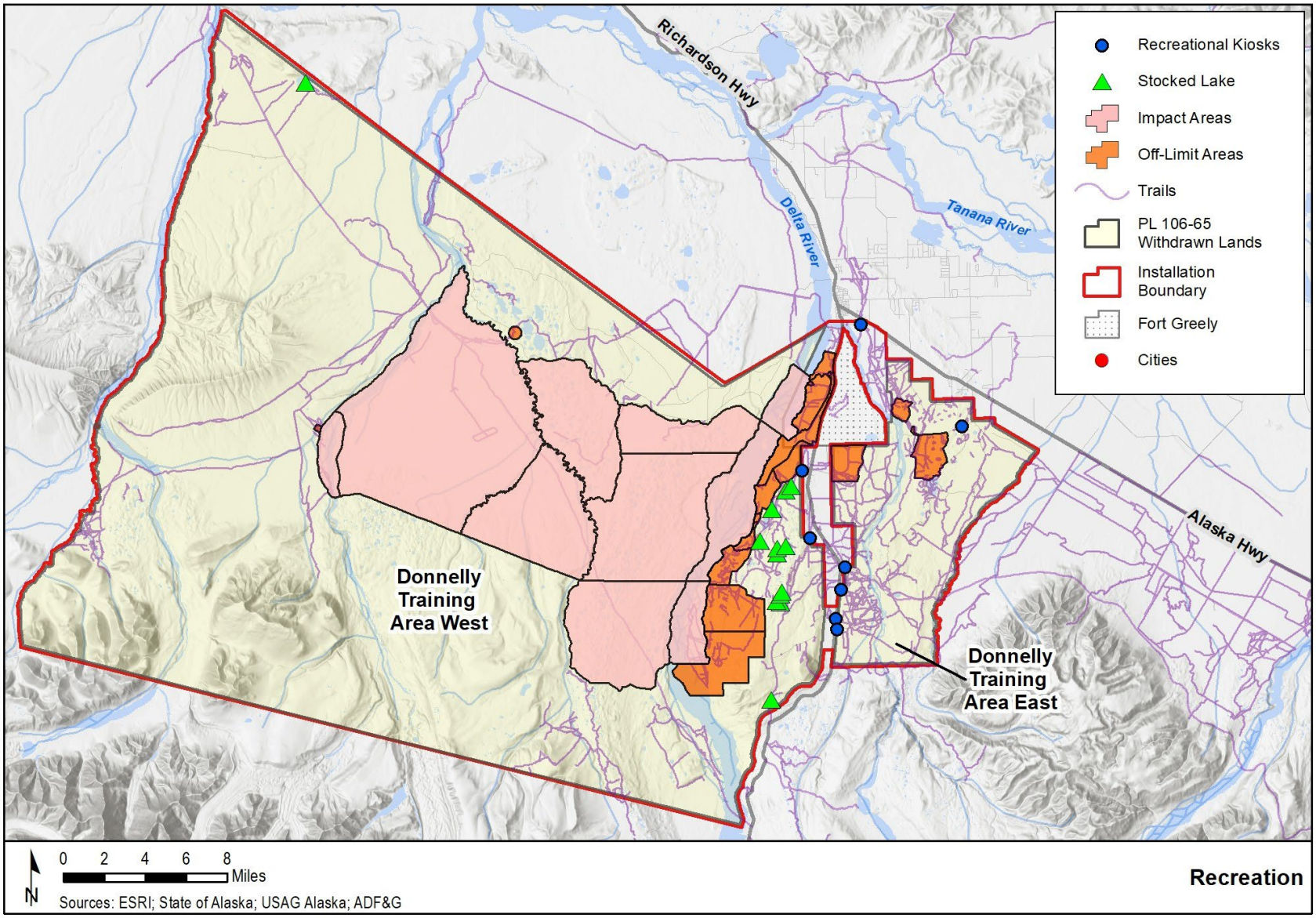


Figure 3.4-3. DTAE and DTAW Recreation Area

The Alaska Department of Fish and Game (ADFG) sets hunting seasons, bag limits, weapons restrictions, and closed areas for each of the 26 Game Management Units (GMUs) in the state (ADFG 2021d). YTA lies in GMU 20B, DTAW is in GMU 20A and 20D, and DTAE is in GMU 20D. All RAP holders must be aware of and follow state and local hunting, fishing, baiting, and trapping regulations. Hunting is permitted on a seasonal basis for big and small game, as is bear baiting and trapping. All bear baiting stations must be registered through the USARTRAK system.

The 2018 Outdoor Recreation Regulation Supplement provides a complete description of all regulations applicable to YTA, DTAE, and DTAW (USARAK 2018). All RAP holders are responsible for knowing and adhering to all regulations.

3.4.4.1 Historical Recreational Activity Use

Table 3.4-2 summarizes recreation check-ins on YTA and DTA, by activity, between 2016 and 2020. Hunting and trapping represent 50 percent of total recreation visitation, with 60 percent of these visits in pursuit of big game and 40 percent in pursuit of small game and trapping. Fishing and ORV use are other popular activities. Of the withdrawn lands, YTA has historically had the highest total use, though use in both DTAE and DTAW has been increasing.

Figure 3.4-4 summarizes the seasonality of recreation use based on 2016-2020 data for YTA and DTA, showing the range in visitation by month. The data exhibit a prominent spike in fall visitation for hunting season, as well as a smaller spike in spring visitation.

Table 3.4-2. Recreation Check-Ins Summary

	2016	2017	2018	2019	2020
YTA	12,065 (100%)	17,654 (100%)	14,279 (100%)	16,940 (100%)	15,248 (100%)
Big Game Hunting	4,822 (40%)	6,571 (37%)	3,287 (23%)	6,580 (39%)	4,257 (28%)
ORV Use	951 (8%)	1,975 (11%)	1,645 (12%)	2,148 (13%)	3,460 (23%)
Small Game Hunting	4,016 (33%)	6,144 (35%)	5,443 (38%)	4,268 (25%)	2,740 (18%)
Other Recreation	1,256 (10%)	2,040 (12%)	2,768 (19%)	2,745 (16%)	3,140 (21%)
Trapping	231 (2%)	159 (1%)	199 (1%)	351 (2%)	649 (4%)
Fishing	229 (2%)	199 (1%)	647 (5%)	525 (3%)	398 (3%)
Wood and Christmas Tree Cutting	428 (4%)	299 (2%)	137 (1%)	168 (1%)	321 (2%)
Camping	130 (1%)	263 (1%)	144 (1%)	151 (1%)	283 (2%)
Skiing	2 (0%)	4 (0%)	9 (0%)	4 (0%)	0 (0%)
DTAW	**7,766 (100%)**	**9,853 (100%)**	**11,060 (100%)**	**11,304 (100%)**	**13,636 (100%)**
Big Game Hunting	1,779 (23%)	2,241 (23%)	1,049 (9%)	2,279 (20%)	1,762 (13%)
ORV Use	488 (6%)	746 (8%)	1,925 (17%)	745 (7%)	1,018 (7%)
Small Game Hunting	682 (9%)	1,408 (14%)	1,500 (14%)	1,644 (15%)	2,107 (15%)
Other Recreation	2,923 (38%)	2,870 (29%)	3,735 (34%)	3,776 (33%)	4,658 (34%)
Trapping	16 (0%)	20 (0%)	37 (0%)	107 (1%)	202 (1%)
Fishing	1,539 (20%)	1,794 (18%)	1,752 (16%)	1,621 (14%)	2,102 (15%)
Wood and Christmas Tree Cutting	7 (0%)	125 (1%)	29 (0%)	113 (1%)	37 (0%)
Camping	329 (4%)	640 (6%)	1,030 (9%)	1,019 (9%)	1,750 (13%)
Skiing	3 (0%)	9 (0%)	3 (0%)	0 (0%)	0 (0%)
DTAE	**5,686 (100%)**	**5,608 (100%)**	**6,517 (100%)**	**9,643 (100%)**	**10,982 (100%)**
Big Game Hunting	1,892 (33%)	1,854 (33%)	1,392 (21%)	3,738 (39%)	3,101 (28%)
ORV Use	903 (16%)	869 (15%)	1,394 (21%)	1,128 (12%)	1,969 (18%)
Small Game Hunting	518 (9%)	713 (13%)	893 (14%)	1,143 (12%)	1,032 (9%)

	2016	2017	2018	2019	2020
Other Recreation	1,764 (31%)	1,393 (25%)	2,061 (32%)	2,461 (26%)	3,686 (34%)
Trapping	6 (0%)	14 (0%)	41 (1%)	95 (1%)	158 (1%)
Fishing	350 (6%)	231 (4%)	443 (7%)	308 (3%)	305 (3%)
Wood and Christmas Tree Cutting	124 (2%)	194 (3%)	96 (1%)	383 (4%)	172 (2%)
Camping	120 (2%)	333 (6%)	197 (3%)	387 (4%)	559 (5%)
Skiing	9 (0%)	7 (0%)	0 (0%)	0 (0%)	0 (0%)

Source: USAG Alaska IMCOM 2021

Note: Values may not add precisely due to rounding.

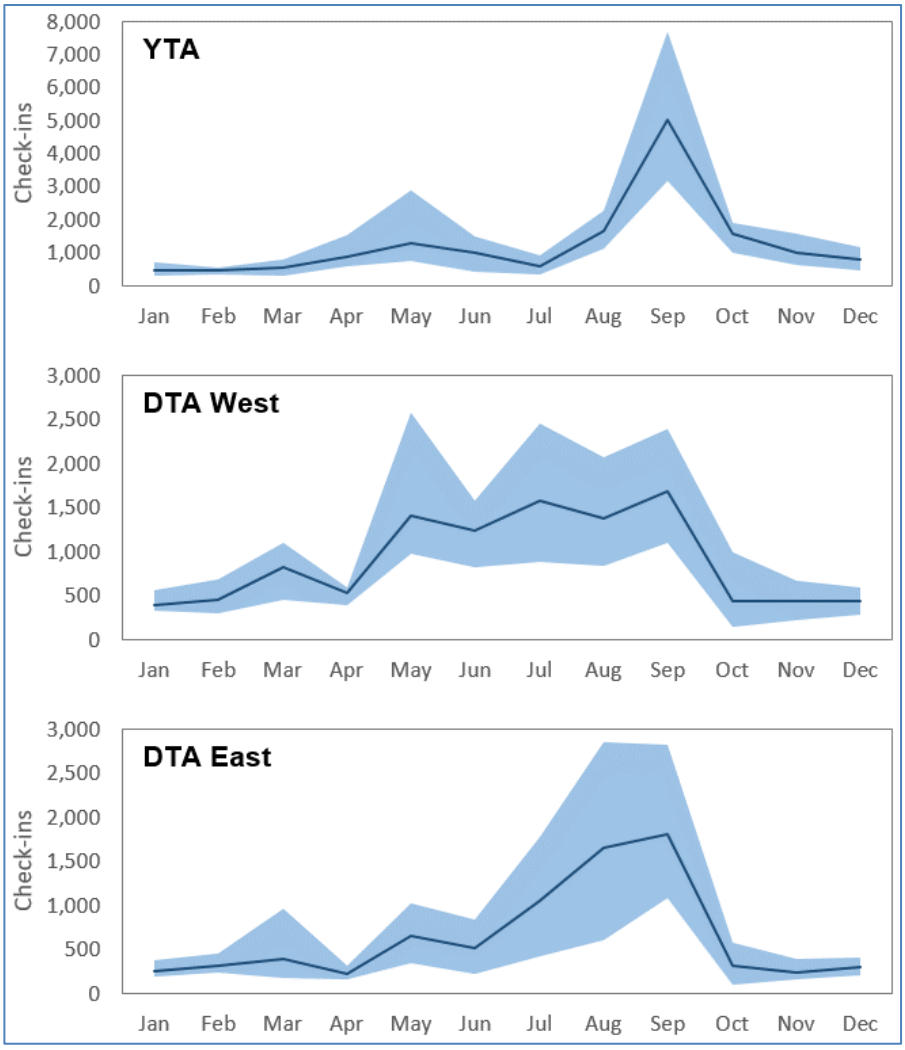


Figure 3.4-4. Visitation Seasonality, 5-Year Average and Range

Based on available data, use of withdrawn lands has been roughly split between visits from active-duty military with their dependents and non-DoD civilians. Retired military and DoD civilians together contribute less than 10 percent of visitation (USAG Alaska IMCOM 2021).

3.4.4.2 Popular Recreational Areas

Popular recreational areas in the withdrawn lands include hiking trails, stocked fishing lakes, wood cutting, and Christmas tree cutting areas. Donnelly Dome in DTAW, a popular hiking destination, can be accessed via non-motorized trails from either Dome Road or from an unofficial access point at the Richardson Highway. Three

parking areas provide trailhead access. Stocked fishing lakes include Horseshoe and Manchu Lakes in YTA, and Bolio, Mark, North Twin, and South Twin Lakes in DTAW.

For general wood cutting, three firewood collection points are located within YTA at the Moose Creek Range Complex, Bravo Battery, and Charlie Battery. DTAE and DTAW each have one firewood collection point near Fort Greely, and live and dead tree cutting is permissible in designated areas. Christmas tree cutting is allowed throughout much of YTA and in a small northern parcel of DTAE.

Chena River State Recreation Area is a 254,080-acre park adjacent to YTA in the northeast corner, primarily along the Beaver Creek drainage. The area is clearly marked as requiring a military permit to access (ADNR 2021).

3.4.5 HUNTING HARVEST INFORMATION

Hunting and harvest of wild game for personal consumption is fundamental to the culture and economy in Alaska. Hunting on the withdrawn lands is managed subject to ADFG regulations. Because YTA and DTA are located within the Fairbanks Non-subsistence Use Area designated by ADFG, there is no state subsistence priority on the withdrawn lands. As such, ADFG regulations for Personal Use Fisheries and General Hunting regulations apply at YTA and DTA, meaning there are no Tier I or Tier II subsistence hunts on the withdrawn lands (ADFG 2021a). Tier I subsistence hunts are those open to residents and requiring registration, but typically do not impose a registration limit. Tier II subsistence hunts are those open to residents, but due to insufficient game to satisfy all resource needs, ADFG requires an application for a permit and grants limited permits to those ranking highest on the application.

ADFG manages harvest via general season hunts as well as draw hunts and registration hunts in this area. While there are no separate subsistence hunts on the withdrawn lands, hunt and harvest data illustrate that hunters in GMU 20A, 20B, and 20D are primarily local area residents and that opportunities to harvest moose, in particular, are regionally important.

YTA is included in GMU 20B, DTAW is included predominantly in GMU 20A, and DTAE is included predominantly in GMU 20D (Figure 3.4-1). Big game species with

regulated hunts in these GMUs include black bear, brown/grizzly bear, caribou, Dall sheep, moose, wolf, and wolverine. While September has the highest hunting pressure (generally for moose), seasons vary by species and harvest method. Specific season dates and restrictions by management unit are published annually by ADFG (ADFG 2021b).

Big game harvest information is not available specifically for YTA and DTA withdrawn lands. Instead, Table 3.4-3 summarizes average annual harvest, by species, based on available ADFG harvest data for GMUs 20A, 20B, and 20D during the 2016-2020 period. In 2020, ADFG reported that over 90 percent of moose hunters in all three subunits were Alaskan residents. Table 3.4-4 lists the top residence communities for moose hunters in each subunit based on 2020 data. Table 3.4-5 describes the proportion of caribou hunters that reside in the GMU they are hunting in (ADFG does not publish community of residence data for caribou hunters like it does for moose) (ADFG 2021c).

Table 3.4-3. Big Game Harvest Summary

	20A			20B			20D		
	Hunters	Harvested	% Success	Hunters	Harvested	% Success	Hunters	Harvested	% Success
Moose[a]	**1763**	**585**	**33**	**2895**	**534**	**18**	**876**	**238**	**27**
2016	1695	555	33	3606	701	19	997	298	30
2017	1922	649	34	3224	605	19	989	269	27
2018	1894	555	29	2699	412	15	904	231	26
2019	1598	545	34	2590	515	20	601	171	29
2020	1706	621	36	2355	438	19	890	223	25
Caribou[a]	**104**	**63**	**61**	**1163**	**462**	**40**	**260**	**81**	**31**
2016	95	53	56	518	44	8	187	49	26
2017	98	70	71	526	106	20	304	98	32
2018	99	58	59	569	251	44	248	76	31
2019	106	74	70	841	502	60	271	110	41
2020	121	60	50	3360	1406	42	289	74	26

	20A			20B			20D		
	Hunters	Harvested	% Success	Hunters	Harvested	% Success	Hunters	Harvested	% Success
Sheep[a]	**284**	**104**	**37**	**12**	**2**	**19**	**122**	**56**	**46**
2016	300	139	46	14	4	29	108	53	49
2017	301	108	36	14	3	21	117	65	56
2018	287	111	39	15	4	27	123	57	46
2019	281	97	35	11	1	9	145	69	48
2020	249	65	26	8	0	0	119	35	29
Bison[a,b]	**N/A**			**N/A**			**98**	**75**	**76**
2016	N/A			N/A			100	47	47
2017	N/A			N/A			87	79	91
2018	N/A			N/A			110	93	85
2019	N/A			N/A			92	79	86
2020	N/A			N/A			101	75	74

Source: ADFG 2021c

[a] Average of 2016–2020 data; [b] Bison harvest occurs only in 20D

Table 3.4-4. Moose Hunter Community of Residence by GMU Hunted

	Top 10 Communities of Residence (% of total hunters that hunted in that GMU) [a]		
Rank	**20A**	**20B**	**20D**
1	Fairbanks (31%)	Fairbanks (53%)	Fairbanks (19%)
2	North Pole (12%)	North Pole (22%)	Delta Junction (18%)
3	Anchorage (12%)	Anchorage (4%)	North Pole (12%)
4	Wasilla (8%)	Salcha (3%)	Anchorage (11%)
5	Delta Junction (6%)	Wasilla (3%)	Wasilla (7%)
6	Healy (4%)	Eagle River (1%)	Soldotna (3%)
7	Palmer (4%)	Two Rivers (1%)	Eagle River (3%)
8	Eagle River (3%)	Ester (1%)	Palmer (3%)
9	Soldotna (2%)	Eielson AFB (1%)	Kenai (2%)
10	Nenana (1%)	Delta Junction (1%)	Seward (2%)

Source: ADFG 2021c

[a] Based upon 2020 data

Table 3.4-5. Caribou Hunter GMU Residence by GMU Hunted

	Total Hunters in GMU (count, %)			
GMU	**Resident within GMU**	**Resident Outside GMU**	**Nonresidents**	**Total Hunters**
20A	44 (40%)	51 (46%)	16 (14%)	111 (100%)
20B	2181 (66%)	988 (30%)	113 (3%)	3282 (100%)
20D	146 (53%)	120 (43%)	11 (4%)	277 (100%)

Source: ADFG 2021c

[a] Based upon 2020 data

3.5 UTILITIES

Utilities include infrastructure that provide basic human requirements such as heat, energy, water, communications, and sanitary services. Utilities in developed areas typically include power lines, communication systems, stormwater facilities, potable water, wastewater facilities, and solid waste facilities. The withdrawn lands are minimally developed and support no permanent human populations and thus have minimal utility services.

3.5.1 LAWS AND REGULATIONS

The primary laws, regulations, and authorities that apply to traffic and transportation for this project include, but are not limited to, those listed in Table 3.6-1.

Table 3.6-1. Laws, Regulations, and Authorities Related to Traffic and Transportation

Regulation or Authority	Description
USARAK Regulation 55-2, Transportation and Operations and Planning in Alaska	• Provides guidance for the operational requirements and safety procedures for all transportation originated at military installations in Alaska. • Identifies the numerous systems and offices that are involved in troop and materiel movement. • Provides an overview of transportation requisition procedures and movement safety protocols.
USARAK Regulation 350-2, Training and Range Safety	• Regulates use of privately owned vehicles within the training areas and establishes speed limits under various conditions.
USARAK Regulation 190-13, Enforcement of Hunting, Trapping, and Fishing on Army Lands	• Regulates ORV use and describes the restrictions on ORV use for each training area.

Regulation or Authority	Description
Defense Transportation Regulation Part III	• Establishes procedures and administrative requirements for the safe and efficient movement of military vehicles and convoys on public highways and for securing civil permits for oversize/overweight vehicles.
Federal Highways Administration, Office of Operations	• Issues guidance to assist state and local traffic agencies to help them understand the movement of convoys.
U.S. Department of Transportation	• Issues regulations and laws regarding driver safety, vehicle requirements, and rules of the road that should always be adhered to.
Alaska Department of Transportation and Public Facilities (AKDOT&PF)	• Issues regulations for local area transit

3.5.2 Region of Influence

The ROI for utilities includes all withdrawn lands. Some utilities in the withdrawn lands are classified as sensitive and are discussed only in general terms.

3.5.3 Laws and Regulations

There are no specific federal regulations for managing or evaluating impacts on utilities. Utilities typically operate in compliance with laws specific to other resource categories, such as the Clean Water Act and the Clean Air Act. Energy use and conservation are integral components of many utility services. CEQ NEPA regulations under Sections 1502.16(e) and (f) require that federal agencies consider energy and natural or depletable resource requirements and conservation potential of various alternatives and mitigation measures in NEPA documents. Other regulations such as the Energy Independence and Security Act (42 USC § 17001 et seq.), Energy Policy Act (42 USC § 13201 et seq.), and EO 13834 require federal agencies to take actions to move the country toward energy independence and security by promoting energy efficiency, renewable energy sources, and energy performance standards. These regulations are considered and addressed where appropriate in the utilities analysis. Utility and infrastructure capacities are analyzed in this section. No applicable laws associated with utility distribution have been identified.

3.5.4 BASELINE CONDITIONS

Doyon Utilities owns, operates, and maintains all of the Army utilities—including electricity, water, and wastewater—on DTAE and DTAW (U.S. Army 2012). They are responsible for upgrades and expansions to the existing power distribution network, which provides electrical power through overhead and underground lines for tenants in DTA and for temporary training purposes when approved and directed by the government. Eielson AFB owns a majority of the fiber-optic and electrical lines found within YTA. Golden Valley Electric Association owns the power line found along Johnson Road, which serves the USAF maintenance facility.

USAG Alaska's Directorate of Public Works maintains all stormwater drainage ditches and culverts along main roads in YTA, DTAE, and DTAW. The ITAM program maintains maneuver trails to include drainage as needed. Temporary gray water pits are constructed to support training exercises and are refilled at the completion of each exercise (USARAK 2020a).

The Trans-Alaska Oil Pipeline System transports crude oil from Prudhoe Bay to Valdez, and is authorized by a right-of-way grant pursuant to the Trans-Alaska Pipeline Authorization Act of 1973, and the Mineral Leasing Act of 1920, as amended. The right-of-way varies in width from approximately 64 feet wide to 122 feet wide where it crosses through the withdrawn lands (U.S. Army 2012).

3.5.4.1 Yukon Training Area

Utilities in YTA are shown in Figure 3.5-1 and consist primarily of overhead lines that provide power for training and communications facilities. Most power and communication lines in YTA are provided by USAF to support its training needs on the withdrawn lands. A main power line that runs along Johnson Road provides power to the USAF's maintenance facility and does not provide power to any of the Army's training areas. There are no facilities for potable water, solid waste, heating or cooling, or domestic wastewater. Potable water is trucked to the training ranges to support training activities.

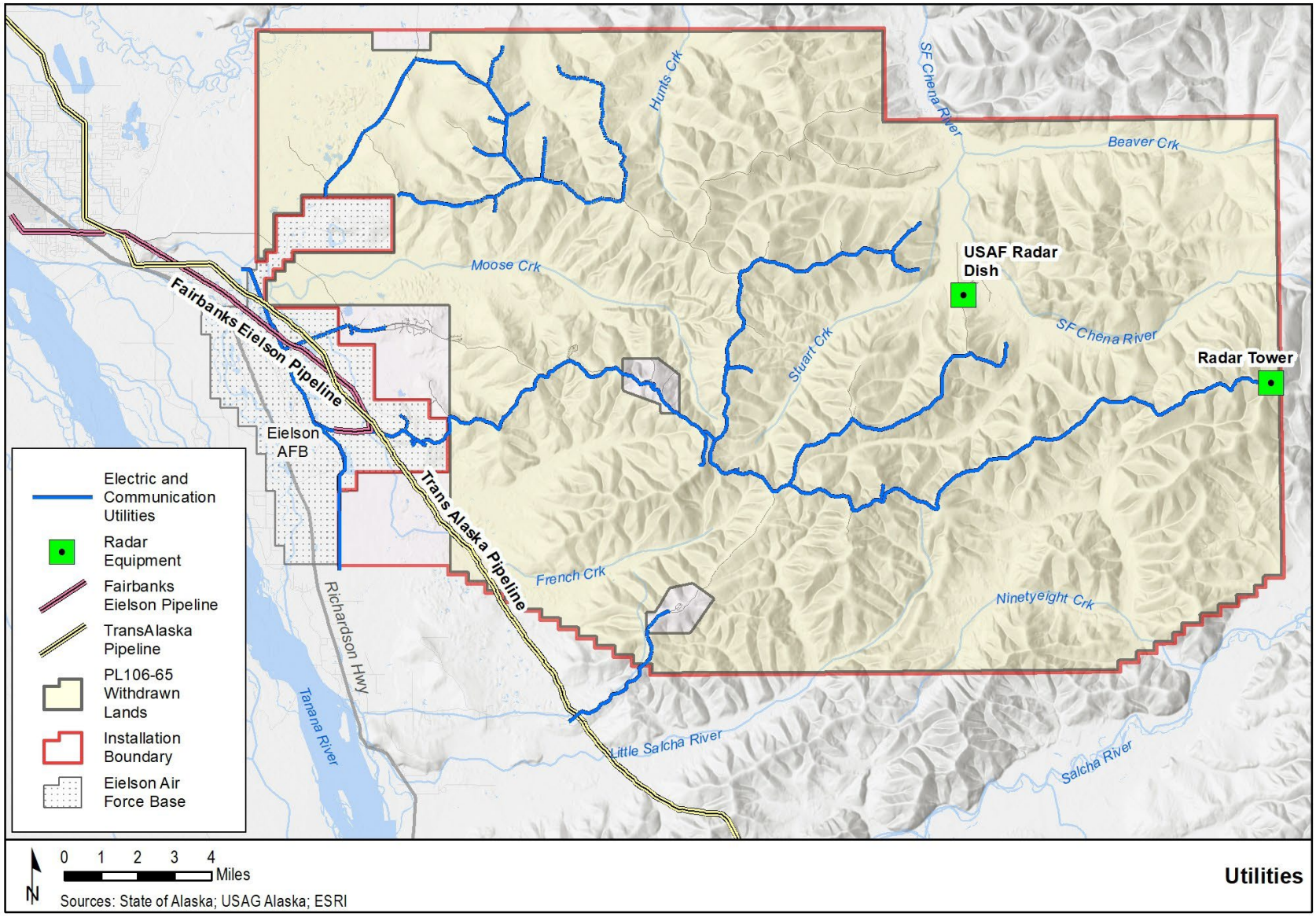


Figure 3.5-1. Utilities in the Yukon Training Area

3.5.4.2 Donnelly Training Area

Utilities in DTAE and DTAW are shown in Figure 3.5-2. All facilities outside of the main post at Fort Greely are served by septic systems. Potable water in DTA is obtained from groundwater wells, which draw water from unconfined aquifers in unconsolidated alluvial deposits (USARAK 2006). Potable water is provided at Bolio Test Complex, Texas Range, Mississippi Test Complex, Mobility Test Complex, BAX, the Intermediate Staging Base, and the Beales Maintenance facility. Groundwater monitoring wells have also been installed on DTA to monitor for munitions residue and hydrologic data.

Electric power requirements at DTA are met by a combination of power supplied by Doyon Utilities and on-post generators run by military personnel. Electric power is provided to areas east of the Delta River in DTAW via a single main overhead 67-kv power line and several distribution lines. Electricity and heating are provided at Bolio Test Complex, Texas Range, Mississippi Test Complex, Mobility Test Complex, the Beales Maintenance facility, and Washington Range.

There are no solid waste facilities or National Pollutant Discharge Elimination System permits issued within the withdrawn lands. General trash service is provided by Fort Greely Department of Public Works. During large training exercises, the Army contracts for solid waste services, which include dumpsters that are emptied and taken to the Delta Junction Public Landfill.

Copper and fiber optic communications cables are provided to key areas throughout DTA.

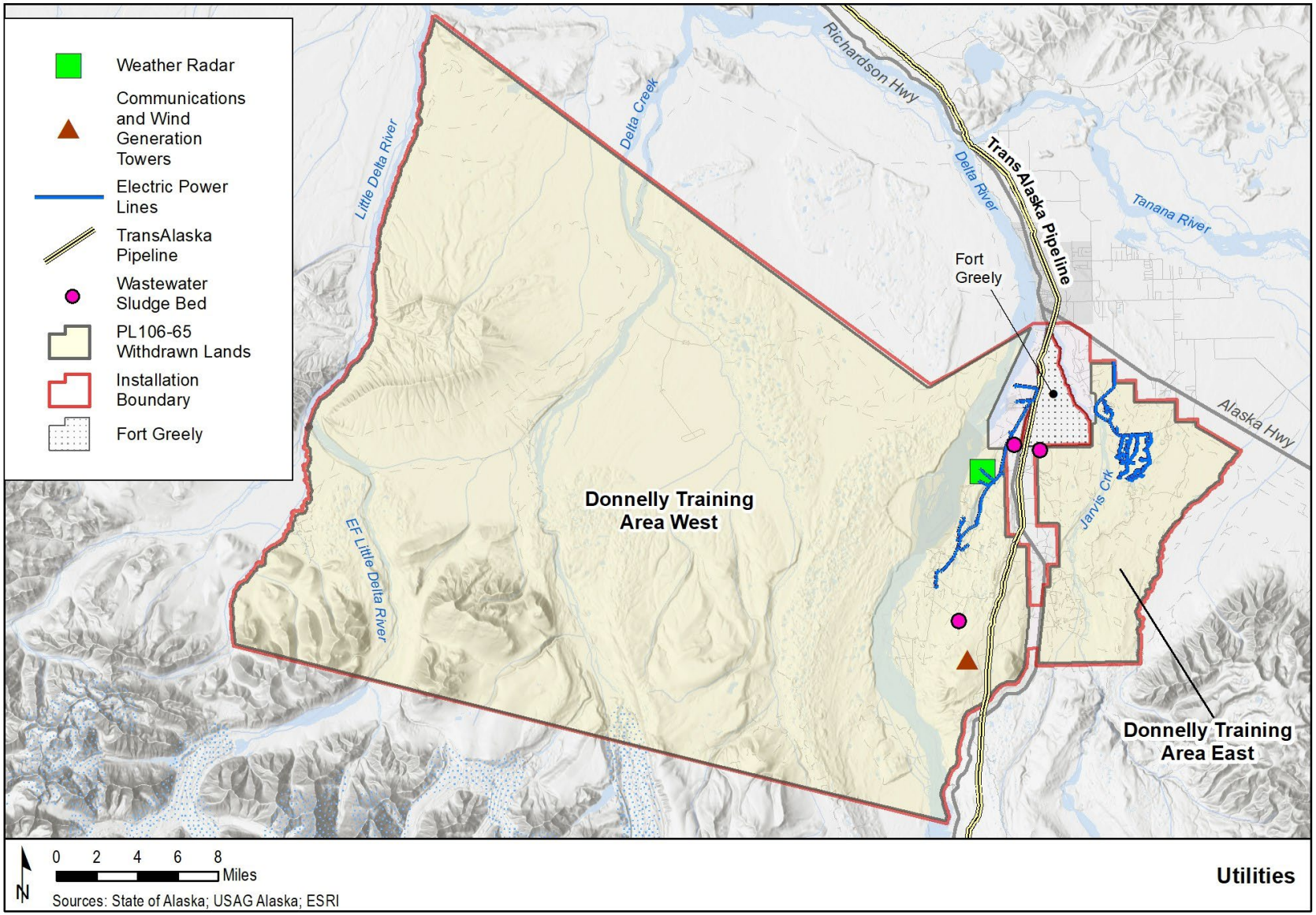


Figure 3.5-2. Utilities in the Donnelly Training Area

3.6 TRANSPORTATION AND TRAFFIC

Transportation systems are organized means of moving people and commodities. Transportation resources include the land and air routes that provide access to the withdrawn lands for both military and non-military purposes. These may include airfields, railroads, highways, and surface streets that are owned and operated by federal, state, or local agencies or private companies or citizens. Movement of people on a local or regional scale is related to traffic and circulation. Within the vicinity of the withdrawn lands, transportation infrastructure includes six military airfields and five non-military airfields, numerous state and local roadways, one off-site public railroad, an on-installation railroad at FWA, and an on-installation railroad at Eielson AFB.

3.6.1 REGION OF INFLUENCE

The ROI of the proposed land withdrawal on traffic and transportation can be determined by identifying access routes to the base and area of use by base personnel. Military access to the region is through transportation nodes in the City of Fairbanks and on FWA and Eielson AFB. Military personnel use the transportation infrastructure extending from Fairbanks east and southward through the cities of North Pole and Delta Junction.

3.6.2 BASELINE CONDITIONS

Transportation and travel of troops originating from military installations requires rigorous planning from initiation to movement to completion. Modes of transportation utilized by Army personnel include roadway, rail, and air. USARAK Regulation 55-2 outlines each of these modes and establishes the policies and procedures for units and agencies using military and commercially contracted transportation resources in support of Army operations within Alaska. All movements are tracked through the Transportation Coordinator Automated Information Management System (TC-AIMS II). Appendix F of USARAK Regulation 55-2 describes requirements for safe transport of hazardous cargo and sensitive items. All units must have a certified

hazardous materials-trained individual and all hazardous cargo must be segregated and labeled.

3.6.2.1 Aviation Access

The withdrawn lands provide year-round aviation training and include landing strips, landing zones, air-to-surface fire ranges, bombing ranges, and drop zones. Restricted airspace over the withdrawn land is designated by the FAA. At YTA, RA R-2205 covers most of the training area. FWA Range Operations controls this airspace, and it is closed to all aircraft up to an altitude of 20,000 feet above mean sea level (MSL) during periods of scheduled activity. DTAE and DTAW are covered by FAA-designated RAs R-2201 and R-2202. DTA Range Operations controls use of this airspace and it is closed to all aircraft at any elevation during periods of scheduled military activity.

Military staff and civilians arrive in the Fairbanks area primarily via commercial air service at Fairbanks International Airport (FAI) and there are numerous smaller airfields for local aviation in the FNSB and surrounding area. Military airfields near the withdrawn lands include Ladd AAF, Manchu Landing Zone, Firebird Airstrip, and Donnelly Assault Strip. Allen AAF is located on Fort Greely. Eielson AFB is located south of North Pole, separated by the community of Moose Creek.

The Army's mission requires the ability to rapidly deploy by strategic airlift. Both military and commercial airlifts are frequently used during overseas contingencies, major training exercises, and emergency deployment readiness exercises. These may include special airlift assignment missions, which require additional considerations when air transportation requires movement of 100 or more passengers, special cargo, urgent movement, sensitive cargo, or other special factors.

3.6.2.2 Railroad

The Alaska Railroad Corporation owns and operates the Alaska Railroad, a Class II railroad, which terminates in Fairbanks at the Alaska Railroad Fairbanks Terminal.

The mainline is over 470 miles long, providing both freight and seasonal passenger services between Seward (southern terminus), Anchorage, and Fairbanks. Most northbound freight arrives in Alaska via the ports of Anchorage or Whittier and is transferred to the railroad for transport north. Rail barges provide connectivity from Alaska to ports in the contiguous 48 states. Materiel movements may occur by rail and must be coordinated per USARAK Regulation 55-2, which provides operational planning procedures and safety protocols. Planned exercises that include rail movements must be coordinated with the freight section of the installation's transportation office, which arranges for safe spotting of cars and provides the sole contact between the 11th Airborne Division and the railroad. From the Alaska Railroad Fairbanks Terminal, one rail line travels east onto FWA and then splits into two lines. The first line terminates southwest of Oak Ave and Meridian at the current power plant and the second line continues southeast and splits again with one line terminating at the FWA Railhead and the other continuing off post to North Pole and Eielson AFB. These lines carry cargo, coal, and heating oil onto the main cantonment area and provide infrastructure for railhead operations in which soldiers conduct rapid rail deployment exercises. (U.S. Department of Defense 2018).

3.6.2.3 Roadways

Regional roadway access to the FNSB is provided via the Parks and Richardson Highways (Figure 3.6-1). The Parks Highway, or State Route 3 (A3), is the principal arterial road for transportation within Alaska's interior, connecting Fairbanks with Anchorage, approximately 360 miles to the south. The Parks Highway is a two-lane highway with occasional passing lanes. The Richardson Highway, also known as State Route 2 (A2), connects Fairbanks to North Pole, Eielson AFB and Delta Junction. The Richardson Highway passes through Eielson AFB and Fort Greely with feeder roads from these installations providing military access to YTA, DTAE and DTAW. Between Fairbanks and Eielson AFB, the Richardson Highway provides two lanes of traffic in each direction before narrowing to one lane in each direction with occasional passing lanes until its southern terminus. At Delta Junction, the Richardson Highway turns south and continues to Valdez, while the two-lane Alaska

Highway, also known as the historic Alaska-Canada or ALCAN Highway, splits to the east and continues to the Canadian border.

3.6.2.4 Traffic and Circulation

Military land uses in and around withdrawn lands include cantonment or main post areas, impact areas, training areas, and range and test centers. Cantonment areas operate as the primary conduit for movement of troops, equipment, and supplies that are routed to and from the withdrawn lands. As troops travel from cantonment areas to withdrawn lands, they primarily use the Richardson Highway. Vehicles used by military personnel may include privately owned vehicles, assault vehicles, heavy wheeled and tracked vehicles, and heavy machinery.

Traffic counts along the Richardson Highway between North Pole (Milepoint 346) and DTA (Milepoint 261) provide the baseline usage statistics for the roadways that service the withdrawn lands. Average annual daily traffic (AADT) counts show that for the calendar year 2019, the number of vehicles passing over the Richardson Highway reached a maximum of 9,107 per day north of Eielson AFB and a maximum of 2,656 per day in Delta Junction just north of Fort Greely (Table 3.6-2).

Table 3.6-1. Richardson Highway 2019 AADT Counts by Milepoint

Road Segment (Milepoints)	Road Segment Description	AADT Range
346-348	East of North Pole	6,000-10,000
342-346	North access area to Eielson AFB	3,000-6,000
329-342	Balch Way to Central Avenue	1,000-3,000
321-329	Salcha Drive to Balch Way	1,000-3,000
298-321	Near Banner Creek crossing to Salcha Drive	1,000-3,000
278-296	Tanana River Big Delta Bridge #0524 to Banner Creek crossing	1,000-3,000
271-278	Jack Warren Road to Bridge 0524	1,000-3,000
269-271	U.S. Post Office Entrance to Jack Warren Road	1,000-3,000
269-269	Sixth Street to Alaska Highway	1,000-3,000
264-269	Fort Greely access to Sixth Street	1,000-3,000

Source: AKDOT&PF 2021a

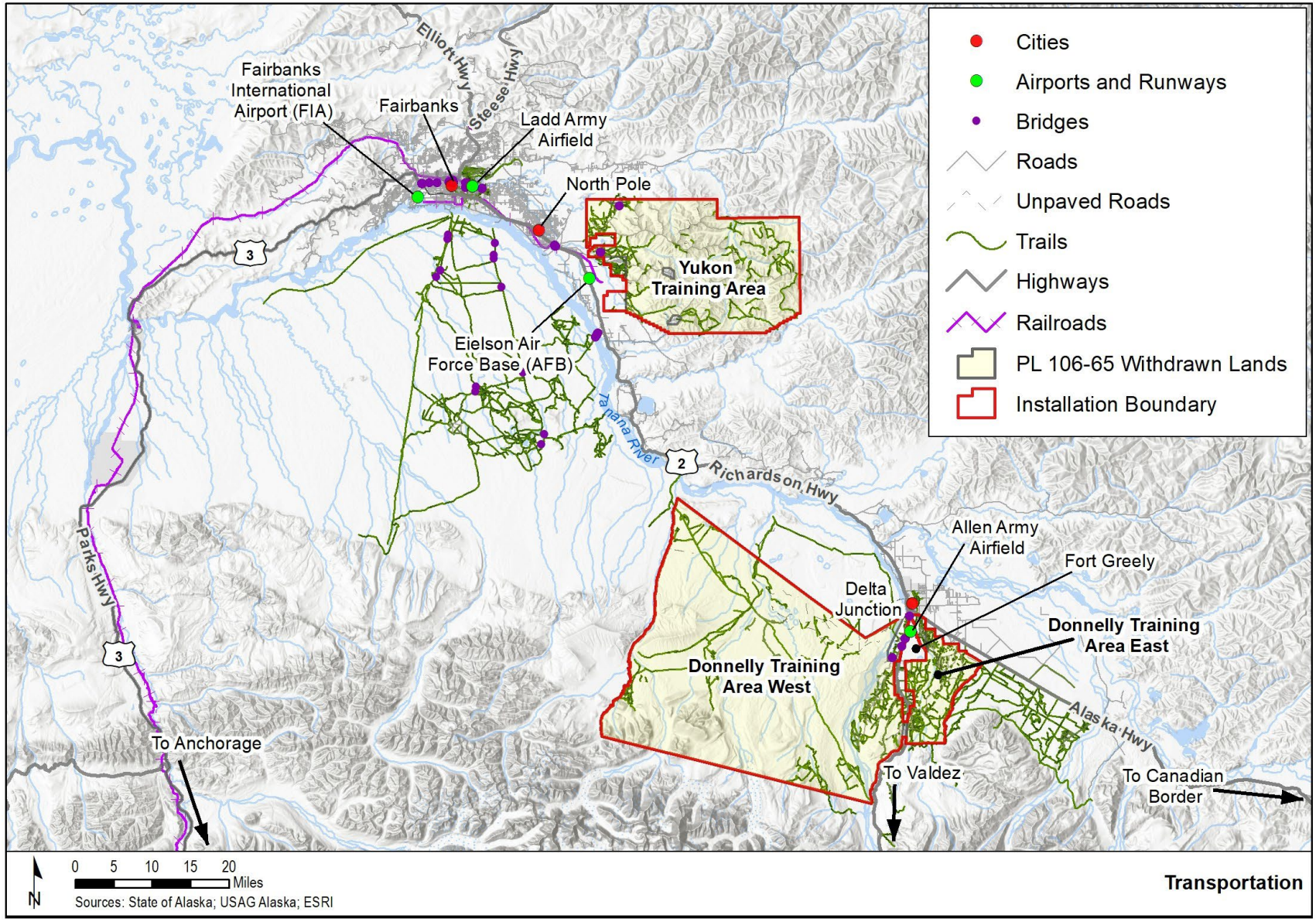


Figure 3.6-1. Transportation Features In and Around YTA, DTAE, and DTAW

Military buses and trucks are used to transport personnel from cantonment areas to training sites and the USAG Alaska Range Complex assembly area. YTA bus drop points include Johnson Road/Pump Station 8, Eielson AFB Small Arms Complex, Manchu Lake Trail, and intersection of Transmitter Road/ASP Road. DTA bus drop points include Beales Load Ramp, Donnelly Drop Zone, and Allen AAF.

Key deployment personnel must be identified and appointed for each unit movement program, including a Unit Movement Officer, Hazardous Materials Certifier, Air Load Planner, Intermodal Dry Container/International Convention for Safety Containers Inspector, Transportation Coordinator, Container Control Officer, and Air/Rail Load Teams. All these appointed positions require mandatory training and/or certification (USARAK 2016).

USARAK Regulation 55-2 is the guiding document for all movement of troop convoys (a group of six or more vehicles) at military installations, and provides requirements for safety equipment, minimizing interference with normal flow of traffic on and off base, and appointing safety representatives. Convoys are not normally authorized to move on the primary road network within the installation during peak traffic hours (0630 to 0800, 1100 to 1300, and 1530 to 1700) Monday through Friday. The local installation Movement Coordinator coordinates with military police for convoy movements and any exceptions to movement guidance. Vehicles passing off-installation to training areas are always required to have minimum spill response capability with them (USARAK 2020a). Hazardous materials procedures for troop convoys are also covered in USARAK Regulation 55-2, Appendix F.

Deployment is defined as the movement of troops from one location to another to conduct mission-essential activities, often in the form of large field exercises. The Army deploys troops for training between its properties, which requires use of the Alaska and Richardson Highways for convoys from FWA to the training areas. Deployment miles are greatest between Fort Richardson and DTA. Convoys occur most commonly between FWA main post and YTA. Deployment miles may also include rail and air transport methods, such as airborne training flights. Convoy sizes vary based on the unit deploying for training. Large convoys are usually segmented

to reduce traffic impacts. According to a 2004 EIS, there were 139 deployments of platoon, company, and/or battalion-sized units per year to the training lands for a total of 437,600 traveled miles (USARAK 2004); current levels are consistent with these. These deployments included use of vehicles, equipment, munitions, and other supplies to conduct training exercises. In addition, three major troop movements originating from JBER in Anchorage generally occur each year, and one major movement per year is initiated from FWA. Military traffic to or from withdrawn lands is not counted daily (Buzby 2021).

Army convoys are subject to a permitting process in coordination with Alaska Department of Transportation and Public Facilities (AKDOT&PF). Army SOPs call for large convoys to be broken into groups of no more than 20 vehicles, which are then separated by 30-minute gaps to reduce traffic pressures on state highways. Highway speed for a military convoy is not expected to exceed 40 miles per hour, except when "catch-up speed" is permissible at 45 miles per hour.

3.6.2.5 Public Transit

The Metropolitan Area Commuter System is operated by the FNSB and provides bus service and paratransit along eight routes with a fleet of 15 vehicles. Service areas extend west to the FAI, south to Van Horn Road, north to the University of Alaska Fairbanks campus, and east to North Pole (FNSB 2021b). There are no public transit lines that provide access to the withdrawn lands.

3.7 AIRSPACE

This section describes current conditions pertaining to management and use of the airspace impacted by military operations on the withdrawn lands.

3.7.1 REGION OF INFLUENCE

The ROI for airspace includes military-use airspace located directly above the withdrawn lands of YTA, DTAE, and DTAW. Additional military-use airspaces beyond the withdrawn lands are part of the overall system of airspace used for military training. Military aircraft that operate in the airspace that overlies the withdrawn lands

also train in or fly to and from other military training areas in central Alaska. Training areas beyond the withdrawn areas are considered to be outside the ROI for this study.

Numerous private, military, and public airports are situated in the central Alaska region that surrounds the withdrawn lands. Four airports are relevant to airspace use for this study: Fairbanks International Airport (abbreviation FAI), a public airport used for commercial passenger travel, cargo, and general aviation; and three nearby military airports—Ladd AAF (FBK), Eielson AFB (EIL), and Allen AAF (BIG) (ForeFlight 2021). There are numerous private civilian airfields in the region, as well as several outlying military runways. YTA is east of EIL, DTAE is southeast of BIG, and DTAW is southwest of BIG.

The National Airspace System (NAS) comprises airspace and facilities for civilian (general aviation, commercial, drones) and military applications and is managed by the FAA. Airspace is categorized as regulatory or nonregulatory. Within these two categories there are four types of airspace: Controlled, Uncontrolled, Special Use, and Other. The four types of airspace are further refined depending on the flight rules and operations taking place within a given airspace. Subcategories of all four types of airspace are present in the ROI.

3.7.2 Laws and Regulations

The U.S. government has exclusive sovereignty of airspace over the United States, and transit through navigable airspace is made available to citizens of the United States (49 USC; 49 CFR 40103 (a)). The administrator of the FAA establishes policies and plans for the use of navigable airspace to ensure it is safe and efficient. The administrator may also, in consultation with the Secretary of Defense, establish areas in the airspace as necessary in the interest of national defense (49 CFR 40103 (b)).

The FAA administers the management of airspace, airports, facilities, and equipment through the use of orders, notices, federal aviation regulations, advisory circulars,

and airworthiness directives. The regulations in Table 3.7-1 provide primary rulemaking for airspace.

Table 3.7-1. Laws, Regulations, and Authorities Related to Airspace

Authority	Law, Regulation, or Document Title
U.S. Federal Law	• 49 USC; 49 CFR 40103 Sovereignty and Use of Airspace (a), (b) • 14 CFR Part 71—Designation of Class A, B, C, D, and E Airspace Areas; Air Traffic Service Routes; and Reporting Points • 14 CFR Part 73—Special Use Airspace • 14 CFR Part 91—General Operating and Flight Rules

3.7.3 CONTROLLED AIRSPACE

Controlled airspace is airspace where air traffic control (ATC) services are provided for visual flight rules (VFR) and instrument flight rules (IFR). Aircraft flying under VFR use onboard navigation and/or landmarks on the ground to navigate along their route. Aircraft flying under IFR use onboard instruments for navigation and file a flight plan with a predetermined route. Commercial, general aviation, and military all operate under either VFR or IFR within controlled airspace in the NAS. There are five classes of controlled airspace; Class A, Class D, and Class E are present in the ROI.

Class A airspace extends from 18,000 to 60,000 feet MSL. This airspace exists over the withdrawn lands above other types of airspace that end at 17,999 feet MSL. The types of airspace that Class A overlies within the withdrawn area include Class E and Military Operations Areas, as described below.

Class D airspace starts at the ground surface, consists of one cylinder centered on an airport, and is tailored to each airport in size and altitude. Within the area around the withdrawn lands, there are four airports that operate within Class D airspace: EIL (surface to 3,000 feet MSL), FAI (surface to 2,900 feet MSL), FBK (surface to 2,500 feet MSL) and BIG (surface to 3,800 feet MSL).

Class E airspace is controlled airspace that is not classified as Class A, B, C, or D. Much of the airspace within the United States is Class E, in which ATC controls and separates IFR operations and provides flight following to VFR pilots. Class E

airspace generally starts at 1,200 feet AGL and extends up to 17,999 feet MSL. Above 60,000 feet, airspace is Class E. Class E airspace surrounds the Class D airspace at EIL, FAI, FBK, and BIG. At these airports, there is a transitional Class E airspace area that goes to the surface. It is also located within two RAs east of EIL.

3.7.4 Uncontrolled Airspace

Uncontrolled airspace is designated Class G. ATC does not have authority or responsibility to provide air traffic services in Class G airspace. This airspace extends from the ground to the base, or bottom, of Class E airspace, and is generally very close to the ground. Any remaining airspace that is not designated as a Controlled Airspace is Class G. Uncontrolled airspace is found throughout central Alaska and adjacent to the withdrawn lands.

3.7.5 Special Use Airspace and Special Activity Airspace

Special Use Airspace (SUA) is airspace where activities must be confined because of their nature, or where limitations may be imposed on aircraft operations that are not part of those activities. The purpose of SUA is to support the DoD and national defense/security requirements, confine hazardous activities, segregate certain activities from other airspace users, and identify for other airspace users when the activity occurs.

During active military use, a civilian pilot may contact Eielson Range Control (ERC) via the appropriate radio frequency. When the airspace is not active, the FAA is the controlling agency of the SUA. SUAs are available for use by non-participating aircraft (i.e., aircraft which are not authorized by a using agency such as air traffic control to operate in an SUA. The FAA defines a “using agency” as the military unit or other organization whose activity established the requirement for the SUA.) when not needed for the using agencies’ mission; this can be accomplished through a letter of agreement, which prescribes coordination procedures and ground rules.

In central Alaska, a Special Use Airspace Information Service (SUAIS) operates 24 hours a day to provide information about RAs and MOAs. This service provides

information in near real time for USAF activity in the Fairbanks and Delta Junction Areas. Additionally, SUAIS provides information on ground operations, including Army artillery firing, known helicopter operations, and Army unmanned aerial vehicle operations. To receive SUAIS updates, pilots in the air can contact ERC on VHF 125.3 or 126.3 MHz from 9 a.m. to 7 p.m. local time. Outside of these hours or when a pilot is on the ground, SUAIS information is available by calling 800-758-8723 (DoD 2021a). The ERC does not provide air traffic control services, but can provide status of airspace and the approximate location of military aircraft. Additional resources for operational status of SUA include Anchorage Center Air Route Traffic Control and local flight service stations.

Special Activity Airspace is any airspace with defined dimensions within the NAS wherein limitations may be imposed upon aircraft operations (FAA 2017). The dimensions of this airspace can be designated as either active or inactive.

This section addresses only the SUAs and Special Activity Airspaces that are within the ROI, which includes MOAs, RAs, and other associated airspace that supports or is adjacent to these SUAs.

3.7.5.1 Military Operations Areas

MOAs are established outside of Class A airspace to separate and/or segregate nonhazardous military flight activities from IFR traffic. MOAs are depicted on low altitude aeronautical sectional charts, which are primarily for aviation activity below 18,000 feet MSL. Typical activities in a MOA include air combat maneuvers, pilot training, air intercepts, and low altitude tactics (FAA 2016). The Viper MOA is the only MOA in the region and overlaps with the airspace over Eielson AFB and YTA. The operational details of this MOA are shown in Table 3.7-2.

Table 3.7-2. Annual Military Use of Airspace in the Region

Airspace Designation	Altitudes	Total Annual Sorties[2]	Total Annual Days Use[2]	Using/Controlling Military Agency[1]
Viper B MOA/ ATCAA	10,000 feet MSL up to, not including FL180; maximum altitude FL600 (when the ATCAA above it is activated)	8,034	163	Air Force 354th FW
Buffalo MOA (portions that overly R-2201 B&D)	300 feet MSL up to 6,999 feet MSL	4,711	58	Air Force 354th FW
Delta 4 MOA/ATCAA (portions that overly R-2201 B&D)	7,000 feet MSL up to FL180; maximum altitude FL600 when the ATCAA above it is activated	5,429[3]	52	Air Force 354th FW
Delta 1 MOA/ATCAA (portion that overlies R-2205 D & J)	10,000 feet MSL up to but not including FL180; maximum altitude FL600 when ATCAA above it is activated	5,429[3]	52	Air Force 354th FW
Delta 3 MOA/ATCAA (portion that overlies R-2201 A&C	3,000 feet MSL up to but not including FL180; maximum altitude FL600 when the ATCAA above it is activated	5,429[3]	52	Air Force 354th FW
Fox 2 MOA	7,000 feet MSL up to but not including FL180; maximum altitude FL600 when the ATCAA above it is activated	10,525	220	Air Force 354th FW
Eielson MOA	100 feet MSL up to but not including FL180; maximum altitude FL600 when the ATCAA above it is activated	10,603	220	Air Force 354th FW
R-2201	Surface up to 11,000 feet MSL	Unreported	Unreported[4]	11th Airborne Division, ZAN Anchorage Center
R-2202	Surface up to unlimited altitude	6,290	241	11th Airborne Division, Cold Regions Test Center / ZAN Anchorage Center
R-2205	Surface to 31,000 feet MSL	5,510	215	11th Airborne Division, JBER / Fairbanks Approach

Key: ATCAA = Air Traffic Control Assigned Airspace; FLxxx = Flight level in 100s of feet (e.g., FL180 indicates a flight level of 18,000 feet); FW = Fighter Wing

[1] FAA controlling air traffic control agency is Anchorage Air Route Traffic Control Center unless otherwise indicated.

[2] Source: SCAI 2013

[3] The sorties reported in the Joint Pacific Alaskan Range Complex Final EIS are for all of the Delta MOAs.

[4] R-2201 is a newly designated RA and has not yet reported the number of sorties. Due to the Covid pandemic, there was little to no activity in the reporting period from October 2020 through September 2021.

3.7.5.2 Restricted Areas

RAs are utilized when necessary to confine or segregate activities considered hazardous to non-participating aircraft, including visible and invisible hazards to aircraft such as air-to-ground firing, guided missiles, or artillery firing (FAA 2016). If the RA is active, aircraft on an IFR flight plan will be routed around the airspace. If the RA is not active and has been released to the FAA, the ATC facility may allow an aircraft to transition through the airspace. Figure 3.7-1 shows the operational details of the three RAs in the ROI: R-2201, 2202, and 2205.

Figure 3.7-1 shows the locations of the MOA and RAs within the ROI. Table 3.7-3 includes additional information on typical altitudes at which military training occurs by aircraft type. Table 3.7-4 details the civilian (FAA-controlled) aspects of the MOAs and RAs in the ROI. When these airspaces are not actively utilized by the military, civilian flights may be allowed under certain circumstances.

Table 3.7-3. Typical Altitude Used by Military Aircraft Types

	Altitude Distribution (in feet MSL) (Percentage of Sortie Duration by Altitude)					
Aircraft	**500 – 1,000**	**1,000 – 3,000**	**3,000 – 5,000**	**5,000 – 10,000**	**10,000 – FL180**	**FL180 and above**
A-10	33%	17%	16%	24%	10%	0%
F-15C	0	2	3	10	25	60
F-15E	5	5	5	10	25	50
F-16A	4	2	3	5	26	60
F-18A	5	2	3	12	28	50
F-22A	5	2	3	5	10	75
F-35B	4	2	3	5	26	60
EA-6B	0	0	0	0	20	80
Rotary Wing Aircraft	20	27	28	25	0	0
B-1B	2	5	5	3	20	65
C-130	28	15	15	22	20	–
C-17	10	12	13	30	23	12
KC-135	0	0	0	0	20	80
KC-10	0	0	0	0	0	100
E-2	0	0	0	0	0	100
E-3	0	0	0	0	0	100
MQ-1						

Source: SCAI 2013

Table 3.7-4. Civilian Operation in Airspace within the ROI

Training Area	Altitudes (ft/MSL)	Controlling FAA Facility	Published Time of Military Use[1]
Yukon Training Area			
R-2205 A, B, C, D, E	Ground up to 9,999	Fairbanks Approach	7 am – 7 pm; must call 2.5 hrs in advance
R-2205 F, G, H, J, K	10,000 – 31,000	Fairbanks Approach	7 am – 7 pm; must call 2.5 hrs in advance
Viper B MOA (portion that overlays R-2205 A&F)	10,000-17,999	Anchorage Center	7 am – 12 am; Intermittent by Notice to Airman (NOTAM)
Delta 1 MOA	10,000 – 17,999	Anchorage Center	7 am – midnight; use for major flying exercises only
Donnelly Training Area East			
R-2201 A & B	Ground up to 5,999	Anchorage Center	7 am – 7 pm; must call 4 hours in advance
R-2201 C & D	6,000-11,000	Anchorage Center	By NOTAM 4 hours in advance
Delta 3 MOA	3,000 – 17,999	Anchorage Center	7 am – midnight; use for major flying exercises only
Delta 4 MOA	7,000 – 17,999	Anchorage Center	7 am – midnight; use for major flying exercises only
Buffalo MOA	300 – 6,999	Anchorage Center	8 am – 6 pm
Donnelly Training Area West			
R-2202 A, B	Ground up to 9,999	Anchorage Center	7 am – 6 pm
R-2202 C	10,000– 31,000	Anchorage Center	Intermittent by NOTAM
R-2202 D	31,000 to unlimited altitude	Anchorage Center	Intermittent by NOTAM
Fox 2 MOA	7,000 – 17,999	Anchorage Center	8 am – 6 pm
Eielson MOA	100 – 17,999	Anchorage Center	8 am – 6 pm

[1]Unless otherwise stated, days of operation are Monday – Friday.

Source: ForeFlight, accessed September 22, 2021

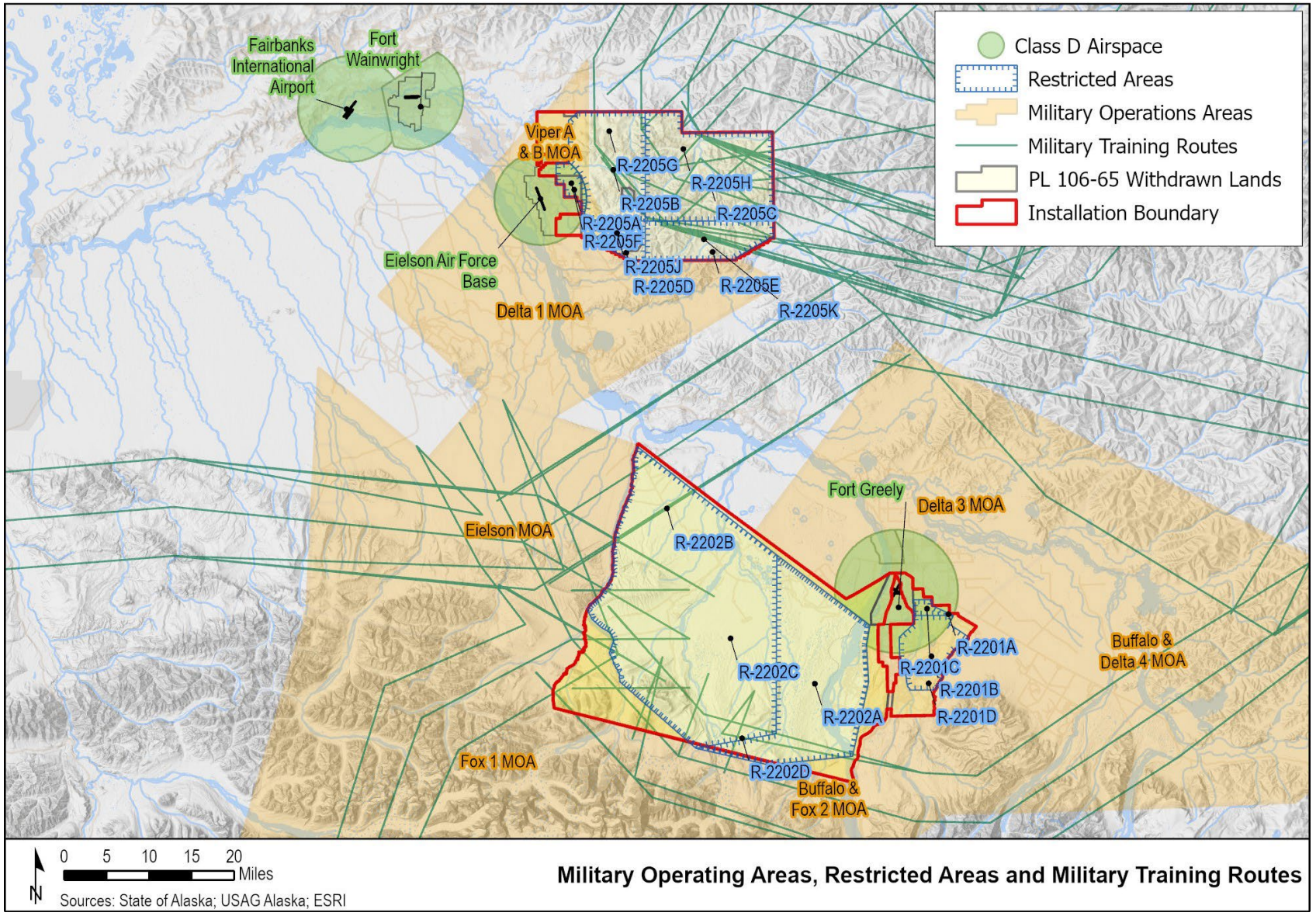


Figure 3.7-1. Airspace Operations Relevant to the Region of Interest

3.7.5.3 Controlled Firing Areas

Activities in Controlled Firing Areas (CFAs) include activities that could be hazardous to non-participating aircraft. Unlike MOAs and RAs, CFAs are not depicted on navigational charts since activities in a CFA are monitored by radar, a spotter aircraft, or ground lookouts. If a non-participating aircraft approaches the area, activities within the CFA are immediately suspended (FAA 2016). There are four CFAs adjacent to, and east of, R-2202.

3.7.5.4 Air Traffic Control Assigned Airspace

Air Traffic Control Assigned Airspace (ATCAA) is airspace available to the using agency to provide positive control of air traffic within defined vertical and lateral limits. ATCAA is Class A airspace and extends from 18,000 feet MSL to 60,000 feet MSL. All MOAs have an overlying ATCAA with lateral boundaries that normally coincide with the underlying MOA. In the withdrawn lands, the ATCAA is the northern portion of the Viper MOA. Within the ROI, ATCAA is used for air-to-air combat training. ATCAAs can be combined with the underlying MOA to provide airspace for military use.

3.7.6 OTHER AIRSPACE

In addition to Controlled, Uncontrolled, and Special Use Areas, two categories of Other Airspace are applicable to the ROI: Terminal Radar Service Areas (TRSAs) and Military Training Routes (MTRs).

3.7.6.1 Terminal Radar Service Areas

TRSAs provide additional radar services to further separate aircraft operating under VFR from aircraft operating solely using instruments. Airports that have a TRSA also contain Class D airspace. The TRSA overlies this airspace and other controlled airspace, which is typically Class E. Although pilot participation in a TRSA is voluntary, it is highly encouraged for pilots to contact the radar approach control facility to use the separation services within a TRSA. In the ROI, there is a TRSA

around FAI, FBK, and EIL. In areas within approximately five nautical miles of an airport, the TRSA starts at the ground surface and extends up to and including 7,000 feet. In areas farther from the airport, the TRSA starts at 2,500 to 3,000 feet MSL and extends up to 7,000 feet MSL.

3.7.6.2 Military Training Routes

MTRs are used by military aircraft to maintain proficiency in tactical flying. MTRs are 10 nautical miles wide and are established at altitudes below 10,000 feet MSL for operations at speeds that exceed 250 knots. MTRs are identified on navigational charts and indicate if they are used for visual or instrument flying. MTRs used for visual flight are indicated with a VR followed by a number. MTRs used for instrument flight are indicated with an IR followed by a number. MTRs that are used for visual and instrument have both an IR and VR on the same route.

Table 3.7-5 details the MTRs in central Alaska. The routes shown in this table are within the withdrawn lands or connect to and from them. Other MTRs in the region do not connect to and from YTA and DTA and are not shown here. The MTRs most relevant to this study are shown in Figure 3.7-1.

Table 3.7-5. Description of MTRs with Annual Use

	Altitude		Annual	
Name	**Min**	**Max**	**Sorties**	**Scheduling/Using Agency**
IR-900	100 feet AGL	10,800 feet above MSL	0	Air Force 354th FW
IR-916			0	
VR-1900		1,500 feet AGL	39	
VR-1916			0	
IR-909	100 feet AGL	10,600 feet above MSL	0	Air Force 354th FW
IR-939 VR-1909			0	
VR-1939		1,500 feet AGL	0	
IR-952	100 feet AGL	17,000 feet above MSL	0	Air Force 354th FW
IR-953 VR-954			0	
VR-955		9,500 feet above MSL	10	
IR-922			0	

Name	Altitude		Annual Sorties	Scheduling/Using Agency
	Min	Max		
IR-923	100 feet AGL	16,200 feet above MSL	0	Air Force 354th FW
VR-940			96	
VR-941			1,440	
VR-937	100 feet AGL	14,700 feet above MSL	1,428	Air Force 354th FW
VR-938			96	
IR-917	100 feet AGL	10,600 feet above MSL	0	Air Force 354th FW
IR-918 VR-935			0	
VR-936		9,500 feet above MSL	0	
			10	
IR-903	100 feet AGL	12,000 feet above MSL	4	Air Force 3rd Wing
IR-913			1	
VR-933			1	
VR-934			1	
IR-902	100 feet AGL	7,000 feet above MSL	2	Air Force 3rd Wing
IR-912 VR-1902			1	
VR-1912		1,500 feet AGL	1	
			1	
IR-901	100 feet AGL	7,200 feet above MSL	2	Air Force 3rd Wing
IR-911 VR-931			1	
VR-932		6,500 feet above MSL	1	
			1	

Key: AGL=above ground level; IR=Instrument Route; VR=Visual Route.

Source: SCAI 2013

3.7.7 SEARCH AND RESCUE OPERATIONS

Aircraft that are operating for emergency use, such as air ambulance or firefighting, can be assisted by ERC to clear military aircraft out of RAs or MOAs. Emergency aircraft, air evacuation, Life Flight, and firefighting aircraft always have priority over military training (DoD 2021a). While ERC is the using agency, they are available to assist in emergencies.

3.7.8 NON-DOD AIRSPACE USE

The predominant type of non-military aviation activity in central Alaska is general aviation. This encompasses a wide range of activities, including leisure, flight training, sightseeing, medical transport, and general transportation. In Alaska, it is common for people to travel by air to and from rural airports just as people travel by car in most other places in the United States. Rural airports are vital to communities in Alaska, providing access for supplies, mail, medical and dental services, school access, and travel. There are 251 communities in Alaska that are solely accessed by air (AKDOT&PF 2021b).

FAI is the largest public-use airport in central Alaska, and one of two international airports in Alaska (along with Anchorage International Airport). These two airports make up the Alaska International Airport System and operate as the primary transportation corridor for intra- and interstate travel for passengers and cargo. FAI has a runway that is 11,800 feet long and a float pond with 322 aircraft tie down spots and 185 float pond spaces. In 2019, FAI saw over 108,000 takeoffs and landings (AKDOT&PF 2021c). Central Alaska also is traversed by en-route aircraft in Class A airspace.

3.8 PUBLIC HEALTH AND SAFETY

This section considers the effect of military operations that may pose a risk to the health, safety, and well-being of the public, military personnel, civilian employees, and dependents. Public health and safety considerations are a component of each of the resource areas discussed in this document and have been discussed as applicable throughout the document. This section specifically covers the process by which the Army ensures public health and safety within the withdrawn lands and where military operations may extend public health and safety concerns outside the withdrawn lands. It also describes the facilities and programs in place to provide civilian access to withdrawn lands and other health and safety services, such as medical facilities, law enforcement, and wildfire protection.

3.8.1 REGION OF INFLUENCE

Training operations on withdrawn lands can present risk to human health and safety both on and off withdrawn lands. Training operations include use of ground vehicles, aircraft operation, and coordinated weapons testing and deployment. As such, the ROI for public health and safety encompasses all withdrawn lands as well as surrounding areas that could be affected by operations on withdrawn lands. The "public" to be considered includes military personnel or recreational users who enter withdrawn lands, and the civilians who live, work in, or visit the region surrounding the withdrawn lands.

3.8.2 LAWS AND REGULATIONS

The Army has implemented a comprehensive program to eliminate, avoid, or reduce health and safety risks to its workers, visitors, and the public (Department of the Army 2019). The Army's Health and Safety Program operates in compliance with the laws, regulations, and guidance documents listed in Table 3.8-1. These documents have directed the development of SOPs that all installation users are required to follow.

Table 3.8-1. Laws, Regulations, and Authorities Related to Health and Safety

Authority	Law, Regulation, or Document Title
U.S. Federal Law	• Occupational Safety and Health Act of 1970 (29 USC §§ 651-678) and implementing regulations at 29 CFR Part 1910, Occupational Safety and Health Standards, and 29 CFR Part 1926, Safety and Health Regulations for Construction • Hazardous Materials Transportation Act of 1975, 49 CFR Part 172
U.S. Department of Defense	• DoD Instruction 6055.6, Fire Protection Program • DoD Instruction 6055.04, Motor Vehicle and Traffic Safety • DoD Instruction 4165.57, Air Installations Compatible Use Zones • DoD Directive 4715.11, Environmental and Explosives Safety Management on DoD Active and Inactive Ranges within the United States • DoD Instruction 6055.1, DoD Safety and Occupational Health Program • DoD Directive 6055.9–STD, DoD Ammunition and Explosives Safety Standards

Authority	Law, Regulation, or Document Title
U.S. Army Alaska	• USARAK Regulation 350-2, Training Range Safety • USARAK Regulation 55-2, USARAK Transportation Operations and Planning in Alaska • Army Regulation 40-5, Preventive Medicine • Army Regulation 75-15, Policy for Explosive Ordnance Disposal • Army Regulation 200-1, Environmental Protection and Enhancement • Department of Army Pamphlet 385-63, Range Safety
U.S. Army Health and Safety Programs	• USAG Alaska Integrated Wildland Fire Management Plan • Army Regulation 385-10, U.S. Army Alaska Safety Program • Army Regulation 385-64, Army Explosives Safety Program • U.S. Army Garrison FWA Explosives Safety Management Program • ATP 5-19 Army Training Publication, Risk Management • Pamphlet 40-501, Hearing Conservation Program • Pamphlet 40-503, The Army Industrial Hygiene Program
State of Alaska	• Title 18, Chapter 5, Administration of Public Health and Related Laws

3.8.3 BASELINE CONDITIONS

Withdrawn lands are largely undeveloped, with no permanent housing, and only scattered support buildings in the training areas. The areas surrounding withdrawn lands support community, industrial, and other permanent human use (USAG Alaska IGI&S 2021). The Army codifies health and safety risks, adheres to strict health and safety programs and procedures, and regularly reviews and updates established health and safety programs.

3.8.3.1 Health and Safety Programs

The Army has established safety principles to maintain a program to eliminate, avoid, or reduce safety risks on withdrawn lands and the communities surrounding them. The USAG Alaska Safety Program includes the following basic components:

- Complying with all applicable federal and state laws and regulations addressing health, safety, and risk management
- Developing regulations and detailed SOPs that implement applicable laws and regulations and focus on unique risk factors and mission requirements

- Establishing a local installation safety office that has the proper resources and authority to effectively implement USAG Alaska's health and safety program and that is properly integrated with other military and local civilian safety and emergency response organizations
- Providing effective, mission-focused training and guidance to all personnel
- Encouraging proactive employee participation in safety and health programs and charging leaders at all levels with the responsibility for planning and conducting mission activities in a safe manner

The USAG Alaska Safety Program is administered by the Installation Safety Director, who is responsible for establishing installation level safety and occupational health programs. These programs include activities, policies and procedures including the creation of written SOPs. Safety programs have resulted in the creation of an Installation Safety Council, Installation Radiation Safety Council, Fire Protection Program, Explosive Safety Program Management and Council, Installation Range Safety, Aviation Safety Management, Management of Fixed Infrastructure Safety Inspections, and training for all Additional/Collateral Duty Safety Officers (Department of the Army 2019).

The USAG Alaska Garrison Safety Office provides direct safety guidance and safety program management to USAG Alaska organizations and provides base operational support. Its mission is to promote readiness of USAG Alaska and quality of life through the prevention of accidental injuries, illnesses, and property damage. Fort Greely maintains a separate Directorate of Emergency Services, which leads the Fire and Emergency Services Division.

The USAG Alaska Directorate of Plans, Training, Mobilization, and Security directs and coordinates installation operations and training support activities while providing force protection, mobilization and demobilization, operational planning, and emergency operation functions. This provides a focused training environment for all FWA tenants and partner organizations.

The main training range safety document that specifically addresses training operations on the withdrawn lands is USARAK Regulation 350-2. It includes procedures for planning, requesting, and safely utilizing ranges and training areas. It addresses topics such as risk management, safety in training areas, impact and off-limit areas, incident response, restrictions, airspace safety, communication, protective equipment, and trespass. These procedures are used to safely manage all activities on the withdrawn lands and are relevant to both military and civilian uses.

The USAG Alaska Directorate of Emergency Services comprises Military Police, Department of the Army Civilian Police and Security Guards, and the Fire Department. The Directorate of Emergency Services provides 24-hour force protection, law enforcement, fire protection, fire prevention, and community assistance to soldiers, family members, and civilians throughout installation lands. The Military Police desk is open 24 hours a day, seven days a week. Withdrawn lands are serviced by the emergency 911 system.

Under the Alaska Administrative Code Sec. 18.05.030, the State of Alaska is required to cooperate with USAG Alaska Safety Program administrators in matters of mutual concern pertaining to public health (Alaska State Legislature 2022).

3.8.3.2 Hazards

Health and safety hazards associated with training operations or other withdrawn land uses are numerous. Hazards can be divided into ground, air, and materials use hazards. Ground hazards include danger zones and operational hazards. Flight safety considerations include aircraft mishaps, Accident Potential Zones (APZs), and wildlife aircraft strikes. Materials safety includes considerations for handling, storage, testing, research and development, renovation, shipping, receiving and/or disposal of ammunition and explosives.

3.8.3.3 Recreational Safety

Recreational users and other visitors to withdrawn lands must register for a RAP to access lands and are responsible for knowing and obeying temporary, long-term, or

permanent closures of training areas. This information is provided on iSportsman and is important for ensuring the safety of visitors. Areas that are off-limits include dudded impact areas, range and test facilities, and areas identified in the Installation Recreational Regulation, unless specific licenses or approvals are in place. At times, areas may be placed off-limits based on land rehabilitation and maintenance activities or the presence of site-specific conditions (USARAK Regulation 350-2).

These measures are intended to prevent users from encountering health and safety risks such as contaminated lands, impact areas, and unexploded ordnance (UXO). There is no specific safety training required as part of the RAP process. In the event of recreational accidents on withdrawn lands, the safety and emergency response programs discussed in Section 3.8.3.1 would apply.

3.8.3.4 Medical Facilities

Medical Department Activity—Alaska provides medical support for FWA, JBER, Fort Greely, Eielson AFB, and Clear AFB. It has a service area of 585,000 square miles, with headquarters in Bassett Army Community Hospital at FWA. The hospital serves family members and retirees for all branches of service. Active duty personnel receive care at Kamish Army Medical Home, also located at FWA. Medical safety also must be provided to troops in movement throughout Alaska. USARAK Regulation 55-2 provides a list of hospitals and emergency medical centers along designated troop movement routes.

3.9 HAZARDOUS MATERIALS, SOLID AND HAZARDOUS WASTES

This section describes hazardous materials, solid wastes, and hazardous wastes. Hazardous materials are defined as substances with strong physical properties of ignitability, corrosivity, reactivity or toxicity which may pose a substantial threat to human health or the environment. Solid wastes and hazardous wastes are defined as any solid, liquid, contained gaseous, semisolid waste, or any combination of wastes that pose a potential hazard to human health or the environment. This section also discusses hazardous constituents that may be released from munitions used during

training activities at firing ranges, training and maneuver areas, and dudded impact areas.

3.9.1 Region of Influence

The ROI for hazardous materials, solid waste, and hazardous waste is defined as the boundary of the lands withdrawn from public use, which includes YTA, DTAE, and DTAW.

3.9.2 Laws and Regulations

Several provisions in federal law regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. The primary relevant law is the Resource Conservation and Recovery Act (RCRA) (42 USC 82 et seq.). Solid or hazardous wastes associated with military munitions are addressed by the Military Munitions Rule.

RCRA, as amended by the Hazardous and Solid Waste Amendments, authorizes the U.S. Environmental Protection Agency (EPA) to control hazardous waste in all its stages, including the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA defines certain wastes as hazardous under federal law (RCRA wastes) and establishes a framework for the management of non-hazardous wastes.

The Military Munitions Rule reflects EPA's decision not to impose the regulatory requirements of RCRA Subtitle C on operational military ranges. Specifically, this means that military munitions used for intended purposes that land on-range are not regulated as solid or hazardous waste under RCRA. If military munitions are used or fired and land off-range, and are not immediately recovered or rendered safe, they would be considered a solid waste and regulated under RCRA.

The primary laws, regulations, and authorities that apply to hazardous materials in and around the withdrawn lands include, but are not limited to, those listed in Table 3.9-1.

Table 3.9-1. Laws, Regulations, and Authorities Related to Hazardous Materials, Solid Waste, and Hazardous Waste

Authority	Law, Regulation, or Document Title
U.S. Federal Law	• Occupational Safety and Health Act of 1970 (29 USC §§ 651-678) and implementing regulations at 29 CFR Part 1910, Occupational Safety and Health Standards, and 29 CFR Part 1926, Safety and Health Regulations for Construction • Hazardous Materials Transportation Act of 1975, 49 CFR Part 172
U.S. Department of Defense	• DoD Instruction 6055.6, Fire Protection Program • DoD Instruction 6055.04, Motor Vehicle and Traffic Safety • DoD Instruction 4165.57, Air Installations Compatible Use Zones • DoD Directive 4715.11, Environmental and Explosives Safety Management on DoD Active and Inactive Ranges within the United States • DoD Instruction 6055.1, DoD Safety and Occupational Health Program • DoD Directive 6055.9–STD, DoD Ammunition and Explosives Safety Standards
U.S. Army Alaska	• USARAK Regulation 350-2, Training Range Safety • USARAK Regulation 55-2, USARAK Transportation Operations and Planning in Alaska • Army Regulation 40-5, Preventive Medicine • Army Regulation 75-15, Policy for Explosive Ordnance Disposal • Army Regulation 200-1, Environmental Protection and Enhancement • Department of Army Pamphlet 385-63, Range Safety
U.S. Army Health and Safety Programs	• USAG Alaska Integrated Wildland Fire Management Plan • Army Regulation 385-10, U.S. Army Alaska Safety Program • Army Regulation 385-64, Army Explosives Safety Program • U.S. Army Garrison FWA Explosives Safety Management Program • ATP 5-19 Army Training Publication, Risk Management • Pamphlet 40-503, The Army Industrial Hygiene Program
State of Alaska	• Title 18, Chapter 5, Administration of Public Health and Related Laws

3.9.3 HAZARDOUS MATERIALS

The Army's Hazardous Material and Waste Management Plan includes the withdrawn lands and documents regulatory compliance procedures for managing hazardous materials and waste, and non-regulated waste (USARAK & USAG Alaska 2013). Hazardous materials used during training activities on the withdrawn lands include petroleum, oil and lubricants (POLs), solvents, paint, batteries, and other chemicals. The Army administers hazardous materials through an Environmental

Management System, which is a systematic approach to hazardous material acquisition and hazardous waste management, compliance and monitoring. The acquisition of hazardous materials undergoes an approval process under which the requested type and quantity is checked against storage requirements and inclusion on the FWA Authorized Use List. Hazardous materials storage areas are centrally located and only accessible to authorized personnel. Safe handling and control measures are enforced to deal with wastes of all types.

As required by federal and state regulations, USAG Alaska maintains an Installation Spill Contingency Plan that covers both FWA and the withdrawn lands. The spill contingency plan is designed to minimize hazards to human health and the environment from unplanned releases to soil or surface water. A Spill Prevention, Control and Countermeasures Plan (SPCCP) is developed on a project-specific basis if a project or program would have the potential to spill POLs or hazardous materials in a quantity harmful to human health or the environment. The most recent FWA SPCCP, developed in 2018, outlines response procedures, responsible officials, training, location of potential contamination sources, drainage pathways and reporting requirements (DLA Energy 2018).

Contractors must also store and use hazardous materials in compliance with applicable regulations and DoD instructions and are required to follow the "Environmental Requirements for Construction, Demolition and Renovation Projects" (USAG Alaska 2019). Hazardous materials and hazardous waste are the responsibility of the contractor and are disposed of at off-site permitted disposal facilities.

3.9.4 Solid and Hazardous Waste Management

Solid waste is managed by an Integrated Solid Waste Management Plan that includes FWA and the withdrawn lands. The plan does not address hazardous waste, radioactive waste, or medical waste. Solid waste and construction debris are generated from infrastructure projects, construction of target areas on the withdrawn lands, and training exercises. Hazardous waste is generated due to the utilization of hazardous materials. The primary hazardous materials used during training

operations are materials needed to operate training vehicles and equipment such as POLs, antifreeze, vehicle batteries, and cleaners, which may include solvents, corrosives, soaps, and detergents. Emergency response procedures and site-specific contingency plans have been established for all hazardous materials locations.

3.9.4.1 Accumulation Areas

The 11th Airborne Division and tenants of the withdrawn lands maintain permanent accumulation areas for the temporary storage of hazardous waste, operating in accordance with the RCRA. Accumulation areas are located on FWA and Fort Greely and are used to collect hazardous waste from the point of use until it is transported for disposal. Satellite accumulation areas are located near the point of waste generation and are designed to store smaller amounts of hazardous waste. Accumulation areas have spill containment for liquid wastes that must be placed in a location that prevents an accidental spill from reaching storm or sewer drains and at least 100 feet from any surface water body (USARAK & USAG Alaska 2013). Spill response equipment is readily available at accumulation areas and during training operations.

3.9.4.2 Donnelly Training Area Small Quantity Generator

DTA is classified as a small quantity generator (SQG) that is conditionally exempt from EPA regulations (USARAK & USAG Alaska 2013). The facility is managed as a SQG in order to accept higher amounts of hazardous waste generated during peak training seasons. A SQG generates between 100 and 1,000 kilograms (220 to 2,200 pounds) of hazardous waste in one calendar month. Hazardous waste generated at DTA may be accumulated for 180 days. Universal waste—such as batteries, lamps, aerosol cans, and mercury-containing equipment—may be held in a universal waste storage area for 180 days (USARAK & USAG Alaska 2013). Solid waste and hazardous waste generated during field operations are segregated for disposal or recycling at the point of generation. Target debris is evaluated for hazardous components such as lead or asbestos and disposed of as a hazardous waste.

3.9.4.3 Waste Disposal Reporting

The off-installation disposal of solid waste and hazardous waste is coordinated through the Defense Logistics Agency, which prepares the required paperwork for transport and disposal of waste through a licensed waste contractor. The Army reports waste management quantities annually under EPA's Emergency Planning and Community Right-to-Know Act (EPCRA) Toxic Release Inventory (TRI) program. EPCRA was passed by Congress in 1986 to provide the public with information about toxic chemicals in the community.

FWA, including the withdrawn lands, is subject to a reporting threshold of 10,000 pounds per year for most common chemicals, with lower reporting thresholds for chemicals classified as persistent bioaccumulative toxics. FWA annual report information is available on EPA's TRI website.

3.9.4.4 Storage Tanks

There are eight above-ground storage tanks within YTA, each containing less than 1,000 gallons of home heating oil, muriatic acid, or diesel. There are 42 above-ground storage tanks in DTA, ranging in size from 300 to 5,000 gallons, that contain home heating oil, muriatic acid, diesel, or jet propellant. One 15,000-gallon underground storage tank in DTA contains home heating oil (Sartz 2021).

The USAG Alaska Public Works Environmental Division is notified of releases that occur during field exercises to ensure compliance with the SPCCP and to ensure clean-up was completed (USARAK & USAG Alaska 2013). All spills are required to be reported and cleaned up. Vehicle and equipment refueling areas and maintenance stations are to be established according to the SPCCP. The SPCCP requires spill kits with each unit and the use of drip pans for refueling and vehicle maintenance. Shop personnel and the fire department may respond to spills in accordance with the SPCCP.

Depending on the particular constituents involved, contaminated soil associated with reported releases is either remediated in-situ or placed in secured containers and transported to FWA for interim storage before final transport to an approved

remediation treatment facility for incineration (Sartz 2021). Less than 50 cubic yards of contaminated soil was removed in relation to releases in 2020 (Sartz 2021).

3.9.4.5 Ordnance

Ordnance includes munitions and explosive materials such as smoke canisters, artillery, small arms munitions, demolitions, blank rounds, pyrotechnics and tank and mortar rounds used for training purposes. Ordnance is used in ground and air testing and training exercises and results in contamination, including UXO, expended ordnance, explosive residue, target debris and residue, and munitions constituent contaminated soil. UXO may result from munitions failing to detonate during training, accidents, or historical military operations. Direct and indirect fire of live-fire small, medium, and large caliber, pyrotechnics/obscurants, and other munitions on the ranges, as well as historical munitions may result in munition constituents of concern (MCOC). MCOC may remain at firing points, firing lanes, impact berms, and impact areas, and throughout the maneuver/training areas of the ranges. MCOC resulting from training exercises on the withdrawn lands include trinitrotoluene, perchlorate, antimony, 2,4-dinitrotoluene, 2,6-dinitrotoluene, depleted uranium, cyclotrimethylenetrinitramine, cyclotetramethylenetetranitramine, white phosphorus, copper, zinc, lead, and nitroglycerin.

MCOC are typically consumed in a series of chemical reactions that occur upon detonation. Occasionally, the munitions partially detonate or do not fully detonate. If UXOs are not recovered and the munitions case is damaged or eventually corrodes, the MCOC may contaminate the surrounding area. Decontamination procedures to remove UXOs occur each year and are further explained in Section 3.9.5.

3.9.4.6 Operational Range Assessments

The DoD Operational Range Assessment Program (ORAP) is part of a sustainability initiative for all branches of the armed forces to assess potential impacts of military munition uses on operational ranges. Program efforts aim to ensure the long-term viability of operational ranges while protecting human health and the environment and to enhance the DoD’s ability to prevent or respond to the migration of MCOC

from an operational range to off-range areas. ORAP policy and procedures described in DoD Instruction 4715.14, Operational Range Assessments (DoD 2015) include identifying MCOC based on current or historical range use, identifying source areas and sensitive receptors, developing sampling strategies, and conducting sampling and periodic reviews.

An ORAP Phase I Qualitative Assessment for the withdrawn lands evaluated operational ranges based on three components: (1) sources of potential MCOC, (2) migration pathways from ranges, and (3) potential off-range human and/or ecological receptors (EAEST 2007).

Ranges with at least one component absent were categorized as “unlikely” to have MCOC migrate off-range, therefore not posing an unacceptable risk to human or ecological receptors. The assessment categorized 122 of DTA’s operational ranges (623,945 acres) as “unlikely” (EAEST 2007). Three training areas in YTA were categorized as “unlikely” (EAEST 2014). Areas categorized as “unlikely” were placed into 5-year periodic review cycles.

Ranges that lacked sufficient data regarding the potential for MCOC to migrate off-range and affect human or ecological receptors were categorized as “inconclusive.” Two operational ranges at YTA—the Stuart Creek Dudded Impact Area and the French Creek Impact Area—and one area along the Delta River in DTA were categorized as “inconclusive” and recommended for additional investigation.

ORAP Phase II assessments analyzed surface water, groundwater, and sediment for explosives, DU, perchlorate, metals (copper, lead, zinc, antimony) and concluded that MCOCs are not migrating from operational ranges at concentrations that pose unacceptable risk to off-range receptors. The assessed surface water, groundwater, and sediment were classified as “Unlikely” (EAEST 2014, U.S. Army IMC 2016).

The ORAP Phase I and II also identified and evaluated historical disposal sites, concluding that MCOCs are not migrating off the withdrawn lands (EAEST 2007, 2014). Ranges that have sources of potential MCOC, migration pathways, and potential off-range human and/or ecological receptors are referred to an appropriate

cleanup program, but no such ranges were identified in the withdrawn lands (EAEST 2007).

3.9.4.7 Depleted Uranium

The Army began to manufacture and test M101 spotting rounds for the Davy Crockett Weapon System in the 1960s (U.S. Army IMC 2016). The Georgia Range in DTAW has been identified as a range where the 20mm M101 spotting rounds, which contained depleted uranium, possibly underwent cold-weather tests in the 1960s. An Environmental Radiation and Monitoring Plan was developed to address depleted uranium (U.S. Army IMC 2016). A visual inspection was conducted in 2008, and no weapon system components or munitions debris were found (U.S. Army IMC 2016). An ORAP Phase II assessment completed in 2012 analyzed surface water and sediment for uranium. Analysis yielded results that were lower than naturally occurring uranium levels (U.S. Army IMC 2016). It is unlikely that depleted uranium would pose an unacceptable risk to potential human receptors because of the short time that the range was operational (U.S. Army IMC 2016). Additional downstream sediment sampling, river sediment sampling and sampling at greater depths below ground surface were recommended to better ascertain contaminate burial or migration (Douglas et al. 2013). Subsequent sampling for depleted uranium has been ongoing since approximately 2017 (NRC 2021).

3.9.5 DECONTAMINATION METHODS

Impact areas within YTA and DTAW are cleared each year during the summer by the 354th Explosive Ordnance Disposal Unit located at Eielson AFB. Prior to the clearance activities, the 354th Explosive Ordnance Disposal Unit pre-surveys existing target locations for destruction-related target debris and the presence of explosives. Target locations are then prioritized for clearance activities. Using the target as the center point, disposal unit personnel clear all ordnance until the munition occurrence rate is no more than five UXOs per acre or a 1,000-foot radius is met (USARAK 2020a). Each area is visually inspected, marked, and certified using applicable technical data associated with each munition. When live ordnance items are

encountered, they are detonated on-site in accordance with their respective technical data. Scrap metal residue from targets and practice bombs are stockpiled on-site to be disposed of by range maintenance personnel. Personnel also clear 100 feet on either side of the access ways to targets (USARAK 2020b).

YTA's Stuart Creek Impact Area is cleared by the Air Force in May and June every year. The impact area is accessed by road, and debris is removed from the area using transport vehicles. Cleared munitions are transported to Eielson AFB for disposal. DTA's Delta Creek / Oklahoma impact area is cleared by the Air Force in July or August each year. Due to the remote location of this facility, heavy lifts and dozers must be transported to the site by air to conduct clearance operations. Debris is stockpiled in the summer and transported to Eielson AFB in winter after the ice bridge and winter trail are in place. Overall munitions clearance amounts completed for withdrawn lands total to 7,500 acres and 126 tons of residue (USARAK 2020b).

11th Airborne Division Range Control personnel annually clear the training areas of military debris (Table 3.9-2 and Table 3.9-3). Military debris consists of general trash, concertina wire, metal pickets, sandbags, communication wire, empty and full 55-gallon drums, tangle foot mechanisms, tires, brass, plywood and lumber, scrap metal, old pipes, and wooden pallets. The concertina wire, sandbags, brass, and plywood are recycled. The remainder is transferred for disposal (USARAK 2020b).

Table 3.9-2. Summary of Contamination Removed from YTA from 2006-2019

Type of Contamination	**Quantity**
Practice Bombs, Bombs, Bomb Parts	1263
Cartridges/Small Arms Ammunition	282
Guided Missiles	18
Fuses/Firing Devices	28
Practice Projectiles, Projectiles, or Illumination	218
Pyrotechnics	10
Practice Rockets, Rockets, or Smoke	28

Source: USARAK 2020b

Table 3.9-3. Summary of Contamination Removed from DTA from 2006-2019

Type of Contamination	Quantity
Practice Bombs and Bombs	1650
Fuse/Firing Devices	10
Grenades	5
Practice Projectiles, Projectiles, HE, HEI, Smoke or Illumination	488
Pyrotechnics	40
Practice Rockets. Rockets, Rocket Parts, HE or Smoke	84
Scatterable	47
Concertina Wire	97 rolls
Construction Debris	13 Tons
Scrap Metal	100 lbs
Plywood	4 sheets
Pallets	7
Pickets	28
40 mm Practice Rounds	30
Trash	182 bags

Source: USARAK 2020b

The CRTC tests weapon systems during extreme cold-weather conditions at the Washington, Texas, and Mississippi Ranges on DTA. Army personnel conduct clearance activities at the time of each test. Recyclable materials are removed and turned in through DTA's Ammunition Supply Point for material recovery (USARAK 2020b).

3.10 AIR QUALITY

This section focuses on the contribution of the withdrawn lands to local and regional air quality considerations. Air quality is primarily defined by ambient concentration of specific airborne pollutants determined by EPA to be of concern in regard to public health and welfare. This section addresses ambient air quality, pollutants, climate, climate change, and regulation.

Alaska Statute (AS) 46.03.900(1) defines an air pollutant as dust, fumes, mist, smoke, other particulate matter, vapor, gas, odorous substances, or a combination of these. Air pollution, as defined in AS 46.03.900(2) is the presence in the outdoor

atmosphere of one or more air contaminants in quantities and duration that tend to be injurious to human health or welfare, animal or plant life or property, or would unreasonably interfere with the enjoyment of life or property.

3.10.1 REGION OF INFLUENCE

The ROI examined for air quality is defined as the air basin containing the withdrawn lands, i.e., the Tanana River airshed. It includes portions of the Tanana River Valley extending 40 miles in all directions from the Tanana River (see Figure 3.10-1). The eastern extent of the ROI is approximately at the confluence of the Robertson River and the Tanana River. The western extent is approximately 12 miles to the west of the confluence of the Kantishna River and the Tanana River. The ROI is based on the geography, topography, meteorology, and climate of the area to assure that the impacts of activities occurring within the withdrawn training lands are appropriately addressed. Impacts within the ROI are not equally distributed and result primarily from sources located outside of the withdrawn lands, such as the prevalent use of wood stoves in the region.

The ROI encompasses YTA, DTAE, DTAW, FWA, Eielson AFB, Fort Greely, and the cities of Fairbanks, North Pole, and Delta Junction. The ROI and training areas fall within the Northern Alaska Intrastate Air Quality Control Region (AQCR) 09. Within AQCR 09, the FNSB Air Quality Control Zone (AQCZ) includes Fairbanks, North Pole, and the FWA cantonment area, but not the withdrawn lands. This AQCZ is defined as a nonattainment area for at least one pollutant.

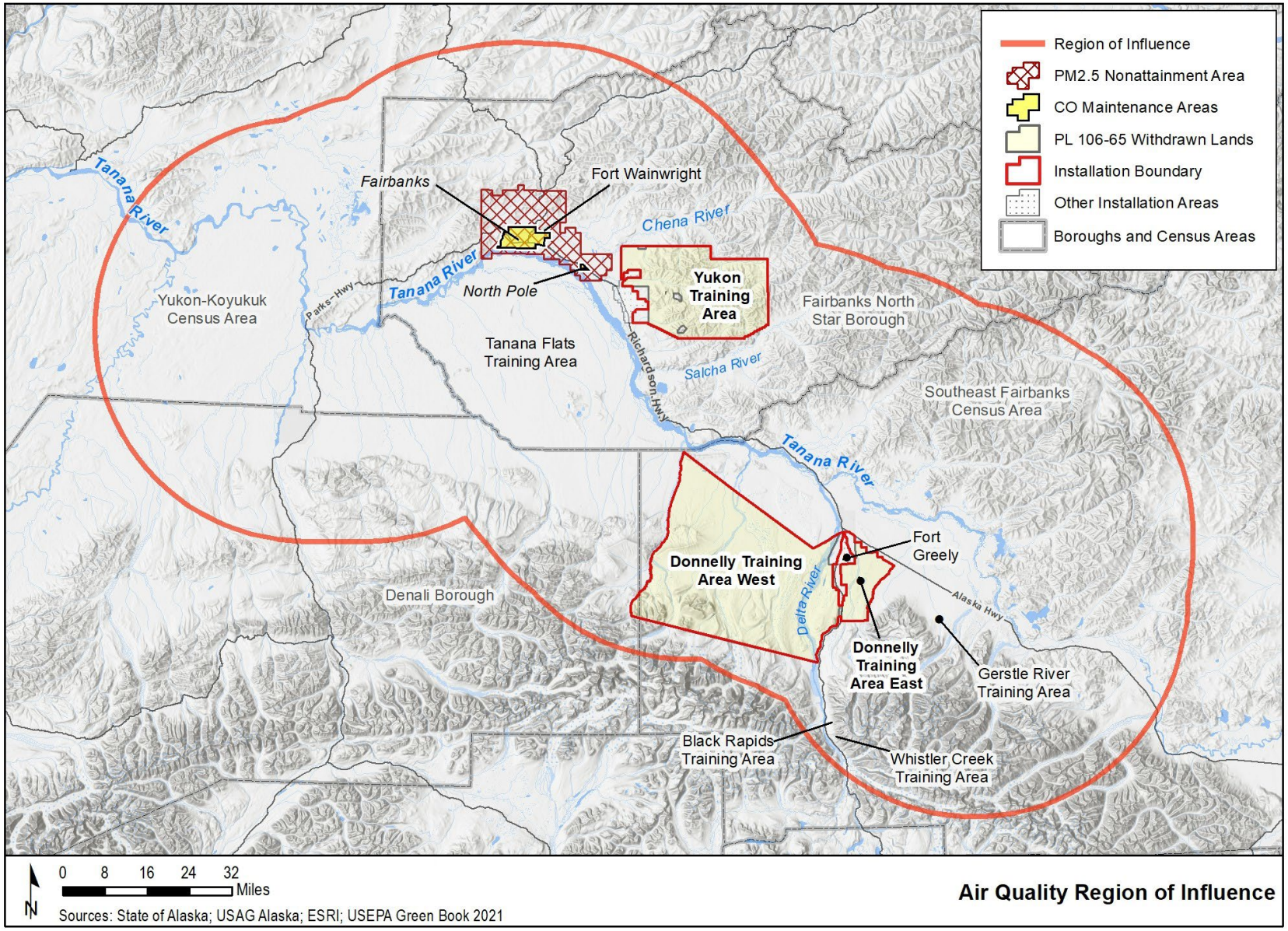


Figure 3.10-1. Air Quality Region of Influence

3.10.2 LAWS AND REGULATIONS

3.10.2.1 Air Quality Standards

The primary laws, regulations, and authorities that apply to air quality in and around the withdrawn lands include, but are not limited to, those listed in Table 3.10-1.

Table 3.10-1. Laws, Regulations, and Authorities Related to Air Quality

Authority	Law, Regulation, or Document Title
U.S. Federal Law	• The Clean Air Act (CAA) and Clean Air Act Amendments of 1970, 1977, and 1990 (42 USC Ch. 85 §§ 7401-7671q) and implementing regulations at 40 CFR parts 50-99
State of Alaska	• Alaska Statute Title 46, Chapter 14 Air Quality Control and implementing regulations at Title 18, Chapter 50 Air Quality Control

The federal Clean Air Act (CAA, 42 USC §§ 7401–7671q) regulates air emissions from area, stationary, and mobile sources and requires the adoption of National Ambient Air Quality Standards (NAAQS) to protect public health and welfare from the effects of air pollution. Under the CAA, EPA set NAAQS for six common air pollutants: particulate matter (PM), sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), and lead (Pb). Particulate matter is further characterized based on its size: inhalable coarse particles, between 2.5 and 10 micrometers in diameter (PM_{10}), and fine particles ($PM_{2.5}$) 2.5 micrometers in diameter or smaller. EPA calls these “criteria” air pollutants because it regulates them by developing health-based (primary) or environmentally based (secondary) standards from established criteria.

Short-term ambient air quality standards (i.e., 1-, 3-, 8-, and 24-hour periods) have been established for pollutants contributing to acute health effects, and long-term standards (i.e., annual averages) have been established for pollutants contributing to chronic health effects.

The NAAQS are codified in 40 CFR Part 50. The federal CAA Amendments of 1990 require EPA to review all NAAQS every five years with respect to health impacts and propose modifications or new rules as appropriate.

Each state has authority to adopt standards stricter than those established under the federal program. The State of Alaska adopted the NAAQS in 18 Alaska Administrative Code (AAC) 50.010 and added the following Alaska Air Quality Standards (AAQS):

- Alaska Department of Environmental Conservation's (ADEC) current rules retain EPA's previous 24-hour SO_2 standard of 0.14 parts per million (ppm) (365 micrograms per cubic meter [µg/m^3]).
- The ADEC's current rules retain EPA's previous annual SO_2 standard of 0.03 ppm (80 µg/m^3).
- The ADEC has an 8-hour ammonia standard of 2.1 milligrams per cubic meter (mg/m^3).

Table 3.10-2 provides a summary of the NAAQS and AAQS. A description of each criteria pollutant is summarized in Table 3.10-3.

Table 3.10-2. NAAQS and AAQS

		Alaska Standards[a]	Federal Standards[b]	
A Pollutant	**Averaging Time**	**Concentration[c]**	**Primary[c, d]**	**Secondary [c, e]**
Ozone (O_3)	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	Same as Primary Standard
Respirable Particulate Matter (PM_{10})	24 Hour	150 µg/m^3	150 µg/m^3	Same as Primary Standard
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	35 µg/m^3	35 µg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	15 µg/m^3
Carbon Monoxide (CO)	1 Hour	35 ppm (40 mg/m^3)	35 ppm (40 mg/m^3)	—
	8 Hour	9 ppm (10mg/m^3)	9 ppm (10 mg/m^3)	—
Nitrogen Dioxide (NO_2)f	1 Hour	100 ppb (188 µg/m^3)	100 ppb (188 µg/m^3)	—
	Annual Arithmetic Mean	0.053 ppm (100 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary Standard

A Pollutant	Averaging Time	Alaska Standards[a] Concentration[c]	Federal Standards[b] Primary[c, d]	Federal Standards[b] Secondary[c, e]
Sulfur Dioxide (SO_2)[g]	1 Hour	75 ppb (196 µg/m^3)	75 ppb (196 µg/m^3)	—
	3 Hour	0.5 ppm (1300 µg/m^3)	—	0.5 ppm (1300 µg/m^3)
	24 Hour	0.14 ppm (365 µg/m^3)[9]	—	—
	Annual Arithmetic Mean	0.03 ppm (80 µg/m^3)[9]	—	—
Lead (Pb)[h]	Calendar Quarter	1.5 µg/m^3 (for certain areas)	1.5 µg/m^3 (for certain areas)	Same as Primary Standard
Ammonia	**8 Hour**	**2.1 mg/m^3**	**No National Standards**	

Source: ADEC (18 AAC 50 Article 1, Chapter 10, updated 12/25/20), and EPA (http://www.epa.gov/air/criteria.html, accessed March 2021)

[a] Alaska standards are the same as the federal standards with the exception of sulfur dioxide (24 hour and annual) and ammonia. Alaska Air Quality Standards are listed in 18 AAC 50.010.

[b] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact EPA for further clarification and current national policies.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 °C and a reference pressure of 760 torr. The torr (symbol: Torr) is a non-SI unit of pressure with the ratio of 760 to 1 standard atmosphere, chosen to be roughly equal to the fluid pressure exerted by a millimeter of mercury, i.e., a pressure of 1 Torr is approximately equal to one millimeter of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25 °C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect public health.

[e] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb).

[g] On June 2, 2010, a 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[h] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Table 3.10-3. Criteria Pollutants

Pollutant	Description	Comments
Ozone	• Secondary pollutant formed from the reaction of NO_X and volatile organic compounds (VOCs) in the presence of sunlight. • Exists naturally in the stratosphere, shielding Earth from harmful ultraviolet radiation.	• Causes adverse health effects at ground level and is a major component of smog.
VOC	• Comprised of hydrocarbon compounds that contribute to the formation of smog through atmospheric chemical reactions. • Emitted from fuel combustion and industrial and agricultural processes	• Regulated as a precursor to ozone formation under the NAAQS and AAQS.
NO_X	• A family of gaseous nitrogen compounds that result primarily from the combustion of fossil fuels. • Precursor to the formation of ozone and PM.	• NO_2, a subset of NO_X, is regulated under the NAAQS and AAQS as NO_2.
PM_{10}	• Inhalable coarse particles ($PM_{2.5}$-PM_{10}) are between 2.5 and 10 micrometers in diameter. • Sources include roads, farming activities, windblown dust and combustion sources.	• Comprised of solid particles and liquid droplets, made up of acids, organic chemicals, metals, and soil or dust particles. • Wildfires and travel on unpaved or gravel roads add to PM in the atmosphere in Alaska. • Can be emitted directly to the atmosphere as well as formed in the atmosphere by chemical reactions among precursors.
$PM_{2.5}$	• Fine particles 2.5 micrometers in diameter or smaller, and are generally emitted by combustion sources like vehicles, power generation, industrial processes and wood burning.	
CO	• Odorless, colorless gas formed by the incomplete combustion of fuels emitted directly into the air.	• The main source of CO in the air basin is on- and off-road mobile sources.
SO_2	• A colorless gas formed by the combustion of fossil fuels that contain sulfur.	• The use of low-sulfur fuel has minimized problems with this pollutant.

Additional discussion of air quality regulations and programs is provided in Appendix 4.0.

3.10.2.2 Class I Areas and Specialty Protection Areas

The CAA (42 USC § 7472(a)) defines mandatory Class I federal areas as certain national parks, wilderness areas, national memorial parks, and international parks that were in existence as of August 1977. Four Class I areas are in the State of Alaska, with Denali National Park and Preserve being the closest to FWA and the withdrawn areas. The closest point on the boundary of the Denali National Park and

Preserve Class I area is approximately 54 miles west of DTA and 78 miles west-southwest of YTA. Figure 3.10-2 shows the locations of Alaska's Class I areas relative to the withdrawn lands.

18 AAC 50.025 (Visibility and Other Special Protection Areas) specifies visibility protection areas in the state including, but not limited to, Class I areas. Special protection areas potentially impacted by activities in the withdrawn lands include Denali National Park, Mount Deborah (12.5 miles from the western portion of DTAW), the Alaska Range, and the Interior Lowlands.

3.10.2.3 Climate Change

The 2018 and 2019 National Defense Authorization Acts (PL 115-91 and PL 115232) required the Department of Defense to consider the threat posed by climate change to military installations.

The Army has released a memorandum that directs military installations to identify vulnerabilities to climate-related risks (ASA IE&E 2020) and to plan for energy and climate resilience efforts by identifying the installations' vulnerability to climate-related risks and threats. Both Fort Greely and FWA (and by extension, the withdrawn lands) were identified as installations likely to be affected by climate change. The Army Climate Resilience Handbook (Pinson et al. 2020) guides Army planners through the process to systematically assess threats and risks of climate change and incorporate this knowledge and data into existing installation planning processes such as master plans.

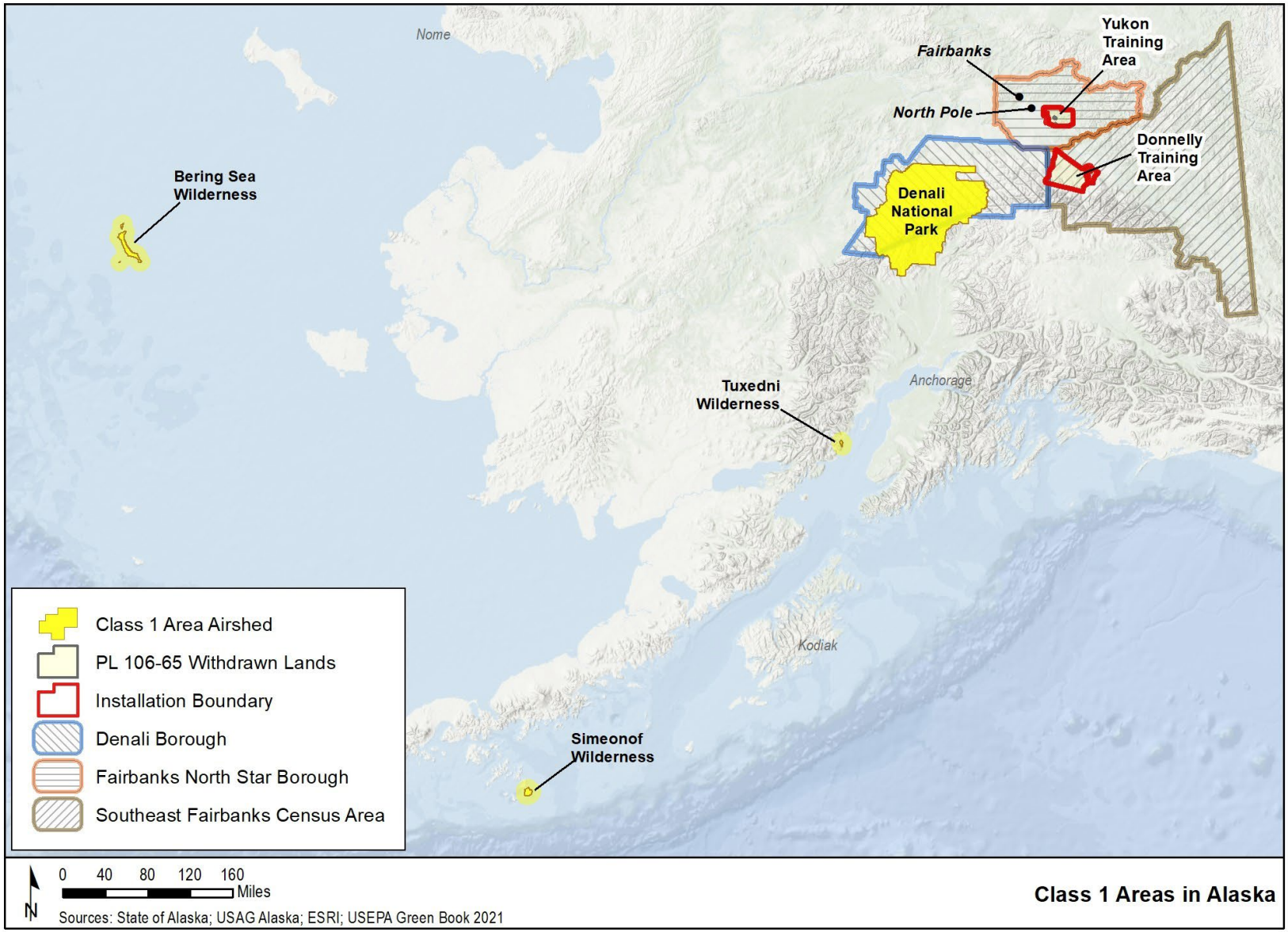


Figure 3.10-2. Class I Area Airsheds in Alaska

3.10.2.4 Conformity

The 1990 amendments to the CAA require federal agencies to ensure that their actions conform to the State Implementation Plan in a nonattainment area or maintenance area. Air quality conformity is a process that ensures that federal actions are consistent with the air quality goals set forth in the CAA and a state's State Implementation Plan. Conformity is not applicable to the withdrawn lands as those areas are designated attainment for all criteria pollutants. Additional information on conformity is provided in Appendix 4.0.

3.10.3 BASELINE CONDITIONS

3.10.3.1 Current Air Emissions (Qualitative)

The withdrawn lands are used as impact areas, training areas, and range and test centers. Emissions-generating activities in the training areas include ground vehicles (on- and off-road), heavy equipment for earth moving, aerial operations (helicopters, unmanned aerial vehicles, aircraft), artillery and ammunition, weapons systems, and wildland fires. The primary non-point source emissions on the training lands are ground vehicle exhaust and fugitive dust from travel on paved and unpaved roads. Aircraft operations occurring below the mixing height can impact local air quality in YTA. This primarily occurs during take-offs and landings. The mixing height is the extent of vertical mixing of the lower atmosphere. Aircraft operations above the mixing height have little to no impact on air quality.

3.10.3.2 Criteria Pollutants

Two criteria pollutants of historical concern in the Fairbanks area are $PM_{2.5}$ and CO. Winter inversions have resulted in high levels of smoke in FNSB as residents use wood or other solid fuel burning devices to heat their homes. To address particulate emissions, FNSB has implemented an accelerated wood stove turnover program for residents to use cleaner heating appliances in the AQCZ of FNSB (FNSB 2021c). To support this effort, ADEC has developed a listing of approved solid fuel burning

devices for installation in the FNSB AQCZ and has promulgated regulations regarding the use of dry wood (i.e., moisture content of 20 percent or less).

Problems with CO tend to be localized, with nonattainment areas designated in urban areas rather than the entire basin. With the introduction of new automotive emission controls and fleet turnover, emissions from motor vehicles have been declining. Winter inversions in Fairbanks have historically resulted in elevated levels of CO. EPA designated the urban portion of the FNSB a nonattainment area for CO in 1991. The FNSB has not reported a violation of the NAAQS for CO since 1999. The FNSB officially became a Carbon Monoxide Maintenance Area on September 27, 2004. EPA approved the second 10-year limited maintenance plan for Fairbanks on February 22, 2013 (EPA 2013).

3.10.3.3 Hazardous Air Pollutants

The 1977 CAA amendments required EPA to identify National Emission Standards for Hazardous Air Pollutants to protect public health and welfare. Hazardous air pollutants (HAPs) include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. The 1990 CAA Amendments, which expanded the control program for HAPs, identified 189 substances and chemical families as HAPs. The emissions of HAPs associated with FWA and the withdrawn areas occur primarily due to combustion of fuels in stationary and mobile source equipment.

3.10.3.4 Greenhouse Gases

Human activities and natural processes emit greenhouse gasses (GHGs). Natural GHG sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Human activities known to emit GHGs include industrial manufacturing, utilities, transportation, residential, and agricultural activities. The GHGs that enter the atmosphere because of human activities are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), fluorinated carbons (e.g., hydrofluorocarbons [HFCs],

perfluorocarbons [PFCs]), and sulfur hexafluoride (SF_6). The GHGs emitted at FWA and the withdrawn lands are primarily CO_2, CH_4, N_2O, and SF_6 from power generation, heating, and mobile sources. The primary GHGs of concern are described in Table 3.10-4.

Table 3.10-4. Greenhouse Gases

GHG	Description
Carbon Dioxide (CO_2)	CO_2 is an odorless, colorless gas with both natural and anthropogenic sources. Human activities that emit CO_2 include burning coal, oil, natural gas, and wood in stationary and mobile sources.
Methane (CH_4)	CH_4 is a flammable gas that is the main component of natural gas. When burned in the presence of oxygen, CO_2 and water are released. Sources of CH_4 include decay of organic material, natural gas fields, cattle, landfills, and combustion of fossil fuels in stationary and mobile sources.
Nitrous Oxide (N_2O)	N_2O is a colorless gas generated by agricultural sources (e.g., microbial processes in soil and water, fertilizer) and industrial processes (e.g., fossil fuel-fired power plants, vehicle emissions).
Sulfur Hexafluoride (SF_6)	SF_6 is an inorganic, colorless, odorless, nontoxic, nonflammable gas used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
Hydrofluorocarbons (HFC)	Fluorinated gases are synthetic and emitted from a variety of industrial processes. HFCs are man-made chemicals used as a substitute for CFCs (chlorofluorocarbons) for automobile air conditioners and refrigerants.
Perfluorocarbons (PFC)	PFCs are very stable and do not break down through the chemical processes in the lower atmosphere; as such, they have long lifetimes (between 10,000 and 50,000 years). Sources of PFCs include consumer products and firefighting foam

Additional discussion of GHGs is provided in Appendix 4.0.

3.10.3.5 Ambient Air Quality

The primary pollutant of concern in Alaska is $PM_{2.5}$. Communities in the state can be impacted by wildland fire smoke during the summer and road dust from gravel or unpaved roads or other windblown dust. In addition, particulate matter from residential wood burning stoves is a concern. Other pollutants are less of a concern because of relatively small population centers, the location and low density of industries, and the lack of sunlight to cause pollutant formation. A portion of the

FNSB was previously in nonattainment for CO and is currently a limited maintenance area for CO. A portion of the FNSB is currently in serious nonattainment for $PM_{2.5}$.

The current ADEC monitoring network consists of nine sites with 26 monitors. The following monitors make up the ADEC monitoring network:

- Three sites in the FNSB
- Three sites in the Municipality of Anchorage
- One site in the Matsu Borough
- One site in the City and Borough of Juneau
- One site in the community of Bethel

Ambient air quality data are collected in both Fairbanks and North Pole. Air quality data are not collected at YTA or DTA. The closest nonattainment areas ($PM_{2.5}$) to the withdrawn lands are the cities of Fairbanks and North Pole, including the FWA cantonment area.

3.10.3.6 Attainment Status

Federal regulations designate as nonattainment geographic areas that have concentrations of a criteria pollutant that exceed the NAAQS for that pollutant. Federal regulations designate areas with pollutant levels less than the NAAQS as attainment areas. Maintenance areas are areas that have previously been designated nonattainment and have been redesignated to attainment for a probationary period of 20 years through implementation of a maintenance plan.

According to the severity of the pollution problem, nonattainment areas for ozone can be categorized as marginal, moderate, serious, severe, or extreme. Nonattainment areas for PM_{10} and $PM_{2.5}$ are designated as either moderate or serious. Nonattainment areas for all other criteria pollutants have no classification level. Fairbanks is located within the FNSB portion of the Northern Alaska Interstate AQCR, or AQCR 09 (40 CFR § 81.246). EPA has designated part of the FNSB as the following (40 CFR § 81.302):

- Serious nonattainment for the $PM_{2.5}$ NAAQS
- Maintenance for the CO NAAQS
- Attainment for all other criteria pollutants

The FNSB $PM_{2.5}$ nonattainment area boundary includes the cities of Fairbanks and North Pole, and FWA. YTA, DTAE, and DTAW are in attainment for all criteria pollutants. Figure 3.10-3 shows the locations of the training areas with respect to the CO maintenance area and $PM_{2.5}$ nonattainment area.

Existing ambient air quality conditions near FWA and the withdrawn land can be estimated from measurements conducted at air quality monitoring stations in and around the Fairbanks area. The most recent available data from EPA for monitoring stations nearest FWA are summarized in Table 3.10-5.

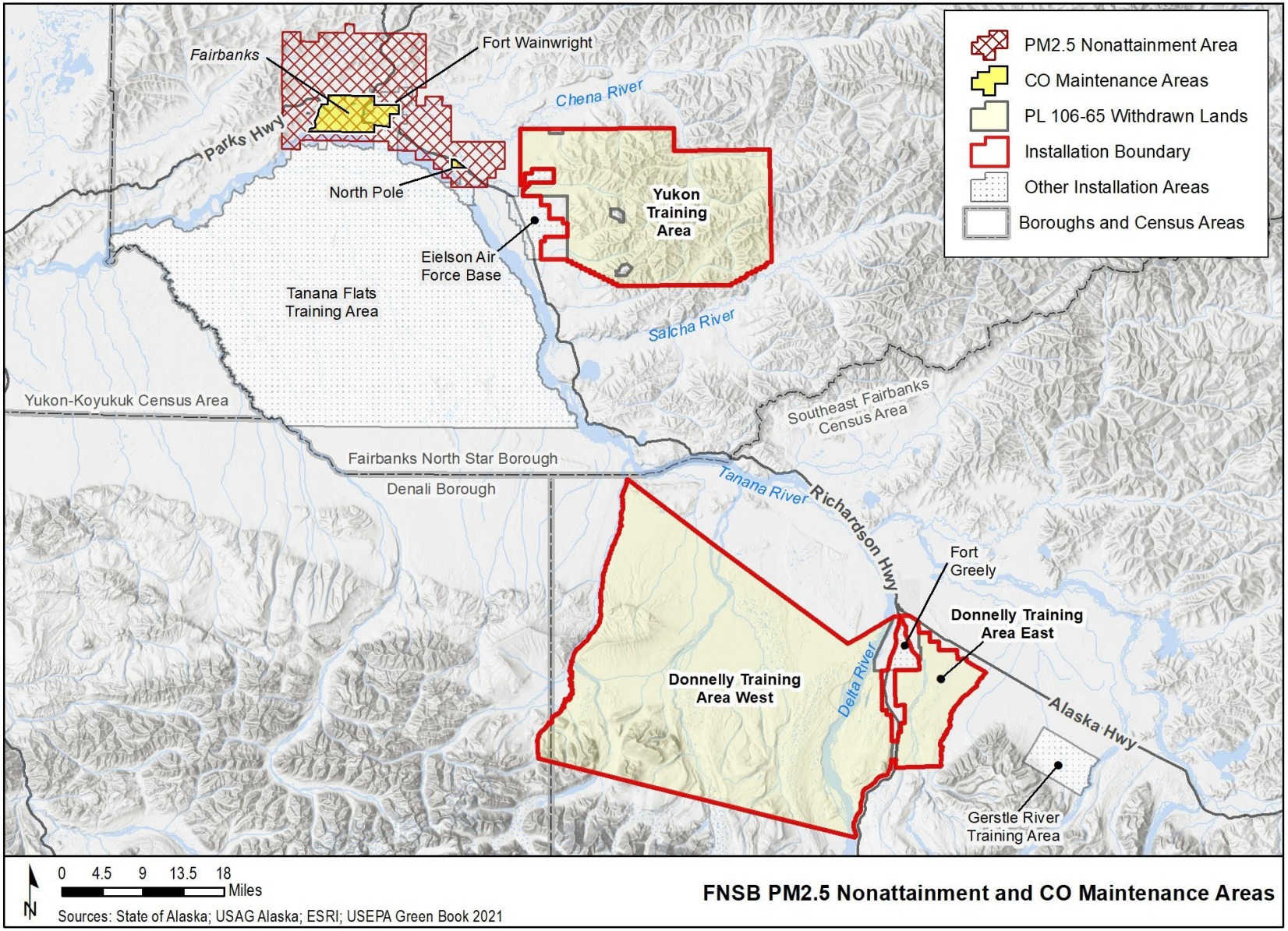


Figure 3.10-3. FNSB $PM_{2.5}$ Nonattainment and CO Maintenance Areas

Table 3.10-5. Ambient Monitoring Data Fairbanks, AK 2018-2020

Pollutant	Measuring Period	Rank	Unit	2018	2019	2020	3-year Design Value Basis	3-year Design Value (unit)	3-year Design Value ($\mu g/m^3$)	NAAQS / AAQS ($\mu g/m^3$)	% of NAAQS
NO_2	1-hour[1,2]	98th %ile	ppb	53.8	53.2	-	Avg.	53.5	100.6	188	54%
	Annual[1,2]	Mean	ppb	11.6	9.2	-	Avg.	10.4	19.6	100	20%
CO	1-hour[3]	H2H	ppm	3.4	2.8	2.5	Max.	3.4	3,893.0	40,000	10%
	8-hour[4]	H2H	ppm	1.2	1.5	1.7	Max.	1.7	1,946.5	10,000	19%
PM_{10}	24-hour[4]	H2H	$\mu g/m^3$	59.0	84.0	27.0	Max.	84.0	84.0	150	56%
$PM_{2.5}$	24-hour[4]	98th %ile	$\mu g/m^3$	25.3	27.7	26.6	Avg.	26.5	26.5	35	76%
	Annual[4]	Mean	$\mu g/m^3$	7.3	8.4	7.2	Avg.	7.6	7.6	12	64%
SO_2	1-hour[4]	99th %ile	ppb	37.0	30.0	30.0	Avg.	32.3	84.7	196	43%
	3-hour[3]	H2H	ppb	37.4	26.9	24.4	Max.	37.4	98.0	1,310	7%
	24-hour[3]	H2H	ppb	24.7	19.7	17.2	Max.	24.7	64.7	365	18%
	Annual[3]	Mean	ppb	5.6	5.6	4.3	Avg.	5.2	13.6	80	17%
Ozone	8-hour[4]	H4H	ppm	0.041	0.047	0.043	Avg.	0.044	87.3	140	62%

[1]NCORE Site/Fairbanks 02-090-0034, State of Alaska 2020 Ambient Air Quality Network Assessment, (ADEC 2020b).

[2]Monitoring for NO2 occurred between July 1, 2014**,** and October 1, 2019. NO2 data is not available after 2019.

[3]NCORE Site/Fairbanks 02-090-0034, EPA Air Data – Monitor Values Report (EPA 2021).

[4]NCORE Site/Fairbanks 02-090-0034, State of Alaska 2020 Ambient Air Quality Network Assessment, (ADEC 2021a)

3.11 EARTH RESOURCES

This section describes the terrain, landforms, geology, soils, seismic hazards, and mineral resources found on the withdrawn lands.

3.11.1 REGION OF INFLUENCE

The ROI for earth resources is defined as the boundary of the withdrawn lands. Regional geologic trends, seismic hazards and mineral resources are described as needed.

3.11.2 LAWS AND REGULATIONS

The Army partners with numerous federal, state, and local agencies to manage the geologic resources on the withdrawn lands. The Natural Resources Conservation Service (NRCS) cooperates in land management and soil conservation. The Army's Cold Regions Research and Engineering Laboratory (CRREL) provides cooperative support in permafrost studies. BLM is responsible for the management of mineral resources. The Salcha-Delta Soil and Water Conservation District (SDSWCD) partners in enhancing, rehabilitating, and maintaining training lands to ensure their continued long-term use and effectiveness. Universities provide specialized knowledge and expertise in resource areas including seismic hazards, permafrost, mineral availability, and soil conservation.

The primary laws, regulations, and authorities that apply to earth resources on the withdrawn lands include, but are not limited to, those listed in Table 3.11-1.

Table 3.11-1. Laws, Regulations, and Authorities Related to Earth Resources

Regulation or Authority	Description
National Defense Authorization Act for Fiscal Year 2000 (includes Military Lands Withdrawal Act dated October 5, 1999)	• Withdraws YTA, DTAE, and DTAW from appropriation under all public land laws, including mining and leasing laws.
General Mining Law of 1872	• Regulates the mining of certain types of mineral resources on federal domain lands.
Mineral Leasing Act	• Authorizes and governs leasing of public lands for developing deposits of coal, petroleum, natural gas and other hydrocarbons, in addition to phosphates, sodium, sulfur, and potassium in the United States.
PLO 5187, Withdrawal of Lands for Classification and for Protection of the Public Interest in the Lands in Military Reservations, 1972	• Withdraws all lands embraced in defense or military reservation in Alaska of whatever nature from appropriation under all public land laws, including mining and leasing laws.
Alaska Native Claims Settlement Act	• Section 17(d) authorized the Secretary of the Interior to classify or reclassify any withdrawn lands in Alaska, or to open them for appropriation under public land laws.
Army Regulation 200-1, Environmental Protection and Enhancement	• Identifies environmental responsibilities of installations regarding land management including erosion control.

Regulation or Authority	Description
Army Regulation 350-19, The Army Sustainable Range Program	• Provides policy and guidance to support sustainable range use, site assessments, and land rehabilitation and maintenance
USARAK Regulation 350-2, Training; Range Safety, 2020	• Provides procedures for the sustainable use of training ranges in Alaska. • Identifies environmental policies for land management, including restrictions on overland travel, erosion control, and site restoration
Memorandum of Understanding between BLM and USAG Alaska Concerning Management of Lands in Alaska Withdrawn by PL 106-65 for Military Use	• Ensures coordination between the two agencies regarding mineral resources on the withdrawn lands.

3.11.3 TERRAIN

YTA lies in the Yukon-Tanana Upland section of the Northern Plateaus physiographic province. Rounded, even-topped ridges with gentle side slopes and compact rugged mountains up to 5,000 feet high characterize this area (Wahrhaftig 1965). The associated flat, alluvium-floored valleys in the region can be up to a half-mile wide, and the entire YTA falls within the Yukon drainage basin (USARAK 2004).

DTAE and the northern half of DTAW are within the Tanana-Kuskokwim Lowlands section of the Western Alaska physiographic province (Wahrhaftig 1965). The Tanana-Kuskokwim Lowlands are characterized as a broad, flat depression bordering alluvial plains. The southern half of DTAW lies within the Northern Foothills, which are flat-topped, east-trending ridges between 2,000 and 4,500 feet in elevation along the northern boundary of the Alaska Range (USARAK 2004).

While the hills in the training areas are currently unglaciated, some valleys were widened in the past by glaciers originating in the Alaska Range (Wahrhaftig 1965). At the terminus of the glaciers, rivers laden with sediment created broad, braided stream valleys and alluvial fans as they drain to the Tanana River (USARAK 2004).

3.11.4 GEOLOGY

The Yukon-Tanana terrane is a complex assemblage of many rock types with a complicated geologic history. Faulting, warping, and local folding created the hills, rugged peaks, and rock outcroppings of interior Alaska. Rock types in the Yukon-Tanana terrane include muscovite-quartz schist, graphitic shist, and micaceous quartzite believed to have formed through metamorphism of shale, mudstone, and sandstone (USAF 2016).

The general geology in the region is shown in Figure 3.11-1 and Figure 3.11-2. Most of the withdrawn lands are comprised of unconsolidated sediment deposits from erosion of highlands (Wilson et. al. 2015). While these deposits are primarily alluvial, colluvial, and lacustrine, they also include glacial moraines and outwash where glaciers advanced northward from the Alaska Range during the Quaternary Period (Wilson et. al. 2015, USARAK 1999).

In much of YTA, a thick mantle of windborne silt lies over the bedrock, and thick accumulations of muck overlie deep stream gravels in the valleys. The area is cut by northeast-trending, high-angle faults (USARAK 1999).

In the lowlands of DTAE and DTAW, outwash fans grade from coarse gravel near the Alaska Range to sand and silt along braided streams to the north. Northern parts of DTA are underlain by thick deposits of a mixture of frozen organic matter and silt on top of altered sedimentary and volcanic rocks of Paleozoic age (USARAK 1999).

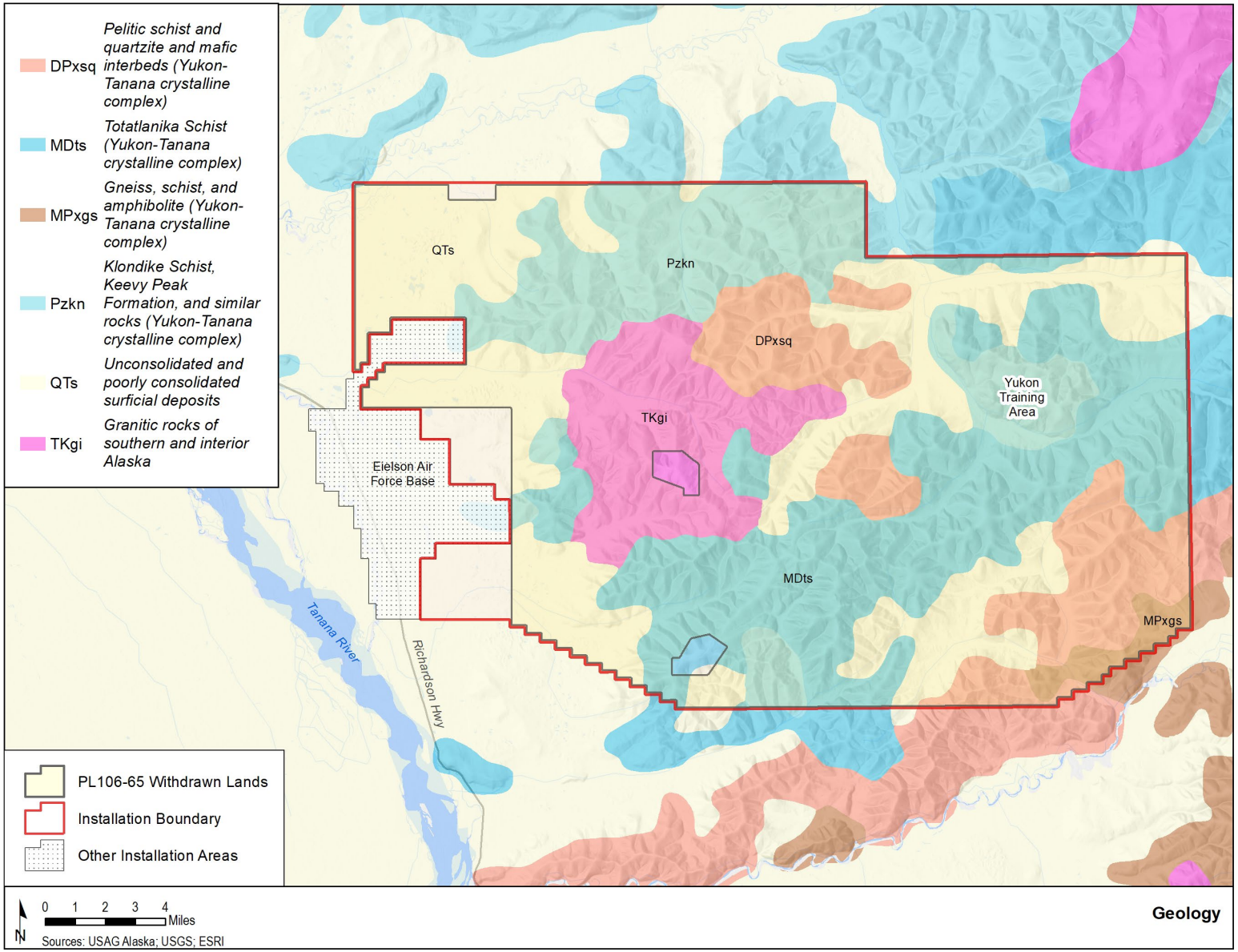


Figure 3.11-1. Yukon Training Area Geologic Map

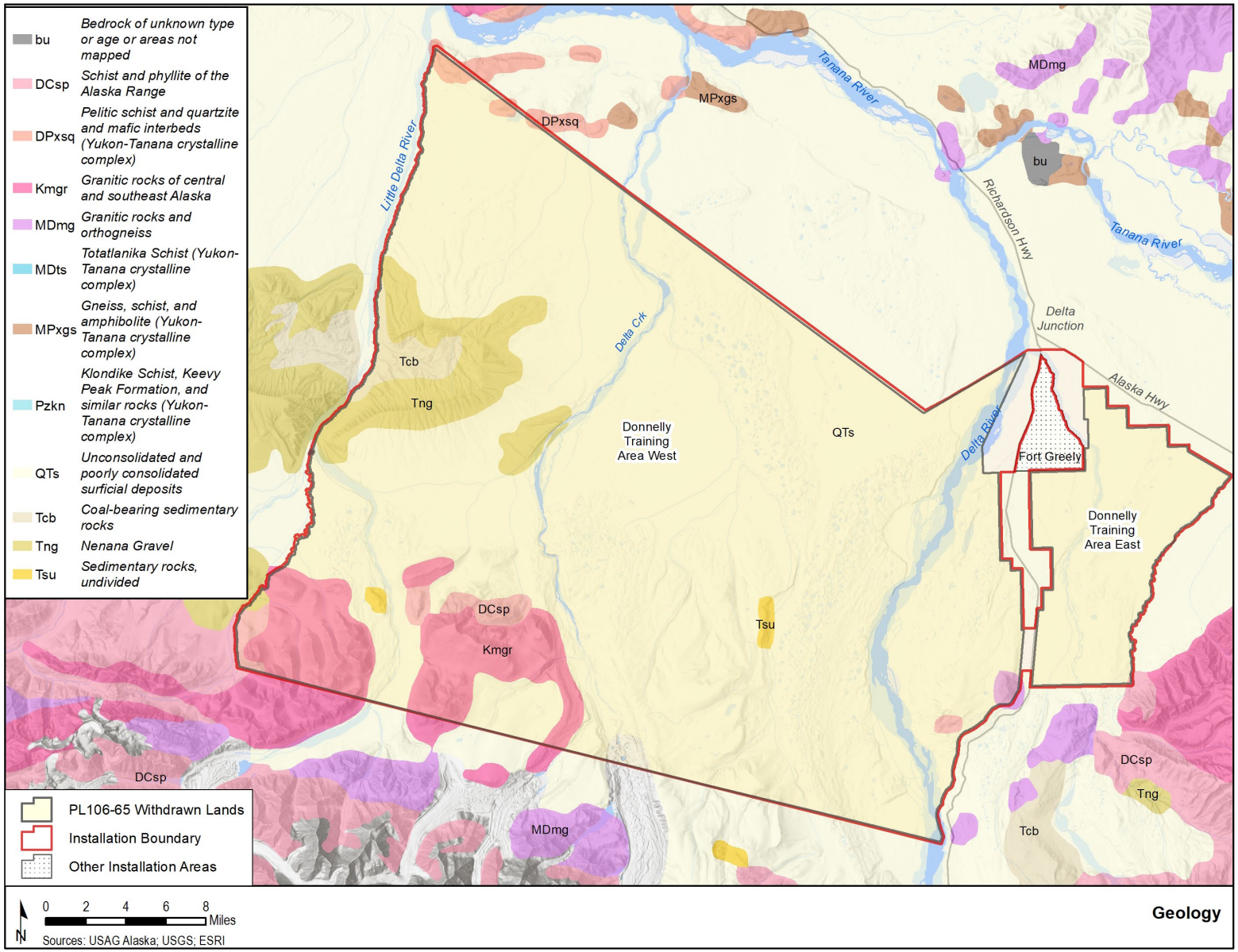


Figure 3.11-2. Donnelly Training Area Geologic Map

3.11.5 SEISMIC HAZARDS

The Alaska Earthquake Center reported over 49,000 seismic events in Alaska and nearby regions in 2020 (AEC 2020). YTA, DTAE, and DTAW are located on a geologic terrain bounded to the north and south by active faults and seismic zones (Figure 3.11-3).

YTA is in the Salcha seismic zone, a distinct northeast-trending band of epicenters about 35 miles long which produces frequent, shallow earthquakes (USARAK 2004). Earthquakes to the west of YTA are associated with the Fairbanks seismic zone, another northeast-trending band of activity (USARAK 1999).

The strike-slip Denali Fault and numerous thrust faults run west-northwest along the northern edge of the Alaska Range near the southern boundaries of DTAE and DTAW (USARAK 2004). Deep earthquakes in this region are associated with the Aleutian subduction zone between the North American and Pacific tectonic plates (Koehler et. al. 2018).

The most prominent recorded earthquake in Interior Alaska occurred on November 3, 2002. The magnitude 7.9 event originated approximately 40 miles south of DTAE and DTAW along the Denali Fault and caused minor to moderate damage to roads, runways, buildings, and pipeline support structures near the withdrawn lands (Koehler et. al. 2018).

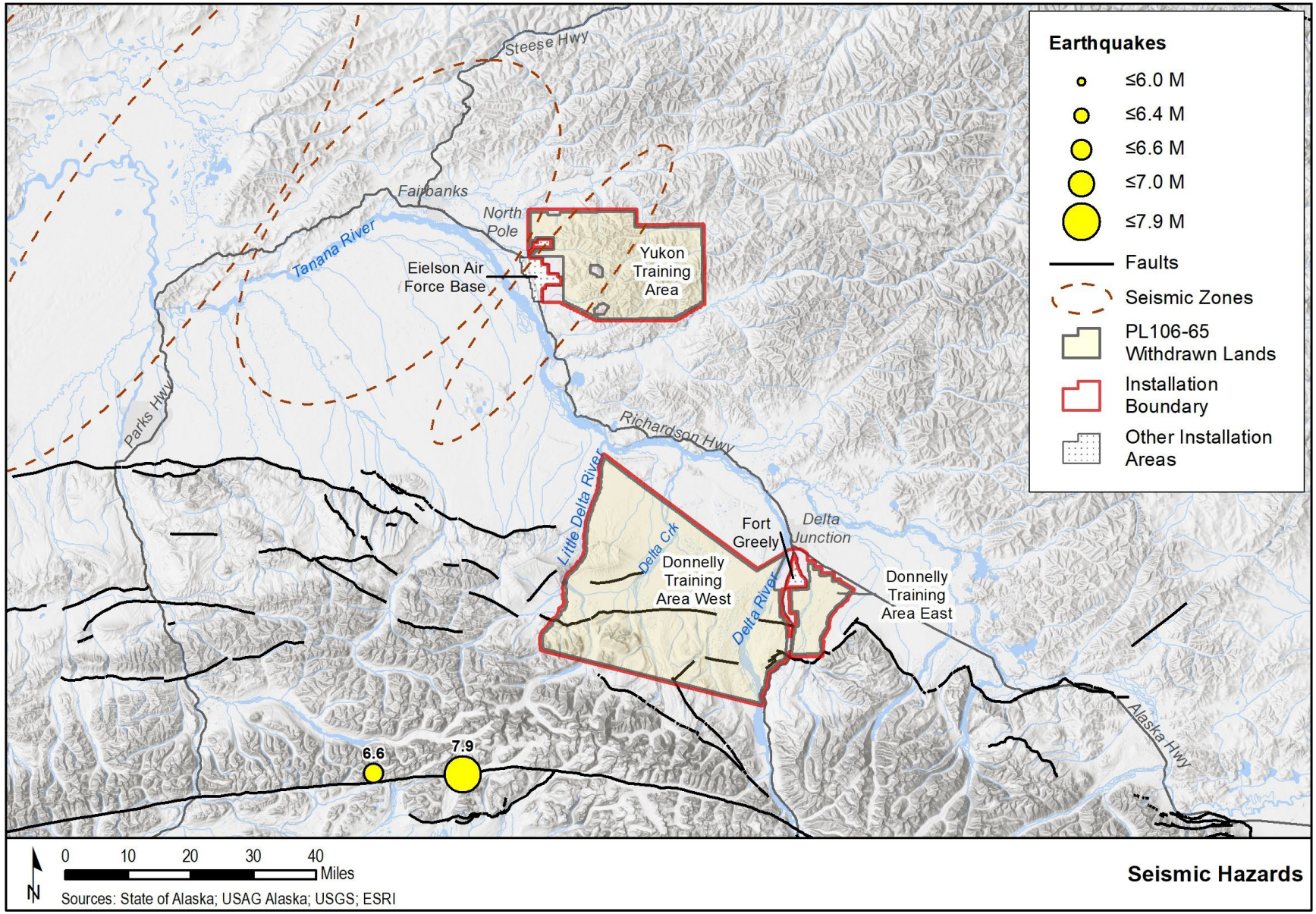


Figure 3.11-3. Seismic Hazards in the Vicinity of the Withdrawn Lands

3.11.6 MINERAL RESOURCES

Mineral resources on the withdrawn lands are managed by BLM under 45 CFR 3000. The sale and/or free use of mineral materials requires NEPA review and military concurrence. Any unauthorized use of mineral materials is considered trespass and resolved jointly by the military and BLM (USARAK 2004).

Saleable minerals on the withdrawn lands, including materials such as sand, gravel, and clay, have been used locally by the Army and other authorized agencies for road, runway, and other construction projects, but have not been extracted commercially since the lands were first withdrawn in the 1950s (USARAK 2004, USARAK 1999). Extensive sand and gravel deposits associated with glacial moraines, glacial outwash, stream beds, and river floodplains exist across DTAE and DTAW, including along the drainages and floodplains of Jarvis Creek, Granite Creek, and the Delta River. Gravel pits exist along the Richardson Highway and Trans-Alaska Pipeline System running between DTAE and DTAW.

Both YTA and DTA have been closed to mineral location and leasing since their initial withdrawal in the 1950s, and there are no existing or valid mining claims or leases within them (USARAK 1999). Portions of YTA have a moderate to high potential for gold and tin deposits, and gold mining occurred in the northeastern portion of the area on Pine Creek before the land withdrawal. No new field work has been conducted on the training lands since the 2001 renewal of the existing land withdrawal. Past evaluation of locatable minerals is discussed in greater detail in the 1999 LEIS and incorporated by reference for this analysis.

A 2015 U.S. Geological Survey investigation in cooperation with BLM and the Alaska Division of Geological and Geophysical Surveys used a geographic information system (GIS)-based method for evaluating mineral potential across a large region of interior Alaska (Jones et al. 2015). The study evaluated and mapped the mineral resource potential and certainty for six mineral deposit groups: rare earth elements, placer and paleoplacer gold, platinum group elements, copper, sandstone uranium, and tin-tungsten-molybdenum-fluorspar deposits associated with specialized

granites. Parts of the training lands are rated for high potential of some deposit groups, including placer gold. The study is not considered a comprehensive review of known mines, prospects, or deposit types throughout interior Alaska, but rather an evaluation of mineral potential on a subwatershed scale (Jones et. al. 2015). Information on the mineral potential of individual testing or training complexes is not available.

The DOI and the DoD last evaluated the withdrawn lands for leasable mineral potential during the development of the 1994 FWA and Fort Greely RMPs. YTA has an unfavorable geologic setting for oil, gas, or other leasable mineral deposits and therefore low potential for these resources (USARAK 1999). The Middle Tanana Basin and Nenana Coal Basin in DTA have potential for coal deposits, although the extent is unknown (USARAK 1999). Known coal deposits in the Nenana Basin have moderate potential to generate and trap gas under suitable geologic conditions, but geologic conditions are not favorable for oil in any parts of DTA (USARAK 1999).

3.11.7 SOILS

Due to the cold climate and relatively young parent material, soils on the withdrawn lands are weakly developed (USARAK 2004). Some exceptions include well-developed soils in the river valleys of YTA and western lowlands of YTA and DTAW. The mixing of soil due to freezing and thawing mainly occurs in soils with permafrost and can result in contorted soil horizons (NRCS 2005a). Anthropogenic-influenced climate change is also expected to impact soil characteristics in the region.

The NRCS completed soil surveys of YTA, DTAE and DTAW in 2005. Figure 3.11-4 and Figure 3.11-5 display the major soil components delineated in those surveys, which can be used to determine the suitability and potential of certain areas for specific uses. The quality and stability of soils can influence where training, testing, and facility placement can occur on the withdrawn lands. Human activity can also affect soil formation and stability through impaction, removal of topsoil, and increased fluctuations of temperature.

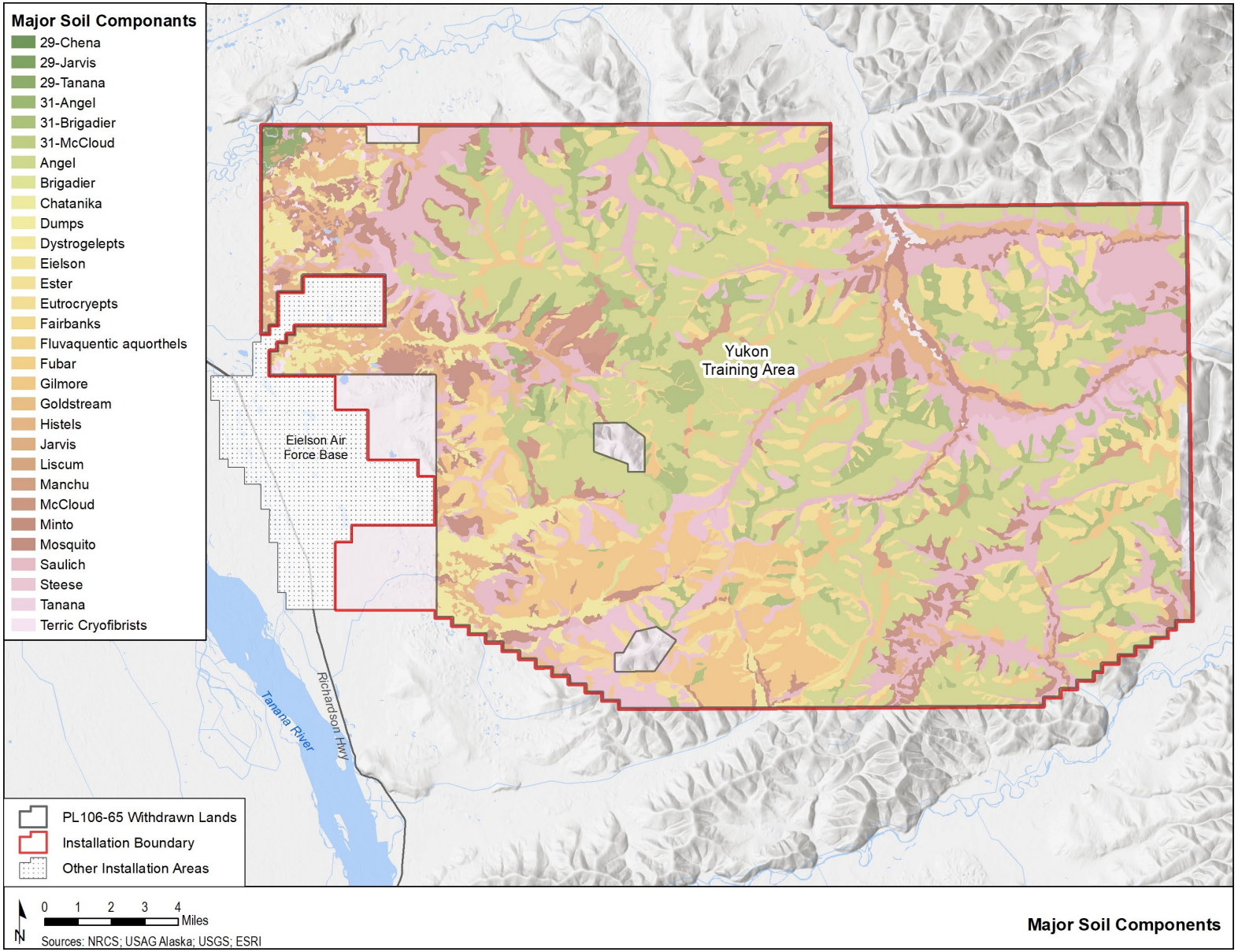


Figure 3.11-4. Yukon Training Area Major Soil Components

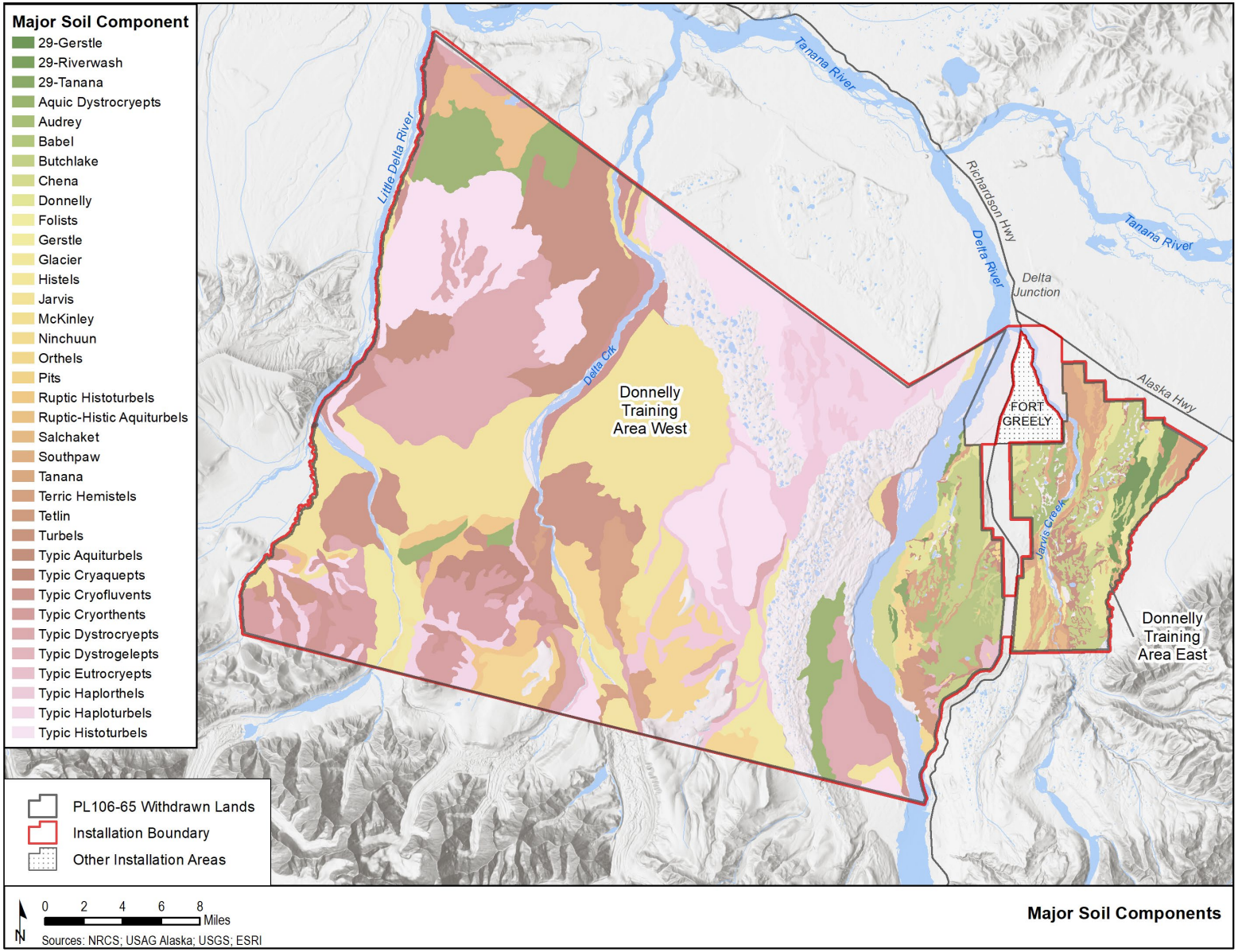


Figure 3.11-5. Donnelly Training Area Major Soil Components

3.11.7.1 Predominant Soil Types

Most of YTA retains a surface layer of peat from accumulation of dead organic material that outpaces decomposition. Decomposition of organic material is inhibited by cold temperatures and limited oxygen availability. The soils in this area are mainly silt loam, which is a soil material with a mixture of clay, sand and predominantly silt particles (NRCS 2005a). The northern areas of YTA contain thicker layers of muck and loess, or silt that has been deposited by wind transport, on top of bedrock and discontinuous permafrost (NRCS 2005b, USARAK 2004). The south areas contain loams that vary from shallow, gravelly silt at higher elevations to deep, moist silt loams on lower slopes. The south slopes of YTA consist of well-drained silt loams that are generally free of permafrost. Shallow, gravelly silt loam covered with a thick layer of peat underlain by permafrost can be found on drainage bottoms and north facing slopes (USARAK 2004).

Soils in DTAE and DTAW are highly variable due to the diverse geomorphic landscape and sediment composition. They are primarily derived from glacial activities, modified by streams and permafrost, and overlain by loess in most areas. The loess cap ranges from a few centimeters to several meters thick and is indicative of the strong winds from the Alaska Range that continually deposit sediment across the Tanana River valley (NRCS 2005b). These loess deposits mask structural features related to faults (USARAK 2004). Many of the soils across DTAE and DTAW are also weakly developed soils and contain permafrost layers. Soils in most of DTAW are considered silt loam associations, while soils in DTAE are a shallow silt loam over gravelly sand (USARAK 2004).

Soils within the floodplains of DTAE and DTAW consist of alternate layers of sand, silt loam, and gravelly sand from the erosion of the surrounding foothills and mountains. The upland foothills along the southern boundaries have moist, loamy soils compared to mountain soils that are rocky, steep and unvegetated (NRCS 2005b). These soils are well drained on the upland slopes and poorly drained along valley bottoms.

3.11.7.2 Limitation Ratings

Soils surveys collect data that can be used to assign limitation ratings for particular land uses and guide land management decisions. Soils delineated by the NRCS in YTA, DTAE, and DTAW have been assigned limitation ratings for recreation, stormwater management, building site development, road location, and construction material excavation (NRCS 2005a, 2005b). This information is intended to be used for broad land use planning to determine areas with the highest potential for specific uses or areas with unfavorable soil properties.

Soils in YTA, DTAE, and DTAW are almost all somewhat to very limited for each of the land use categories evaluated due to factors such as ponding, depth to permafrost or saturation zone, organic matter content, water erosion hazard, and slope (NRCS 2005a, 2005b). Soils are most susceptible to damage during the spring and summer when they are saturated and warmer temperatures contribute to thawing permafrost, creating unstable conditions for maneuvering overland. Because soil stability and rates of permafrost thaw can vary widely across the training lands, geotechnical investigations are necessary to evaluate potential soil limitations and determine the suitability of a given area to particular types of training. Such investigations are performed only as needed to plan for changes in training methods or locations.

3.11.7.3 Maintaining Landscape Conditions

The Army monitors and maintains landscape conditions to promote sustainability for training through the Range and Training Land Assessment and Land Rehabilitation and Maintenance components of the ITAM program (USARAK 2020c). Factors such as soil erosion potential, vegetation cover, slope, and frequency of training activities contribute to the overall land condition assessment for a given sample site. Enhancements or improvements to training lands conducted under the Land Rehabilitation and Maintenance program utilize BMPs to minimize and avoid erosion and impacts from erosion. Such practices include minimizing the acreage of disturbed areas, preserving topsoil to the maximum extent possible, performing

certain maintenance or construction work during winter months while the ground is frozen, stabilizing slopes with highly erodible soils prior to maintenance or training activities, and preserving natural vegetation in the immediate vicinity (USARAK 2020c). As noted with soil limitation ratings, because soils can vary widely across the training lands, individual site level assessments are necessary to determine the best erosion and sediment controls for specific training or maintenance activities.

3.11.8 PERMAFROST

Permafrost is ground, soil, or rock that remains at or below 32 °F for at least two years. It is defined on the basis of temperature and is not necessarily frozen (USDA 2015). The withdrawn lands are underlain by discontinuous permafrost, which is permafrost occurring in some areas beneath the exposed land surface throughout a geographic region where other areas are free of permafrost (Péwé 1975). Permafrost layers can vary in thicknesses from less than one foot to more than 150 feet. The base of the permafrost layer is defined by the deepest point at which ground temperatures continuously remain below 32 °F. The upper surface of the perennially frozen ground is called the permafrost table, and the zone above the permafrost table that thaws in summer and freezes again in winter is called the active layer (USARAK 2004). Training actions are planned to avoid the active layer to the extent possible to avoid damage to this sensitive soil type.

Figure 3.11-6 displays the known extent of permafrost on the withdrawn training lands. The entirety of YTA is underlain by discontinuous permafrost. It is thickest in valley bottoms and on lower, north-facing slopes. While sediments beneath the Tanana and Chena River floodplains can be frozen to depths of up to 265 feet, permafrost is generally absent underneath deep lakes and large rivers and on hilltops and most south-facing slopes (USARAK 2004).

Most of the landscape within DTAE and DTAW contains discontinuous permafrost, but it can be highly patchy and irregular. The area’s complicated topography, variable sediment types, and micro-climate variability make prediction of permafrost difficult. Permafrost patches in DTA can range in thickness from 10 to 118 feet (USARAK 2004). Dry permafrost, or ground perennially at temperatures below freezing but

having no ice, may be present in outwash areas with porous gravel (Wahrhaftig 1965).

Numerous training ranges, test centers, impact areas and drop zones on the withdrawn lands overlap areas underlain by permafrost (U.S. Army 2012). Ranges and facilities closer to surface waters such as the Delta River and developed areas such as the Fort Greely cantonment area are more likely to have greater variability in underlying permafrost.

3.11.9 GLACIERS

Glaciers are large masses of snow and ice on land that persist for many years. Intense glaciation occurred throughout Alaska between 10,000 and two million years ago and was influential in carving the varied landscapes of the withdrawn lands (USARAK 1999). Glaciers are retreating across the Alaskan landscape, and there are no glaciers remaining in YTA or the lowland areas of DTA (Jorgenson et al. 2008). Kettle ponds, moraines, and outwash deposits of poorly consolidated sediments found across DTAE and DTAW are indicative of the past glacial advancement and retreat in the region (Jones et al. 2015).

Some glaciers remain south of DTA, but none are found in the foothills along the southern boundary of the training areas. A small section of the Trident Glacier, a valley glacier originating from the Alaska Range, overlaps the withdrawn lands southwest of Molybdenum Ridge (Figure 3.11-6). The valley glaciers in the Alaska Range feed the sediment laden, braided streams that flow north across the withdrawn lands, including the Delta River, Little Delta River, and Delta Creek.

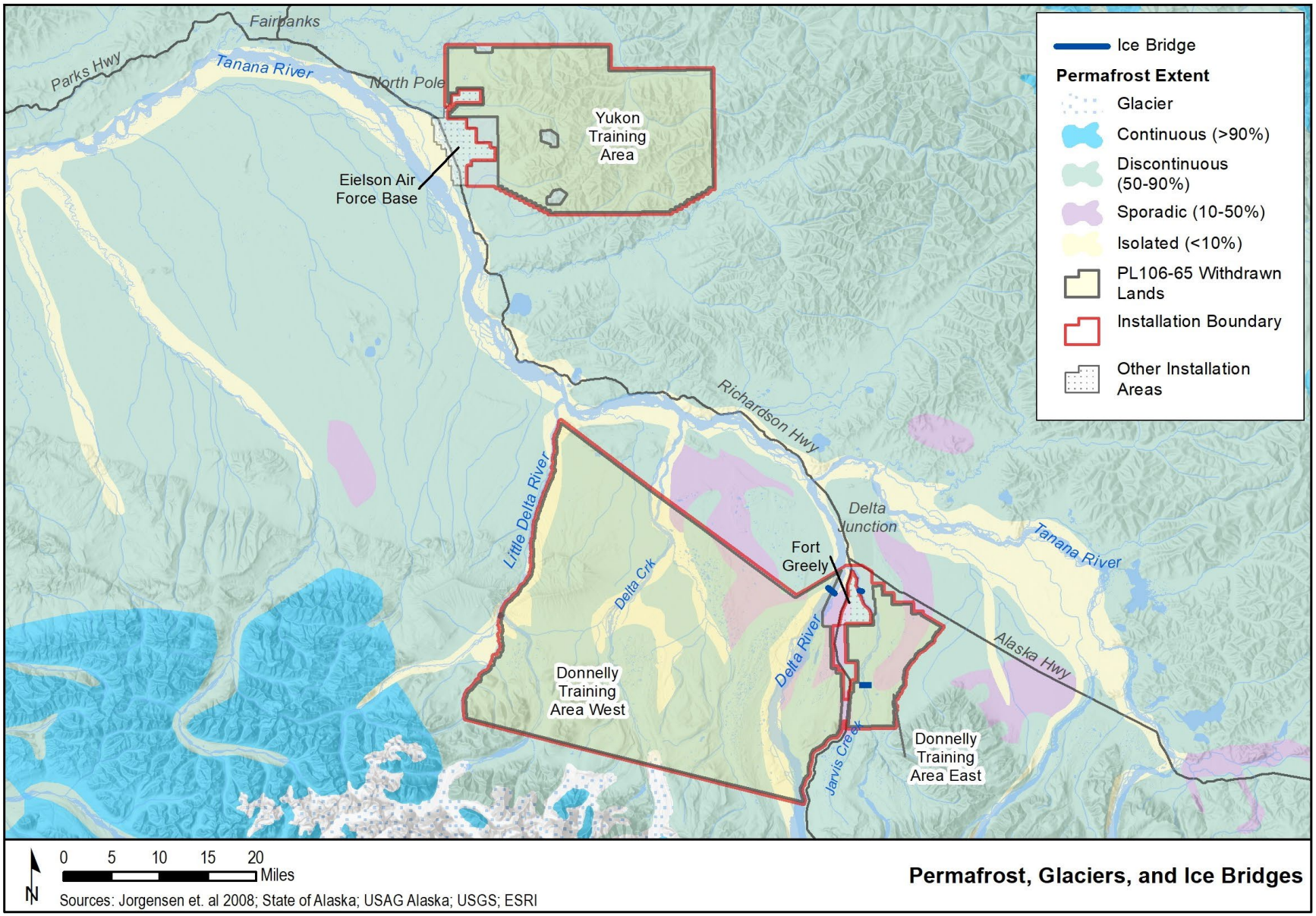


Figure 3.11-6. Frozen Resources In and Around the Withdrawn Lands

3.12 WATER RESOURCES

3.12.1 REGION OF INFLUENCE

The geographic scope of the affected environment and analysis for water resources includes the land and waters withdrawn from public use for military purposes, surface waters that transverse the boundaries of the withdrawn lands, and groundwater within and immediately surrounding the withdrawn lands.

3.12.2 LAWS AND REGULATIONS

The two primary regulations pertaining to Water Resources in the withdrawn lands are the Clean Water Act of 1972 and the State of Alaska Water Quality Standards, as described in Table 3.12-1.

Table 3.12-1. Water Resources Laws and Regulations

Regulation or Authority	Description
The Clean Water Act of 1972; as amended (33 USC §1251 et seq.)	Regulates the discharge of pollutants into Waters of the United States (WOTUS) and is the primary federal mechanism protecting streams, lakes, and wetlands from degradation. The following sections are especially relevant: • Section 303 requires states to establish water quality standards, criteria, and implementation plans to protect water bodies. Under Section 303(d), states are required to develop, maintain lists of, and prioritize total maximum daily loads for impaired waters. • Section 304 directs EPA to develop national ambient water quality criteria to protect human health and aquatic life (Aquatic Life Criteria and Human Health Criteria Tables) in surface waters for approximately 150 pollutants and provides the foundation for controlling discharges of pollutants into surface waters. • Section 401 is intended to provide states and tribes authority to protect the quality of waters within their jurisdiction by authorizing them to certify that discharges to navigable waters resultant from a proposed activity comply with national water quality standards and implementation plans. • Section 402 allows permits for the discharge of pollutants, or the National Pollutant Discharge Elimination System permit for the discharge of any pollutant into any surface water body. • Section 404 allows permitting of the discharge of dredge or fill material into WOTUS including wetlands. Any person, tribe, or government agency planning to work in WOTUS must obtain a permit from the USACE, the lead agency, prior to commencing work. Wetlands are further discussed in Section 3.13.9.

Regulation or Authority	Description
State of Alaska Water Quality Standards 18 AAC 70.020	State water is protected for the following water use classes, under State of Alaska Water Quality Standards: 1) Fresh Water a) Water supply i) Drinking, culinary, and food processing ii) Agriculture, including irrigation and stock watering iii) Aquaculture iv) Industrial b) Water recreation i) Contact recreation ii) Secondary recreation c) Growth and propagation of fish, shellfish, other aquatic life, and wildlife If a water body is protected for more than one use class, the most stringent water quality criterion will apply (State of Alaska Water Quality Standards 18 AAC 70.040(a)).

All waters within the withdrawal boundaries are protected as State of Alaska use classes (1)(A), (1)(B), and (1)(C). Some water bodies originating within YTA flow into the Chena River, which has been assigned site-specific water quality criteria. The Chena River—from its confluence with Chena Slough to the confluence of the Chena River and Tanana River—has been classified as (1)(A)(ii), (1)(A)(iii), (1)(A)(iv), (1)(B), and (1)(C) (18 AAC 70.230(e)).

If the natural condition of a water body is demonstrated to be of lower quality than a water quality criterion for the designated use classes and subclasses, and the natural condition will fully protect the designated uses, then the natural condition constitutes the applicable water quality criterion (State of Alaska Water Quality Standards 18 AAC 70.235(b)).

Appendix 5.0 contains State of Alaska water quality criteria for freshwater uses. State water quality standards for drinking water are defined in 18 AAC 80. Maximum contaminant levels (MCLs) are defined in 18 AAC 80.300. Primary MCL standards protect public health by limiting contaminants in drinking water, while secondary MCL standards regulate contaminants that may cause aesthetic effects to the water.

Under the state standards, all groundwater is protected as State of Alaska use class (1)(A) (fresh water/water supply).

3.12.3 SURFACE WATER AND FLOODPLAINS

3.12.3.1 Primary Surface Water Bodies

3.12.3.1.1 Yukon Training Area

Surface water in YTA drains to the Tanana River by way of the Chena River, Salcha River, Little Salcha River, and Piledriver Slough. In the northern and northeastern portions of YTA, surface water drains into the Chena River and its tributaries, which include Hunts Creek, Horner Creek, and the South Fork Chena River. The South Fork Chena River has several tributaries within YTA, including Globe Creek, Stuart Creek, and Beaver Creek. The southern portion of YTA is drained by the Little Salcha River and by tributaries of the Salcha River, including Ninety-Eight Creek, Redmond Creek, and McCoy Creek. Both the Salcha River and Little Salcha River flow directly into the Tanana River. Other streams that drain the western portion of YTA, such as French and Moose creeks, reach the Tanana River by way of Piledriver Slough. All the streams within YTA originate in the rolling, glacier-free terrain of the Yukon-Tanana Upland at elevations of less than 2,000 feet (USARAK 1999).

There are numerous small lakes and ponds in YTA, primarily along the western portion of the training area. The largest lakes are Horseshoe Lake, Lily Lake, and Manchu Lake. Figure 3.12-1 shows the major waterways of YTA withdrawn area.

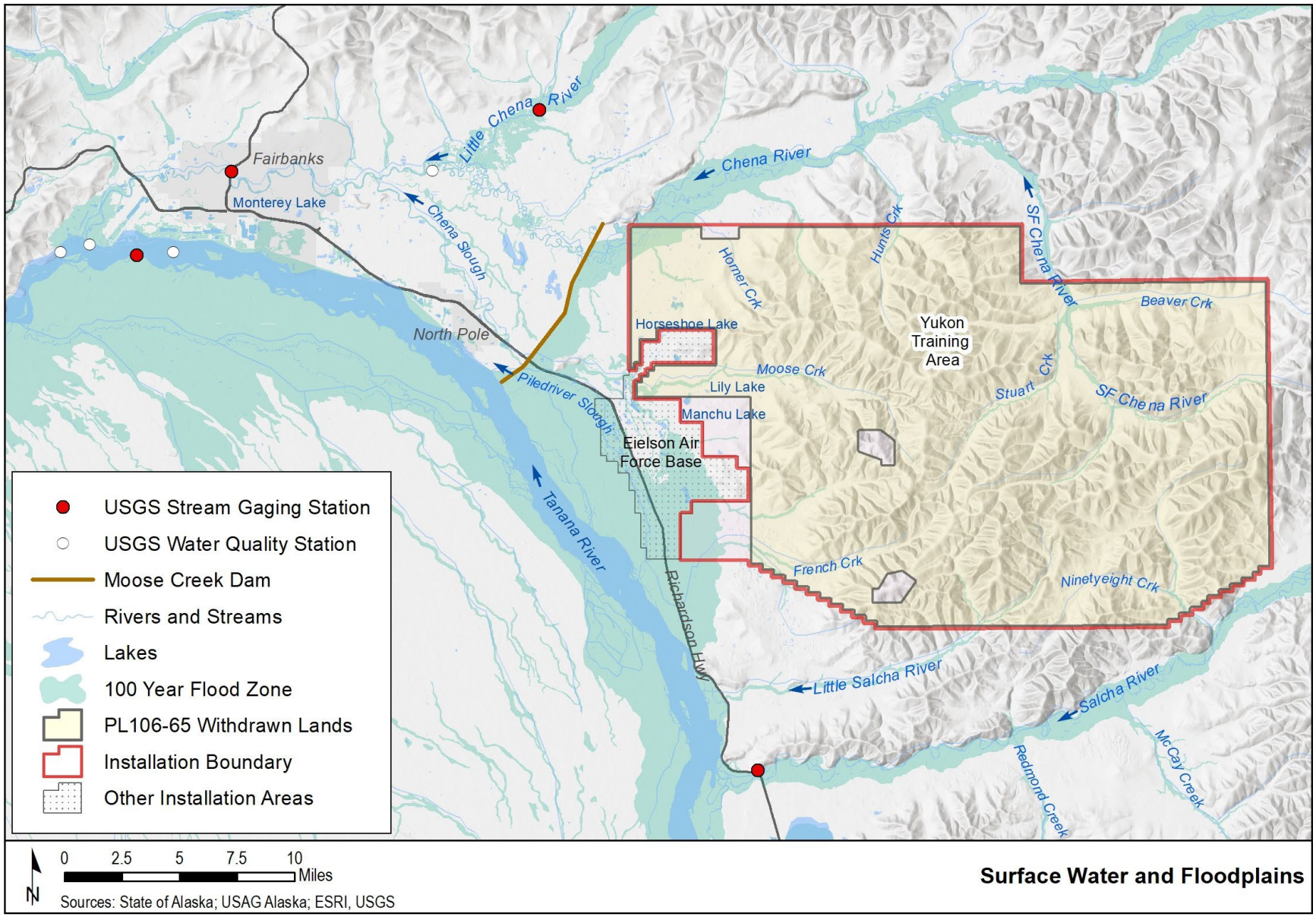


Figure 3.12-1. Yukon Training Area Surface Water and Floodplains

3.12.3.1.2 Donnelly Training Area

Surface water in DTA drains to the Tanana River primarily through the Delta River, Delta Creek, Little Delta River, Jarvis Creek, and smaller streams (Douglas et al 2013). The Delta River flows northward through DTA, originating at Tangle Lakes (approximately 50 miles south of the southern boundary of DTA) and ending at its confluence with the Tanana River at Big Delta. The Delta River drains an area of approximately 230 square miles (Bosche 2021).

The Delta River is primarily fed by glacial melt as it flows through the Alaska Range. Once it leaves the confines of the Alaska Range, the Delta River has virtually no tributaries except for Jarvis Creek. Jarvis Creek enters the Delta River on the east bank near Delta Junction, about 10 miles upstream of where the Delta River enters the Tanana River at Big Delta. As the Delta River flows through DTA, it occupies a broad, braided channel system through glacial moraine deposits (Bosche 2021).

Jarvis Creek flows northward through DTAE, draining an area of roughly 250 to 400 square miles, according to varying reports (Bosche 2021). Like the Delta River, Jarvis Creek begins along the north slopes of the Alaskan Range as glacial outflows and flows through DTA as a wide braided channel in glacial moraine deposits. In the lower reaches of Jarvis Creek through DTAE, banks are one to five feet high and the channel width varies from 1,000 feet to 1,500 feet with numerous active channels that can quickly shift or go completely dry (Bosche 2021).

According to a floodplain analysis conducted by CRREL, there is no danger of overbank flooding of the Delta River, as it has a channel capacity estimated to be greater than the 500-year flow. On Jarvis Creek, overbank flooding does occur and has affected access to roads and facilities. While open water flooding events are easily contained within the banks of Jarvis Creek, massive accumulations of sheet-like ice (aufeis) are generated during winter and result in almost total channel blockage at several locations (USACE CRREL 2016a). This winter aufeis can block flow in the channel and lead to flooding across the Alaska Highway (Bosche 2021).

In addition to the Delta River and Jarvis Creek, several smaller streams drain portions of DTA, including the Little Delta River, Delta Creek, Kiana Creek, One-Hundred Mile Creek, and Granite Creek. All these streams are glacier-fed and originate within the Alaska Range, except for Kiana Creek and Granite Creek. Kiana Creek originates within the lower elevations of DTAW. Granite Creek flows from Granite Mountain to form the eastern border of DTAE area before losing flow to groundwater. The southwestern border of DTAW is formed by Buchanan Creek, which eventually combines with the West and East Forks of the Little Delta River to form the main stem. The Little Delta River constitutes the remainder of DTAW border, while Delta Creek drains the interior portion of DTAW.

There are approximately 85 named lakes within DTA, including 16 lakes that are managed by ADFG for recreational fishing. Figure 3.12-2 shows the major waterways within DTA.

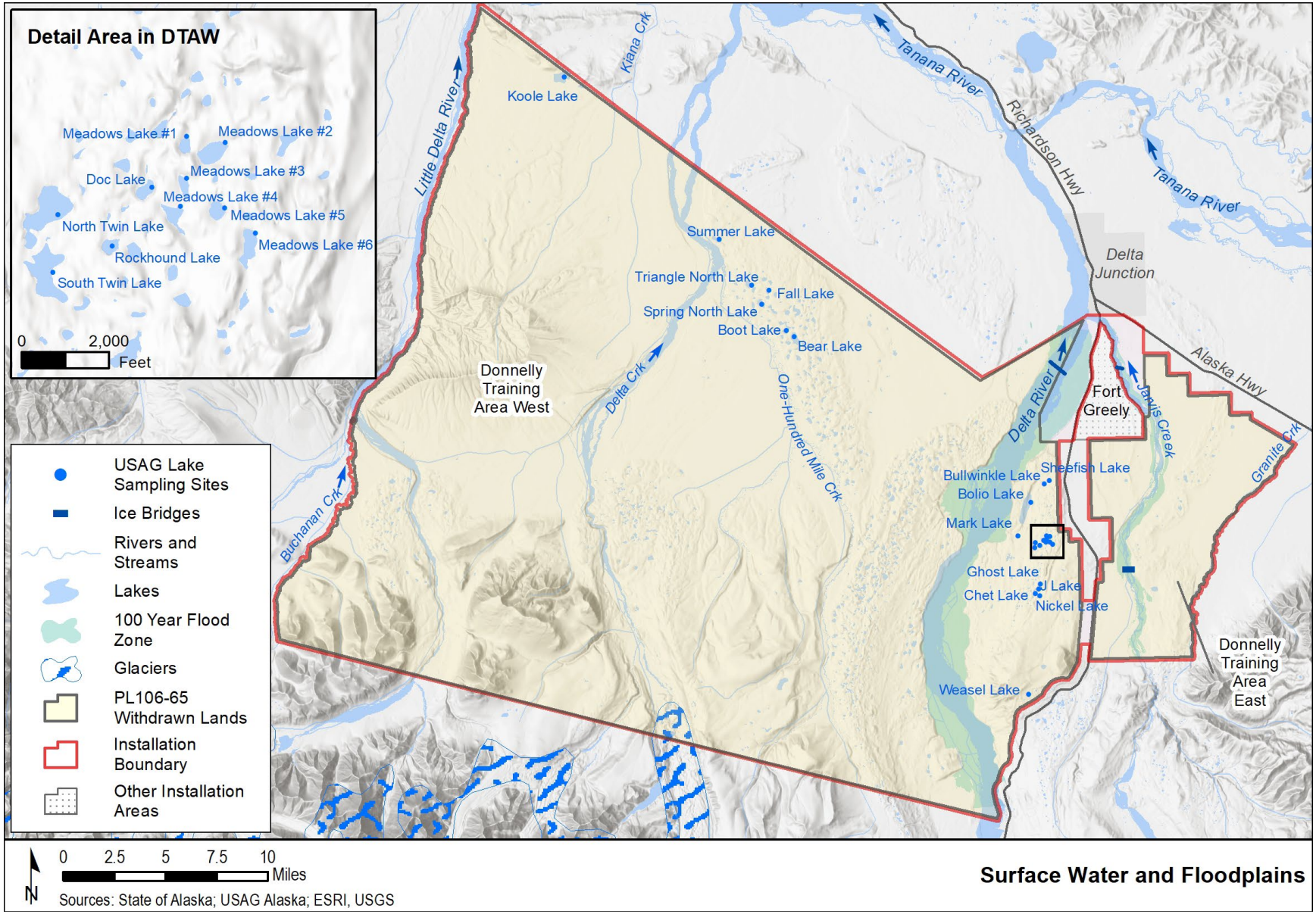


Figure 3.12-2. DTAE and DTAW Surface Water and Floodplains

3.12.3.2 Current Management

3.12.3.2.1 Mapping and Data Collection

Researchers from Colorado State University mapped all the lakes and ponds on FWA, YTA, and DTA in 2015, and SDSWCD mapped many of the streams. The Army conducts surface and groundwater sampling within the area around the main post as required by Comprehensive Environmental Response, Compensation, and Liability Act (42 USC § 9601) and the Alaska Army Lands Withdrawal Legislative EIS (USARAK 1999). Limited water quality monitoring has been conducted on lands outside the main post, including YTA and DTA (USAG Alaska 2020a).

The Army maintains Multi-Sector General Permits for FWA lands to enhance water quality (USAG Alaska 2020a). Although the Multi-Sector General Permits previously covered DTA and YTA as well, they are no longer included because there is no discharge of stormwater from regulated activities to waters of the U.S. in these areas. If needed in the future, a new Multi-Sector General Permit would be developed for the withdrawn lands. YTA and DTA are covered under the ADEC General Construction Permit for stormwater.

3.12.3.2.2 Ice Bridges

The Army and Air Force seasonally construct ice bridges—artificially thickened sections of ice across a river—to allow access to winter training areas that would otherwise be unreachable from the ground. One ice bridge is constructed annually across the Delta River at Arkansas Range west of Fort Greely (Figure 3.12-2). Two ice bridges are permitted for crossing Jarvis Creek. A new ice bridge has been permitted in 2020 to cross a second Delta River site, but it has not been used yet. Ice bridge construction can occur anytime from November to mid-March based on seasonal low temperatures. Two permits are required for ice bridge construction and associated water withdrawals. The first is a fish habitat permit from ADFG, which is required for any action that may affect fish-bearing waters; the current permit held by

the Army (FH11-III-0007) is valid from September 17, 2020, through December 31, 2025. The second is a temporary water use authorization from ADNR.

3.12.3.2.3 Floodplain Management

The Army adds updated floodplain information from the Federal Emergency Management Agency (FEMA) to its GIS database when it becomes available. YTA falls within the FNSB boundaries and is subject to the FNSB Floodplain Management Program, which requires permits for any construction within the floodplain. The Army continues to monitor Jarvis Creek and the weather conditions that cause aufeis formation for potential flooding. On behalf of the Army, SDSWCD monitors the formation of aufeis on Jarvis Creek in the vicinity of the BAX training area on DTAE in the spring (SDSWCD 2021a, 2021b, 2021c). The Army has also contracted with SDSWCD to investigate the impact of Jarvis Creek flooding on select locations at Fort Greely and design alternatives to prevent these impacts (SDSWCD 2015).

3.12.3.3 Hydrology

3.12.3.3.1 Streamflow

In the Tanana River basin, which includes the withdrawn lands of YTA and DTA, tributaries can be classified as either nonglacial or glacial. This distinction determines the seasonal streamflow characteristics, which can vary during the spring and summer. In general, both stream varieties within the withdrawn areas experience high flows during spring and summer and low flows during fall and winter. In nonglacial streams, seasonal variations include a sharp rise in discharge during May due to spring snowmelt, a general recession during the summer, a slight increase during the early fall rainy period, and low winter flows. In glacial streams, the maximum stream discharge occurs in June and July following a rapid rise in the spring, which coincides with the peak melting of glaciers (USARAK 2004).

3.12.3.3.1.1 Yukon Training Area

All streams originating in the Yukon-Tanana Upland within YTA, such as Stuart Creek, French Creek, and Moose Creek, are non-glacial. Stream discharge data for

the smaller, non-glacial streams of YTA are unavailable, but have been estimated at less than 10 cubic feet per second (cfs) each (USAF 2009). General trends on the Little Chena, Chena, and Salcha rivers indicate that the seasonal characteristics of non-glacial streams are exhibited across the basin, with highest flows occurring during May, tapering to about one-half of the May flow rate from June through September. A noteworthy exception to these trends was the flood of late August 1967 that prompted construction of the Chena Flood Control Project, which has been activated frequently due to similar events. Flows then generally decline through winter reaching a yearly low in March. Many small streams throughout the area freeze solid during winter (USAF 2009). Figure 3.12-1 shows stream gaging station locations.

3.12.3.3.1.2 Donnelly Training Area

All the larger streams flowing through DTA are glacial except for Granite Creek. None of the streams in DTA are actively gaged, so discharge data are unavailable.

Data from the USGS gages on the Tanana River give an indication of the seasonal trends that would be expected for the glacier-fed streams of DTA, with the highest flows from June to August and low flows from November to April.

3.12.3.3.2 Base Flow

Base flow is defined as the water that enters the stream channel from persistent, slowly varying sources and maintains streamflow between inflow events. Large base flows occur in drainage basins with extensive groundwater storage, while base flows are small on streams with limited groundwater storage. The Tanana River has a large base flow (minimum monthly flow is nearly 30 percent of average monthly flow), while the Chena and Salcha Rivers have small base flows (minimum monthly flow is less than 10 percent of average monthly flow).

3.12.3.3.3 High Flow Floodplains

FEMA established 100-year, 500-year and outside of 500-year floodplain boundaries surrounding Fairbanks, including the FWA main post, Tanana Flats Training Area,

and YTA. Fairbanks and the FWA main post rely on the Chena Flood Control Project for flood protection, which was completed in 1979 in response to the extreme flood that damaged much of Fairbanks in August 1967. The 8-mile-long Moose Creek Dam was built as part of the Chena Flood Control Project and is downstream of YTA. The dam contributes to the floodplain boundaries directly downstream but backs up only minimal water onto the northwestern corner of YTA itself. Figure 3.12-1 shows the 100-year floodplain boundary of waterways in and near YTA, as determined by FEMA.

FEMA has not developed floodplain boundaries for Fort Greely or DTA. The Army completed a floodplain analysis that defined the 100- and 500-year floodplains in the vicinity of the Delta River and Jarvis Creek in Fort Greely and DTA. The analysis was based on topographic data, a USGS regression equation, and hydraulic modeling using HEC-RAS software (Bosche 2021). The east bank of the Delta River is much higher than the west bank, which significantly reduces the flooding potential of the Delta River toward Fort Greely or Delta Junction (USAG Alaska 2020a). Figure 3.12-2 shows the 100-year flood zone along the Delta River and Jarvis Creek.

Within DTAE, Jarvis Creek occasionally floods in the spring when a build-up of aufeis diverts creek water to flow over the surface of the BAX. The aufeis buildup can happen in various upstream locations and changes from year to year. This flooding impacts both Fort Greely and the BAX, but also contributes to the overall aquifer recharge in the area (USAG Alaska 2020a).

In general, floods occur in spring from snowmelt or in late summer from rain. The most severe flooding should be expected from rain concurrent with rapid snowmelt. Floods are aggravated during early spring when channels are constricted with ice.

3.12.3.3.4 Low Flow/Aufeis

Specific information about low flow values and timing on streams within the withdrawn areas is unavailable because of the lack of discharge data. Additionally, winter streamflow data are limited due to the complexity of winter conditions, ice formation, and how ice controls the flow regime of individual streams. Low flows on

the major rivers within and adjacent to the withdrawn lands—the Little Chena, Chena, Salcha, and Tanana Rivers—typically occur from November through April.

Due to low flows and freezing temperatures, most streamflow in the smaller basins is seasonally converted to aufeis. Aufeis is an ice sheet that forms on a floodplain in winter when normal channels freeze solid or are otherwise dammed so that water spreads out over the floodplain and freezes (A.G.1 Glossary 1960 *in* Dingman et al. 1971). Ice typically starts forming in October and breaks up in May. These stream icings and ice formations can achieve large dimensions, both in thickness and areal extent, because they are composed of a large percentage of the total winter flow. Thus, ice may be over three feet thick in some locations. Of the streams in the withdrawn lands, only the Tanana and Chena Rivers typically flow year-round (Anderson 1970). Some streams, including Jarvis Creek, cease to flow in winter because of losses due to influent seepage into groundwater aquifers.

3.12.3.3.5 Runoff

Runoff is defined as the amount of precipitation that falls on the land that ultimately reaches rivers and streams. Runoff is typically reported as the average depth at a place of origin. Runoff includes meltwater from glaciers and is typically greater at higher elevations where evapotranspiration rates are low.

Table 3.12-2 summarizes the relationship between elevation, area, precipitation, evapotranspiration, and runoff for the Tanana River basin. All interior USAG Alaska properties fall within the Tanana Basin.

Table 3.12-2. Tanana Basin Runoff

	Area		Precipitation	Evapotranspirative loss[1]	Runoff	
Altitude (feet)	**Square Miles**	**% Basin Area**	**Acre-feet ($x10^6$)**	**Acre-feet ($x10^6$)**	**Acre-feet ($x10^6$)**	**% Basin Runoff**
<1,000	12,000	27.3	8.0	6.3	1.7	5.6
1,000 – 3,000	20,000	45.5	14.9	7.7	7.2	23.5
3,000 – 5,000	8,000	18.2	7.7	0.4	7.3	24.0
>5,000	4,000	9.1	14.2[2]	<0.1	14.2	46.7
Totals	44,000	100	44.8	14.4	30.4[3]	100

[1] Calculated as precipitation minus runoff

[2] Includes an estimated 1.4 x 10^6 acre-feet long-term ice storage loss

[3] Includes an estimated 3.5 x 10^6 acre-feet of groundwater underflow
Source: Anderson 1970 (in USARAK 2004)

3.12.3.4 Surface Water Quality

Water quality data for water resources in the withdrawn lands are limited, but available data indicate that water quality in the streams and lakes of YTA and DTA has remained high throughout Army occupation. Outside of the FWA main post and cantonment areas, there has been no reason to suspect surface water degradation within the withdrawn lands beyond localized or temporary sedimentation (USAG Alaska 2020a).

3.12.3.4.1 Streams

3.12.3.4.1.1 Yukon Training Area

Background water quality represents the chemical and biological components of surface waters resulting from natural causes and factors. Limited development and low levels of human-related activities account for the lack of pollutants and generally excellent water quality of the local streams and lakes (DOI & DoD 1994; USARAK 2004). The available water quality data for adjacent waterways, including the Chena River, Salcha River, and Tanana River, suggest that water originating within YTA is of high quality. These waters meet primary drinking water standards, with iron being the only parameter to exceed the Alaska state secondary drinking water standards (USARAK 2004).

The Chena River has been assigned site-specific water quality criteria. From its confluence with Chena Slough to the confluence with the Tanana River, it is protected under all water use classes except (1)(A)(i) for drinking water, culinary, and food processing uses (ADEC, Division of Water 2020).

In 2012, sampling for Phase II of the ORAP was completed at YTA to determine whether there was any potential for MCOC to be migrating off-range. Surface water and sediment sampling was conducted in French Creek and South Fork Chena River for MCOC. It included testing for explosives and metals in all samples and for

perchlorate in surface water samples. Benthic macroinvertebrate communities were also assessed. The results indicated no explosives detected, metals concentrations less than ecological screening levels, and benthic macroinvertebrate communities similar to those at reference locations. No perchlorate was detected in surface water Following the Phase II assessment, operational ranges in YTA were placed into a periodic 5-year review cycle (U.S. Army 2014).

Directly downstream of YTA, Moose Creek joins with Garrison Slough, which is listed as an impaired water body for polychlorinated biphenyls with a total maximum daily load established by the ADEC (ADEC 2021b). Garrison Slough has a small watershed and runs through Eielson AFB before it joins with Moose Creek downstream of YTA.

3.12.3.4.1.2 Donnelly Training Area

Water quality data for streams located in DTAE and DTAW are limited. A study published in 1990 included a site-specific study of water quality in streams flowing through DTA (USARAK 1999). Surface water and sediment samples were collected upstream and downstream of DTA as part of this study. Upstream values were indicative of the background or natural water quality of DTA.

Based on previously collected and historical data, surface water quality in streams located in DTA generally meets the State of Alaska primary drinking water standards (18 AAC 80), but some samples indicated aluminum, iron, and manganese concentrations that exceeded the state's secondary standards (USARAK 2004).

The USACE completed a study of Jarvis Creek, which runs through the most heavily used part of DTA. Most parameters measured were within or below the state's criteria, with the exceptions of dissolved oxygen and temperature. Dissolved oxygen ranged from 1.15 to 19.90 milligrams per liter (mg/L); the state standard is between four and 17 mg/L. Water temperature ranged from 41 ºF to 61 ºF, with higher temperatures dominating the shallow, braided parts of the creek. Alaska state standards are less than 59 ºF for drinking water, or 68 ºF for general supply (USARAK 2004).

In 2001, during the Alaska Army Lands Withdrawal Renewal process, the Army agreed to monitor soil and water quality to assess the potential for off-site migrations of munition constituents from the operational range complex due to public concern over clean water. Similar public concerns about the proposed construction of the BAX resulted in the 2006 Settlement Agreement with the City of Delta Junction, which requires the Army to monitor ground and surface water for trace metals and munition residues on and around the range. Locations on and near DTA where metal concentrations in water have been measured include the BAX (surface lakes and monitoring wells), Jarvis Creek, Delta River, Little Delta River, Bolio Lake, 100 Mile Creek, Stuart Creek, Suzy Q (Black Rapids), Falls Creek (Black Rapids), Fiddle Lake, Lonestar Lake, Longhorn Lake, South Twin Lake, Chet Lake, Big Lake, and Boulder Creek (USACE CRREL 2016b).

Arsenic is the only metal with a significant number of samples above the National Primary MCL (USACE CRREL 2016a). The relatively high arsenic concentrations in soil and water are likely the result of naturally arsenic-enriched bedrock in the area (Douglas et al. 2013). A significant number of samples have aluminum, iron, and manganese above the National Secondary Drinking Water MCL (USACE CRREL 2016a). Elevated aluminum and iron concentrations in some water samples are also likely due to natural conditions (local bedrock and soils). Antimony, copper, lead, and zinc are associated with explosives and small arms training, but concentrations of these metals in water are below MCLs (USACE CRREL 2016a).

The Army's analyses of hundreds of surface water samples collected at numerous locations over all seasons identified only a few samples where energetic compounds were present at values above detection (USACE CRREL 2016a). One location was a small pond near an impact area and the other were surface water samples of the Delta River downstream of the Washington and Mississippi Impact Areas during spring melt in 2003 and 2005. The Army found no detectable contaminants from the Delta River during the rest of the year and no detectable concentrations of energetic compounds such as propellants or fuels from Jarvis Creek. This suggests minimal downward or lateral movement of energetic compounds off DTA training ranges (USACE CRREL 2016a).

In 2012, sampling for the ORAP Phase II was completed at DTA to determine whether there was any potential for MCOC to be migrating off-range. Surface water and sediment sampling was conducted in the Delta River for MCOC, including explosives, metals, and uranium, as well as standard parameters including hardness and field parameters. Benthic macroinvertebrate communities were also assessed (U.S. Army Environmental Command 2012). Results from this sampling effort are unavailable for explosives, metals, and benthic macroinvertebrates. The uranium ratios found in sample results are consistent with naturally occurring uranium (U.S. Army IMC 2016).

3.12.3.4.2 Lakes

3.12.3.4.2.1 Yukon Training Area

There are a few small lakes and ponds located in YTA, which can typically be dry one to two months out of the year and freeze solid during the winter. The lakes on YTA are managed by FWA. In addition, ADFG has a management interest in Horseshoe Lake and Manchu Lake due to its fish stocking activities. Horseshoe Lake, located in the northwest portion of YTA, has had water quality data collected intermittently from 2000 to 2020. Temperature, dissolved oxygen, and pH measured in Horseshoe Lake varied seasonally. Measured dissolved oxygen concentrations ranged from 0.1 to 8.6 mg/L and pH was slightly acidic, ranging from 6.1 to 6.6, which is below the state's recommended standard of 6.5 to 8.5. Water clarity or transparency in Horseshoe Lake averaged only 0.5 meters in May and 2.0 meters in July.

Iron content in the lakes varies above and below levels found in nearby streams. The degree of hardness of lake water is generally less than that of the streams (Defense Mapping Agency 1978, as cited in USARAK 1999). Many small lakes and wetlands in the northwestern portion of YTA cover approximately 500 acres. No physical data or water quality data are available for these lakes (USARAK 2004).

3.12.3.4.2.2 Donnelly Training Area

Lakes are abundant within DTA, covering over 8,700 acres, but information on the quality of water within them is limited (USARAK 2004). ADFG manages several lakes

within DTAE and DTAW for recreational fishing and stocks these lakes with sport fish. Bolio Lake is the largest of these at about 2.5 miles long. ADFG collects water quality data intermittently on lakes within DTA.

Mean temperatures in the lakes of DTA ranged from 35 ºF to 64 ºF, with the minimums occurring in March and maximums in July and August, following seasonal weather trends. The pH varied widely in the lakes of DTA—from 5.7 to 9.9. The higher pH values were observed in August and September, which is typically the period of higher primary productivity. Alkalinity concentrations also varied widely between the lakes within DTA, with means ranging from 4.4 to 59.7 mg/L as $CaCO_3$.

3.12.4 GROUNDWATER

3.12.4.1 Primary Groundwater Source Areas

3.12.4.1.1 Yukon Training Area

Groundwater exists in variable supply on YTA. Local groundwater conditions are controlled by topography, water-bearing characteristics of the source, and the distribution of permafrost. There are three distinct groundwater source areas on YTA: the Tanana-Chena Rivers floodplain, the valley bottoms of creeks within central YTA, and the upland hills area (USARAK 1999). Regionally, groundwater migrates northwestward, similar to the flow direction of the Tanana and Chena Rivers (USARAK 1999). Table 3.12-3 describes the groundwater source areas within YTA.

Table 3.12-3. General Description of Groundwater Source Areas at YTA

Parameter	Tanana-Chena Rivers Floodplain	Creek Valley Bottoms	Upland Hills
Quantity	Very Large—2.35 to 23.50 cfs	Moderate to Large—0.0235 to 0.235 cfs	Small—0.00235 to 0.0235 cfs
Yield	4.5 to 6.7 cfs	0.17 to 0.45 cfs	0.0035 to 0.021 cfs
Aquifer Description	Lenses of water-bearing river sands and gravels under alluvial silt fans.	Stream sorted gravel in major upland stream valleys, overlain by organic silt.	Fractures and joints in crystalline rocks.
Aquifer Depth	Alluvial fill—9.8 to 656.2 feet	Gravel fill—32.8 to 328.1 feet	Depth unknown

Parameter	Tanana-Chena Rivers Floodplain	Creek Valley Bottoms	Upland Hills
Depth to Water Table	9.8 to 26.2 feet	Water table beneath permafrost. Depth unknown.	98.4 to 196.9 feet
Quality	Poor—high iron and hardness. High potential for contamination of water above permafrost.	Very Poor—high organic content. Better quality from valley fill.	Good to Very Good—low iron content.
Development Potential	Excellent aquifer. Wells can be drilled almost anywhere. Wells are generally less than 98.4 feet deep.	Permafrost may cause access difficulties. Valley muck prevents access to some training areas.	Sources difficult to find.

Source: Defense Mapping Agency 1978, as cited in USARAK 1999.

The Tanana-Chena rivers floodplain groundwater source area covers the northwestern part of YTA. The aquifers in this region are characterized by layers and lenticular deposits of alluvial silt, sand, and gravel. This, in combination with limited variation in topography and moderate permafrost, allows for high permeability and rapid recharge rates (USARAK 2004). The Tanana-Chena rivers floodplain is the highest quality groundwater source on YTA due to the shallow water table (USARAK 2004). While YTA is not situated directly downgradient of any glaciers, glacial recharge may be responsible for a substantial amount of the aquifer flow in the Tanana River watershed, and thus may be contributing to groundwater in YTA (Liljedahl et al. 2017, Callegary et al. 2013).

The creek valley bottoms groundwater source area is found throughout the central portion of YTA. This aquifer is characterized by unfrozen gravel deposits just above the bedrock (USARAK 2004). Recharge rates within the valley bottoms are slow due to the high organic content in the soil and localized permafrost (USARAK 2004).

The upland hills groundwater source area is distributed throughout most of YTA, with greater concentrations in the central and eastern portions. This region is characterized by well-drained topography with unfrozen silt soils. The topography and the fast drainage rates in the silt result in slow recharge rates and thus reduce the potential water yield (USARAK 2004). The presence of permafrost on north-facing slopes limits groundwater availability within those areas of YTA.

3.12.4.1.2 Donnelly Training Area

Groundwater in DTA is under both confined and unconfined conditions, determined by analyses of a series of wells in the area (Wilcox 1980). The aquifer is recharged by losses from glacier-fed streams and by infiltration of precipitation from the Alaska Range in the late spring and early summer. Jarvis Creek is perched above the aquifer and loses water to it through its streambed. Farther north, the Tanana River contributes to groundwater recharge through its streambed. To the east, the Gerstle River has a losing reach where the river flows onto an alluvial fan (USARAK 1999). Measurement of groundwater discharge in 1957 found that large quantities of water are lost from these streams to the aquifer during the summer. As most of the streams that recharge the aquifers originate from glacial meltwater, there may be future impacts on recharge as climate change continues to reduce glacier extents (Liljedahl et al. 2017).

Recharge from the Delta River groundwater flows northeast from the Alaska Range toward the Tanana River. Substantial infiltration of groundwater takes place, with the presence of thick deposits of permeable gravel sediments in the alluvial fans and floodplains. In general, the permafrost does not extend into the saturated zone and typically does not act as a confined layer. The aquifer could be locally confined by silty sediments, and horizontal flows could be constricted by the presence of permafrost (USACE CRREL 2016a).

The aquifer system underlying DTAE is classified as a single aquifer with varying local confinement (USARAK 2004). Silty sediments and glacial till may be the source of local confinement. Well logs within DTA indicate that permafrost does not generally extend into the saturated zone and usually does not act as a confining layer (USARAK 1999).

There is little specific information on groundwater for DTAW due to the remoteness of the area. As a result, aquifer characteristics and groundwater occurrence, recharge, and discharge within DTAW are inferred from DTAE groundwater system characteristics. This is reasonable due to the similar placement within the Tanana

River watershed, and the similar positioning of both areas downgradient of the Alaska Range.

The portions of DTAW with the greatest groundwater storage potential are the floodplain alluvium along the Delta River, Little Delta River, and Delta Creek, and the broad alluvial fans extending along the north flanks of the Alaska Range (USARAK 1999). Groundwater storage potential is greatest in floodplain alluvium and broad alluvial fans due to the extensive saturated thickness and abundant recharge capacity of the unconsolidated alluvial deposits (USARAK 2004). Similar to DTAE, aquifers are recharged from glacial surface streams and small amounts of infiltrated precipitation (USARAK 2004).

3.12.4.2 Current Management

Every year there are repetitive munitions-related activities and training exercises conducted on the withdrawn lands. As a result, training ranges may be a source of contamination to groundwater, surface water or soil. Munition constituents often include metals (antimony, arsenic, copper, lead, and zinc), explosives (RDX, HMX, TNT, DNT), and propellants (NG and 2,4-DNT). The potential for these constituents to move through the soil and groundwater depends on the properties of both the constituent itself and the environmental characteristics at a given site. In coordination with CRREL, the Army has implemented the ORAP to perform groundwater testing in and around ranges within DTA for the presence of energetic compounds, including explosives, fuels, propellants, and metals commonly used on Army live-fire training ranges. The Army and CRREL also monitor groundwater levels in the training areas and surrounding areas to determine if there is any associated risk of energetic compounds or metals leaching to the subsurface via groundwater (USACE CRREL 2016a).

3.12.4.3 Groundwater Quality

In general, the chemical quality of groundwater reflects its geologic environment. Groundwater quality on the withdrawn lands is divided into three general areas based on geologic regime:

- Wells drilled along the boundaries of the Tanana Basin, including the southern portion of DTA along the northern flanks of the Alaska Range and the uplands of YTA, are typically high in magnesium bicarbonate or magnesium sulfate.
- Wells in the alluvial valleys of DTA have water that is low in iron and exhibits moderate hardness. Groundwater quality in this area is similar to the streams that flow across the alluvial fans. This area is the largest source of good quality water within the Tanana River Basin.
- Wells located in the organic-rich sediments of floodplains, terraces, and valley fills, including the uplands of YTA, are low in sulfate and moderate to high in hardness and iron.

Chloride and fluoride concentrations are low throughout the withdrawn lands. Overall, groundwater temperatures stay relatively constant; values are less than 40 ºF and usually range from 32 ºF to 34 ºF (Anderson 1970).

Levels of arsenic greater than 10 parts per billion, the current EPA drinking water standard, have been documented in many areas around Fairbanks. Naturally occurring underground arsenic-rich zones, usually as veins or scattered disseminations, are the source of the arsenic in the groundwater (Alaska Division of Geological & Geophysical Surveys 2018).

3.12.4.3.1 Yukon Training Area

No groundwater monitoring wells have been drilled on YTA. As a result, an estimate of groundwater quality on YTA must be made based on information from groundwater production wells located on the withdrawn lands and in the surrounding area.

One high volume well installed at Lower Winter Camp in YTA is operated by the Digital Multi-Purpose Training Range Operations Center. Testing results from this

well collected in 2013 indicate that background levels of arsenic, manganese, and iron were elevated above the MCL set by EPA. Results from this same sampling event showed that nitrates, calcium, and magnesium were either not detected or below the MCL. Total coliform and E. coli were absent from this sampling event (ADNR 2013).

Groundwater was evaluated at YTA during the 2012 ORAP Phase II sampling. Samples were collected from five existing supply wells and one groundwater-fed lake (Manchu Lake). These samples were evaluated for MCOC, including explosives, perchlorate, and metals. No explosives or perchlorate were detected in the results, and metals were less than groundwater screening levels with associated levels of uncertainty (U.S. Army 2014).

Historical water quality data for groundwater wells in the vicinity of YTA were reported in the LEIS for the previous land withdrawal (USARAK 1999). Iron was the only measured parameter in the historical data that exceeded state water quality standards at the surrogate sites, where sampling indicated higher concentrations than Alaska's recommended secondary drinking water standard of 0.3 mg/L. Sampled concentrations ranged from 7.11 mg/L to 25.0 mg/L. Sodium, sulfate, nitrate, chloride, and fluoride were all within Alaska state standards (USARAK 1999 and USARAK 2004). Dissolved solids ranged from 135 mg/L at Well G-14, to 429 mg/L at Well G-16, which was below the standard of 500 mg/L. The concentrations of sodium, sulfate, chloride, fluoride, and nitrate were all below their set standards (USARAK 2004).

3.12.4.3.2 Donnelly Training Areas East and West

Human inhabitation near DTA is sparse. As a result, few wells have been drilled within the withdrawn land and groundwater quality data are limited to areas in the immediate vicinity of the Fort Greely main post. Up until recent efforts to monitor the BAX, most of the available groundwater quality data were collected from the early 1950s through the 1970s. Some data were collected in 1990 from the main post area (USARAK 1999). These data, although old, provide a reasonable estimate of the region's natural groundwater quality. Some groundwater wells drilled within the Fort

Greely main post area were drilled in response to specific chemical spills or hazardous materials operations. The limited number of groundwater wells that have been drilled on DTA are specifically to monitor for and measure explosive contaminants. Limited groundwater quality data are available for the impact areas.

According to limited available data, DTA groundwater quality is good (USARAK 2004). All of the water quality parameters measured were below the concentrations recommended by the Alaska Drinking Water Standards (18 AAC 80) as listed in Appendix 5.0 (USARAK 2004).

In 2009, six groundwater wells were installed at the BAX to monitor groundwater (USACE CRREL 2016a). All results for energetic compounds in groundwater samples were below detection concentrations (NG, 1,3-DNB, 2,4-DNT, 2,6-DNT, 1,3,5-TNB, 2,4,6-TNT, RDX, 4-An-DNT, Tetryl, and HMX). This indicates that migration of any energetic compounds present in the soil of the BAX was minimal within DTA. The study concluded that based on these findings, any migration of energetic compounds into local drinking water sources or bodies of water would be negligible (USACE CRREL 2016a). Antimony was below detection in all groundwater samples except for one; this single sample had a concentration of 0.6 µg/L, which is an order of magnitude below EPA's MCL of six µg/L. Arsenic concentrations were below detection in all the monitoring wells except one, which had concentrations ranging from 0.30 µg/L to 1.5 µg/L; these values fall below EPA's MCL of 10 µg/L for arsenic. Copper concentrations in monitoring wells were below the MCL set by EPA (1,300 µg/L). Lead concentrations in the six groundwater monitoring wells were all below detection limit. All samples collected in the monitoring wells had zinc concentrations above the detection limit but well below the National Secondary Drinking Water Regulation standard of 5,000 µg/L (USACE CRREL 2016a).

Five groundwater wells on the BAX were monitored as part of munition constituent research on Army Training Ranges conducted by CRREL. These wells had water depths of approximately two to 30 meters below the ground surface. None of these wells exhibited reproducible energetics compound concentrations above reporting limits from 2012 to 2015 (USACE CRREL 2016a). Arsenic has been detected at

levels slightly above the MCL, which could be a result of the high background levels of arsenic in this area (Douglas et al. 2013).

Groundwater was evaluated at DTA during the 2012 ORAP Phase II sampling. Samples were collected from existing potable groundwater production wells on Fort Greely, which is directly downgradient of operational ranges on the withdrawn lands. Samples were tested for explosives, uranium, and total dissolved solids (U.S. Army 2012). Results from this sampling effort are unavailable for explosives and total dissolved solids. The uranium ratios found in sample results are consistent with naturally occurring uranium (U.S. Army IMC 2016).

3.13 BIOLOGICAL RESOURCES

Biological resources include vegetation, wildlife, fish, invasive species, federally threatened or endangered species, and other species of concern. This section also addresses forest resources, as forest management actions directly affect biological resources.

The Army manages the natural resources described in this section according to the policies and procedures established in the most recent (2020) update to the INRMP (USAG Alaska 2020a). The INRMP provides the foundation for installation-specific natural resources conservation and protection planning and implementation. The framework for the overall Army Environmental Management System is addressed by Army Regulation 200-1.

3.13.1 REGION OF INFLUENCE

The geographic scope of the affected environment and analysis includes the land withdrawn from public use for military purposes, which includes YTA, DTAE, and DTAW (869,862 acres total).

The climate of interior Alaska is characterized by extreme temperature variations with low amounts of precipitation compared to coastal areas. During much of the year, mountain ranges on three sides effectively block the flow of warm, moist marine air to the withdrawn land. The terrain is mostly characterized by flat lowlands of the Tanana

River drainage, but mountainous terrain up to approximately 6,150 feet above sea level is also found within the withdrawn lands.

3.13.2 LAWS AND REGULATIONS

Numerous laws, EOs, and DoD policies address natural resources on the withdrawn lands. Some of the primary regulations are listed in Table 3.13-1.

Table 3.13-1. Biological Resources Laws and Regulations

Regulation or Authority	Description
Fish and Wildlife Conservation Act of 1980 (PL 96-366; 16 USC §2901 et seq.)	• Authorizes financial and technical assistance to encourage all federal departments and agencies to implement conservation plans and programs for nongame fish and wildlife including migratory birds threatened with extinction.
Bald and Golden Eagle Protection Act of 1940 (P L 87-884; 16 USC §668a-d).	• Provides for the protection of the bald eagle and golden eagle and prohibits the taking, possession and commerce of these birds.
Migratory Bird Treaty Act of 1918 (PL 65-186; 16 USC §703 et seq.)	• Helps to ensure the sustainability of all protected migratory bird species by prohibiting the take of protected migratory bird species without prior U.S. Fish and Wildlife Service (USFWS) authorization and provides enforcement authorization and violation penalties. • Serves as an international agreement between the United States, Canada, and Mexico that protects designated (native) species of birds. • Controls the taking of these birds and their nests, eggs, parts, or products. • USFWS has regulatory authority over the Migratory Bird Treaty Act.
EO 13112, Safeguarding the Nation from the Impacts of Invasive Species	• Establishes the National Invasive Species Council as part of the DOI • Directs all federal agencies whose actions may affect the status on invasive species to develop invasive species action plans, one of which has been created for the withdrawn lands (USAG Alaska 2018).
The Endangered Species Act of 1973, as amended (16 USC §1531 et seq.)	• Provides for the protection and conservation of threatened and endangered plants, animals, and their habitats. • Requires federal agencies, through consultation with NOAA Fisheries and USFWS, to ensure that actions they carry out, fund, or authorize are not likely to jeopardize the continued existence of any species or destroy or otherwise adversely modify their designated critical habitat. • Prohibits any action which may lead to the “take” of any listed fish and wildlife.

Regulation or Authority	Description
The Clean Water Act (CWA) of 1972; as amended (33 USC §1251 et seq.)	• Regulates the discharge of pollutants into Waters of the United States (WOTUS) and is the primary federal mechanism protecting streams, lakes, and wetlands from degradation. • Section 404 of the CWA allows permitting of the discharge of dredge or fill material into WOTUS including wetlands. Any person, tribe, or government agency planning to work in WOTUS must obtain a permit from the USACE, the lead agency, prior to commencing work. An individual permit is issued when significant impacts are anticipated. As the co-lead agency, EPA has veto power for any permits issued which may be detrimental to wetland resources. • Other pertinent CWA sections are discussed in Section 3.14.2.
EO 11990, Protection of Wetlands	• Requires federal agencies, including military departments, to consider the direct and indirect effects of their activities on wetlands and floodplains through the NEPA process.
Rivers and Harbors Act of 1899; as amended (33 USC 401 et seq.), Section 10	• Requires authorization from the USACE for the construction of any structure in or over any navigable WOTUS, the excavation and dredging or deposition of material, or any obstruction of, or alteration to, a navigable water. • Work outside the limits of navigable waters may require a Section 10 permit if the structure or work affects the course, location, condition, or capacity of the water body.
Sikes Act (16 USC 670)	• Requires the Army to prepare and implement an INRMP in cooperation with USFWS and ADFG to facilitate effective planning, development, maintenance, and coordination of wildlife, fish, and game conservation and rehabilitation on military lands.

3.13.3 VEGETATIVE RESOURCES

Information on the complex flora and vegetation associations and their spatial distribution within the withdrawn lands has been gathered from past planning-level surveys, including ecological land surveys and supporting floristic surveys.

Vegetation patterns found in interior Alaska are the result of varied, interrelated, and sometimes dynamic land characteristics, including hydrology, geomorphology, slope, aspect, permafrost, and fire (Jorgenson et al. 1999, 2001). Vegetation varies greatly between north-facing and south-facing slopes (aspect) due to the dry continental climate and low angle of the sun much of the year (Racine et al. 1997). The presence or absence of permafrost, closely related to slope and aspect, influences the distribution of vegetation types. Vegetation types found within the withdrawn lands

include forests, grasslands, scrub-shrub lands, treeless bogs, fens, and moist alpine tundra.

3.13.3.1 Vegetation Types

Management of large tracts of land is improved through the use of the hierarchical, multiple-scale Ecological Land Classification System. An ecological land survey of the withdrawn lands differentiates and maps ecosystems via photo interpretation at three spatial scales (Jorgenson et al. 1999, 2001). Maps created with the ecological land survey depict ecodistricts, ecosubdistricts, and ecotypes. The vegetation type component for the ecosystem classification was initially classified to Level IV of the hierarchical Alaska Vegetation Classification (AVC) using data collected from ecological land survey sampling locations (Viereck et al. 1992).

The AVC defines the mapping units for vegetation communities on withdrawn lands as they are mapped or updated every five years. Vegetation communities must be remapped after events that disturb vegetation such as flooding, wildfires, or clearing activities (USAG Alaska 2020a). Most of the land in YTA consists of closed broadleaf, needleleaf and mixed forests; DTAW is dominantly scrub; and DTAE is mainly a mixture of open woodland and scrub (Figure 3.13-1, Figure 3.13-2, and Table 3.13-2).

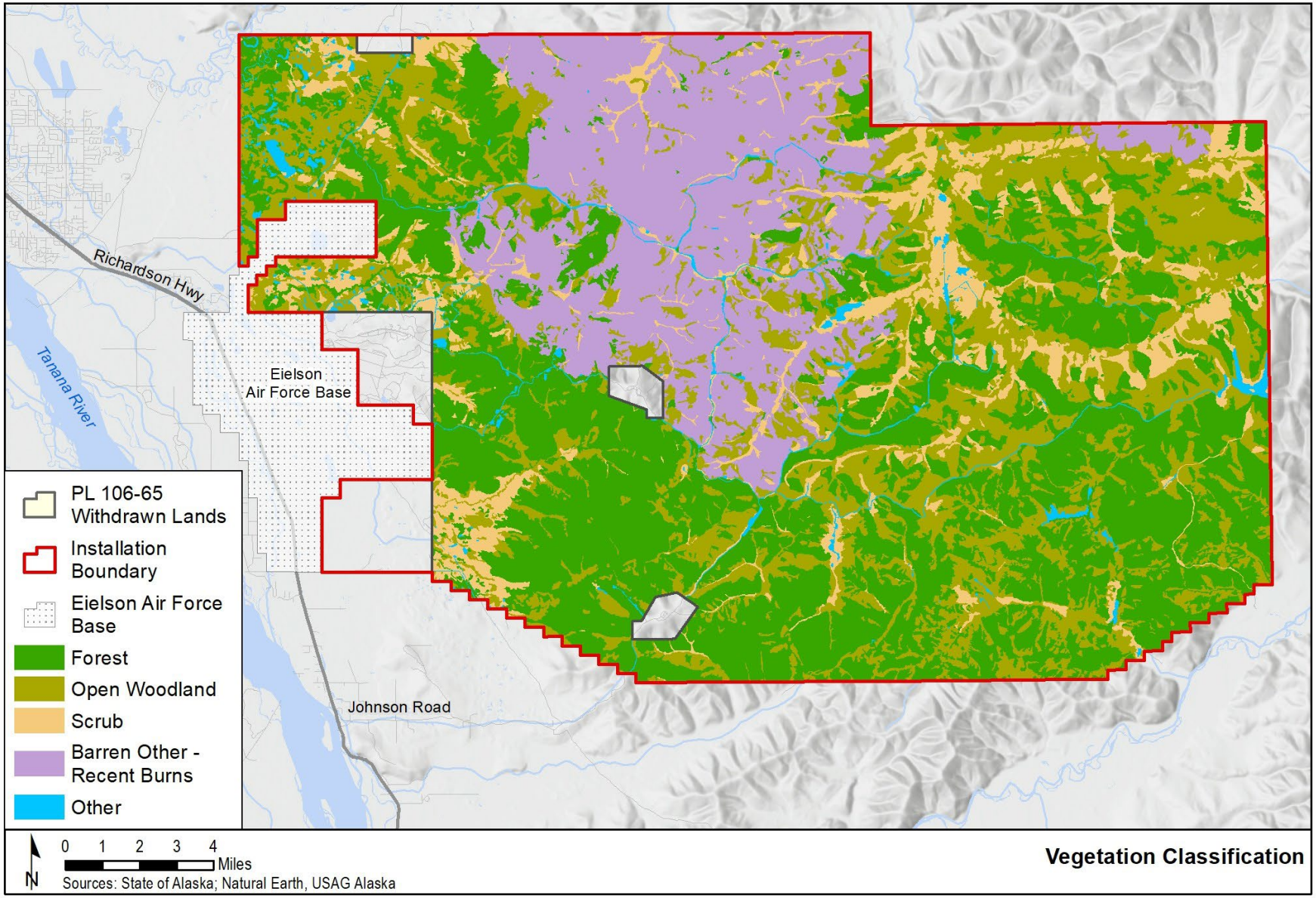


Figure 3.13-1. Yukon Training Area—Alaska Vegetation Classification (AVC, Level II)

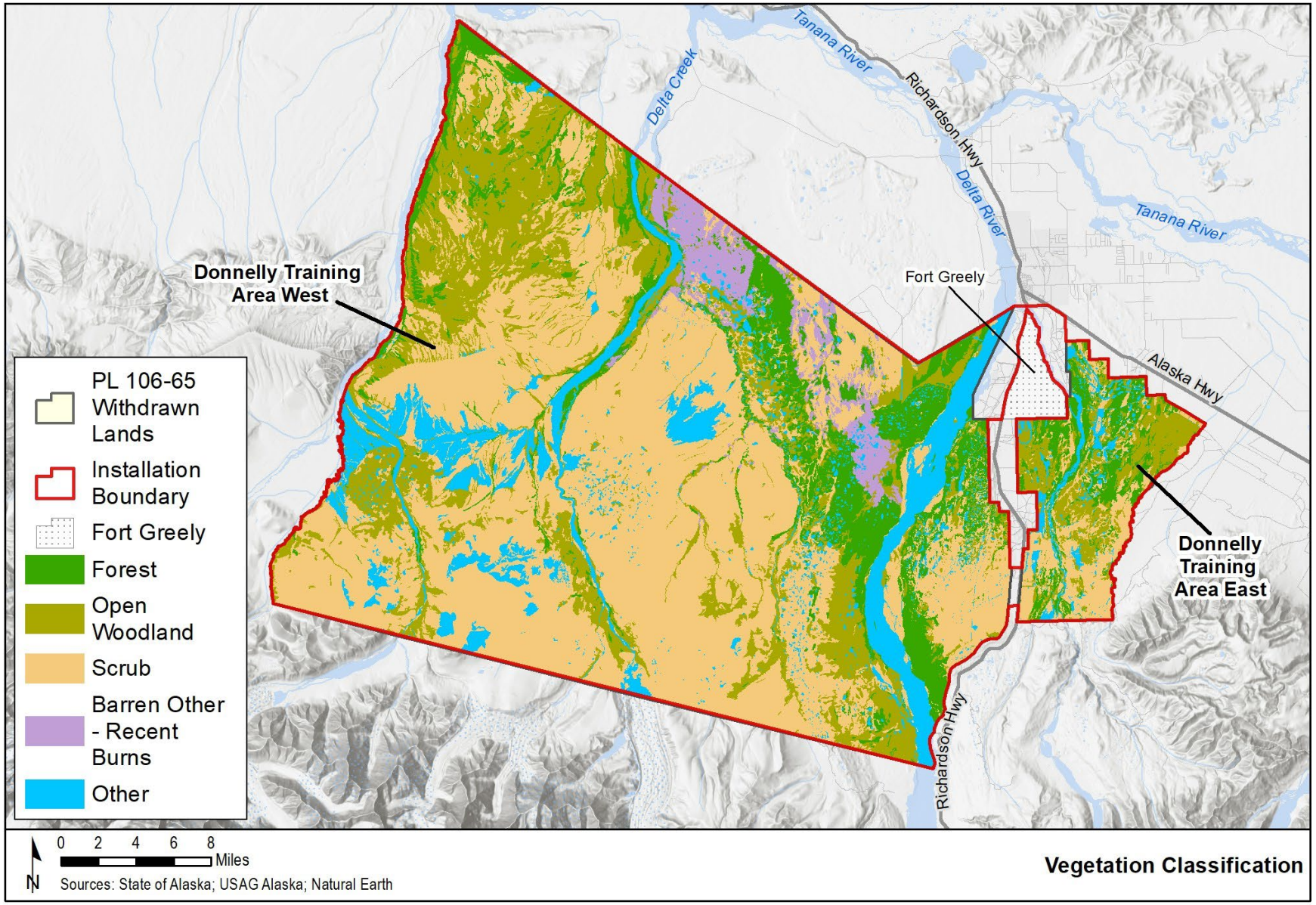


Figure 3.13-2. DTAE and DTAW—Alaska Vegetation Classification (AVC, Level II)

Table 3.13-2. Mapped Vegetation Types within Withdrawn Lands

Mapped Vegetation Community (AVC Level II)	YTA Area (Acres)	DTAW Area (Acres)	DTAE Area (Acres)	Description of Growth Form (AVC Level III)	Dominant Species
Forest	99,465	69,312	14,660	Closed (60-100% canopy) broadleaf forests Closed mixed forests Closed needleleaf forests	Alaska paper birch (*Betula neoalaskana*) Balsam poplar (*Populus balsamifera*) Quaking aspen (*Populus tremuloides*) Black spruce (*Picea mariana*) White spruce (*Picea glauca*) Tamarack (*Larix laricina*)
Open Woodland	70,862	120,212	17,004	Open (25-59% canopy) broadleaf forests Open mixed forests Open needleleaf forests Woodland (10-24% canopy) broadleaf forest Woodland needleleaf forest Woodland dwarf tree forest Woodland mixed forest	Paper birch Balsam poplar Quaking aspen Black spruce White spruce Tamarack
Scrub	25,204	297,433	16,647	Open (25-75% cover) low scrub Open tall scrub Closed (76-100% canopy) low scrub Closed tall scrub Open (25-59% canopy) dwarf tree forest Closed (60-100% canopy) dwarf tree forest	Alder (*Alnus* spp.) Willow (*Salix* spp.) Shrub birch (*Betula nana, Betula glandulosa*) Black spruce Various Ericaceous shrub (*Vaccinium* spp., *Rhododendron* spp., other)
Barren Other—Recent Burns	50,070	21,518	0	Recently burned forests	Pioneering species Species varied based on geomorphology, slope, aspect, hydrology, permafrost, and fire regime
Other	4,810	65,116	7,624	Herbaceous tundra Marshes Bogs Fens	Bluejoint reedgrass (*Calamagrostis canadensis*) Cottongrass (*Eriophorum* spp.) Sedge (*Carex* spp.) Horsetail (*Equisetum* spp.) Fireweed (*Chamerion angustifolium*) Dwarf fireweed (*Chamerion latifolium*)

The Army's vegetation management strategy on the withdrawn lands is intended to encourage healthy and diverse ecosystems, provide viable and adequate fish and wildlife habitats, and manage and reduce the risk of catastrophic wildfires while maintaining realistic military training scenarios (USAG Alaska 2020a).

3.13.4 FOREST MANAGEMENT

Under Army management, timber harvests have diminished relative to harvest levels from the early 20th century. This has allowed the forests to mature, especially in areas where fires have been minimized, and has steadily improved the capability of the land to produce sustainable forest products. Since the first forest management plan was prepared in 2001, implementation of forest management practices in withdrawn lands has continued. One hundred permanent sample plots are established in YTA and sixty permanent sample plots are established in DTA. Plots utilize the U.S. Forest Service Forest Inventory and Analysis survey protocol and are remeasured every five to 10 years. The Army's Forest Management Plan, included in the 2020 INRMP, is intended to sustain healthy, productive, and biologically diverse forests and woodland ecosystems while fostering increasingly varied military training opportunities (USAG Alaska 2020a).

3.13.4.1 Responsibility

The sustainable sale of forest products from the withdrawn lands is BLM's responsibility. Such sales require the Army's consent and compliance with 43 CFR 5400—Sales of Forest Products and project-level environmental assessment through the NEPA process. The Army issues firewood permits and harvests additional timber annually to operate a firewood and Christmas tree sales program within the allowable harvest limits of the State of Alaska Forest Practices Act. Forest management is aided by BLM Alaska Fire Service and SDSWCD, who conduct thinning operations to help reduce the fuel loads for wildfire management and improve the health of maturing forests.

3.13.4.2 Forestry Areas

Timber harvest, clearing, thinning, and salvage operations on the withdrawn lands are summarized in Table 3.13-3 and Table 3.13-4. Forest management practices are carried out to support military maneuver training, military travel corridors, and wildfire hazard fuel reduction, with a goal of lowering wildfire potential (see Section 3.14.4).

Table 3.13-3. Timber Harvests in YTA

Year	Location	Area (Acres)	Harvest Type	Sale Reason
2019	TA 302 Tire Village Track 4	52.30	Salvage	ITAM Bivouac and Habitat Improvement
2019	TA 302 Tire Village Track 5	59.13	Salvage	ITAM Bivouac and Habitat Improvement
2019	TA 302 Tire Village Unit C, D, 8-18	12.56	Salvage	ITAM Bivouac and Habitat Improvement
2019	TA 302 Tire Village Unit 1	1.06	Salvage	ITAM Bivouac and Habitat Improvement
2019	TA 302 Tire Village Unit 2	1.04	Salvage	ITAM Bivouac and Habitat Improvement
2019	TA 302 Tire Village Unit B, 6, 7	3.99	Salvage	ITAM Bivouac and Habitat Improvement
2019	TA 302 Tire Village Unit A, 4	3.23	Salvage	ITAM Bivouac and Habitat Improvement
2019	TA 302 Tire Village Unit 3	0.62	Salvage	ITAM Bivouac and Habitat Improvement
2019	TA 302 Tire Village Unit (TBD)	0.62	Salvage	ITAM Bivouac and Habitat Improvement
2011	TA 307 Infantry Platoon Battle Course Obj. E & F	15.44[1]	Thinning	Hazard Tree Removal

[1]Harvest extended beyond PL 106-65 lands in YTA; total area for harvest = 16.42 acres.

Source: USAG Alaska IGI&S 2021

Table 3.13-4. Timber Harvests in DTAE and DTAW

Year	Location	Area (Acres)	Harvest Type	Sale Reason
DTAW				
2016	Willis Range Complex Lamkin Range	5.14	Thinning	Fuels Reduction, Snags
DTAE				
2018	Buffalo Drop Zone Unit 2	134.90	Clear Cut	Buffalo Drop Zone Expansion
2018	Buffalo Drop Zone Unit 1	84.10	Clear Cut	Buffalo Drop Zone Expansion

Source: USAG Alaska IGI&S 2021

3.13.5 WILDLIFE

The withdrawn lands support a diverse range of wildlife species, and the ecosystems have maintained their ability to support hunting and trapping. Many species are covered by the Army's natural resource conservation and management programs, and the most intensively managed include moose (*Alces alces*), black bear (*Ursus americanus*), and grouse (*Phasianidae* spp.) (USAG Alaska 2020a).

3.13.5.1 Management Agencies and Responsibility

The Army manages wildlife habitats in cooperation with ADFG and the U.S. Fish and Wildlife Service (USFWS). As the state agency managing Alaska's natural resources, including all aquatic and terrestrial wildlife species, ADFG coordinates the State's conservation approach via the framework and management strategies established in Alaska's *Wildlife Action Plan.* The current plan was adopted in 2015; unless emerging issues require amendments to the current plan, the next major revision will occur in 2025 (ADFG 2015).

ADFG manages game species, monitors their populations, and establishes hunting bag limits. The Army works cooperatively with ADFG to protect and manage habitat, limit the interactions between game species and military training, and maintain a current inventory of game species through monitoring efforts (USAG Alaska 2020a). ADFG organizes land into GMUs to manage discrete game populations and hunting pressure on those populations. The GMU within ADFG Region 3 (Interior) encompassing YTA is 20B. GMUs applicable to DTAE and DTAW include 20A and 20D (Figure 3.13-3). A full map, descriptions, regulations, and restrictions (controlled use, management areas and refuges) for GMU 20 are available from ADFG at: https://www.adfg.alaska.gov/index.cfm?adfg=huntingmaps.gmuinfo&gmu=20. Up-to-date information for closures within the withdrawn lands is maintained by the Army at: https://usartrak.isportsman.net/.

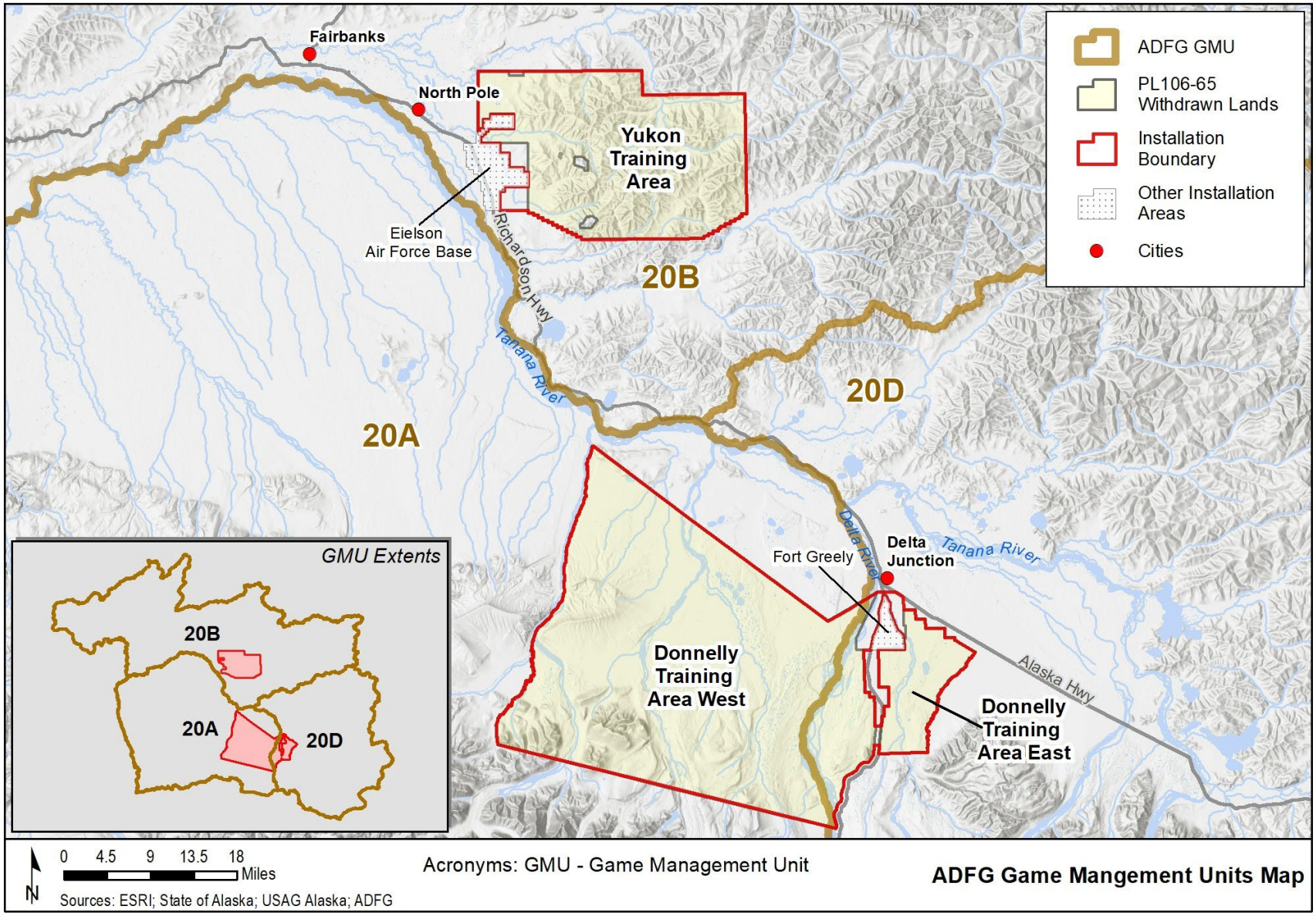


Figure 3.13-3. ADFG Game Management Units

Big game species such as moose, bear, and wolves are abundant across interior Alaska and the withdrawn lands. Army management is accomplished through permits (iSportsman) allowing state-licensed hunters and trappers access to the withdrawn lands and assisted by accommodating ADFG access for monitoring activities.

3.13.5.2 High Use Areas and Sensitive Habitats

High value habitat for black bear and moose is present in YTA. DTAE and DTAW were determined by the state to have sufficient habitat to support wildlife resources. Natural habitat features are maintained wherever feasible on the withdrawn lands.

3.13.5.3 Game Species

Game species include those species that are hunted, or may be hunted, for subsistence or sport. Big game species include moose, grizzly bear *(Ursus arctos)*, black bear *(Ursus americanus)*, caribou *(Rangifer tarandus)*, plains bison *(Bison bison),* Dall sheep *(Ovis dalli dalli),* and grey wolves *(Canis lupus).* Small game species include upland birds and small mammals. All game species are described in greater detail in Appendix 6.0.

3.13.5.4 Small Mammal (Non-Game) Species

Small mammal (non-game) species such as the little brown bat (*Myotis lucifugus*), collared pika (*Ochotona collaris*), Arctic ground squirrel (*Spermophilus parryii*), American red squirrel (*Tamiasciurus hudsonicus*), and red fox (*Vulpes vulpes*) may be found within the withdrawn lands. Non-game management is incidental to management of other species. Monitoring data are used as indicators of ecosystem health. Planning-level fauna surveys, including mapped occurrences and habitat distribution and management areas, are ongoing and updated at least every five years (USAG Alaska 2020a).

The little brown bat, the only bat species known to inhabit interior Alaska and confirmed present on the withdrawn lands, has the potential to become listed under the federal Endangered Species Act (ESA) due to population decline, presumably

caused by the fungal disease called white-nose syndrome (Welch et al. 2020) (Jochum et al. 2021b). In anticipation of potential future critical habitat designations, the Army recognized the importance of proactively working since 2014 to gather more information on, and develop a conservation plan for, this species for inclusion in the USAG Alaska INRMP.

The most recent (2015 to 2019) bat surveys at FWA included western portions of YTA, DTAE and DTAW, and confirmed little brown bat usage of habitats in these training areas (Welch et al. 2020) (Jochum et al. 2021b). Modeled bat activity and habitat variables indicated bat activity was highest over water and lowest in mixed and deciduous forests, especially when those forests were distant from water and in closed canopy cover (greater than 75 percent). The models indicated that the forest and cover condition preferred by bats are low-moderate canopy coniferous forests and open habitats (Welch et al. 2020). These bats use trees and rocky areas to roost as well as man-made structures on and near withdrawn training lands (Jochum et al. 2021b).

3.13.5.5 Amphibians

The wood frog (*Rana sylvestris*) is the only amphibian species in interior Alaska and is common in wetland areas within the withdrawn lands. Amphibian studies have been conducted incidentally to other surveys and management actions and in specific studies on this species. Audio and visual wood frog surveys and environmental DNA (eDNA) collection have been conducted in the withdrawn lands by the University of Alaska, Anchorage. These studies confirm continual use of the area by wood frogs (USAG Alaska 2020a) (Welch et al. 2020).

3.13.5.6 Birds

The North American Breeding Bird Survey has been conducted on DTAE and DTAW since 2000 and YTA since 1982, using established U.S. Geological Survey protocols. Supplemental biannual surveys used for roadless areas utilize the statewide Alaska Landbird Monitoring Survey with standard protocols from the USGS Alaska Science Center. These data are important in helping to understand the short- and long-term

population trends of birds in interior Alaska. Joint effort from military, federal, state, and private institutions is key to this understanding (Welch et al. 2020). Breeding bird surveys are ongoing, and the inventory continues to be updated with data from annual monitoring (USAG Alaska 2020a).

Some commonly recorded species in past bird surveys include but are not limited to Swainson's thrush, dark-eyed junco, American robin, orange-crowned warbler, white-crowned sparrow, yellow-rumped warbler, hermit thrush, varied thrush, alder flycatcher, and Canada jay.

3.13.5.6.1 Migratory Birds

The withdrawn lands lie within the Pacific Flyway, a major waterfowl migration route to and from the interior of Alaska and Canada. Many birds protected under the Migratory Bird Treaty Act use withdrawn training lands as feeding, breeding, or nesting areas. The Army works cooperatively with ADFG and USFWS to monitor migratory bird species and community population trends, protect migratory bird habitat including wetlands, maintain important nesting habitat for swans, monitor sandhill cranes and neotropical migrants to avoid potential conflict with training exercises, and remain in compliance with the Migratory Bird Treaty Act and Sikes Act. Neotropical bird species and their habitats have been documented in studies within YTA, DTAE, and DTAW (Smith and Preston 2018) (Jochum et al. 2021a).

The wetlands along these migration routes are important habitats for many species. Species including cranes, swans, geese, and ducks pass through the vicinity of Delta Junction, DTAE and DTAW. Habitat within the withdrawn lands offers resting and molting areas to many of these birds. These birds are attracted to the rich aquatic habitats, and waterfowl are numerous in floodplains and wetlands within the training lands. Waterfowl surveys in partnership with USFWS are ongoing in portions of withdrawn lands. Waterfowl species recorded in recent 2018-2019 surveys in DTA included greater white-fronted goose (*Anser albifrons*), tundra swan (*Cygnus columbianus*), and sandhill crane (*Antigone canadensis*) among others.

3.13.5.6.2 Sandhill Cranes

Migrating sandhill cranes from the Mid-Continent population utilize habitats in DTA. More than 300,000 cranes pass through the Delta Junction and Fort Greely area annually. Quality wetlands in DTA are stopover points for these migrating birds, with most passing through DTA in the spring (April 27 to May 15) and fall (September 1 to 30). Approximately 48,000 and 38,000 sandhill cranes were recorded within DTA during audiovisual surveys conducted in 2018 and 2019, respectively. The Army monitors sandhill crane resting areas during the spring and fall and may impose restrictions in efforts to minimize disturbance by military activity (USAG Alaska 2020a).

3.13.5.6.3 Raptors

Bald eagles (*Haliaeetus leucocephalus*) are abundant in interior Alaska, and roost and nest within the withdrawn lands. Golden eagles (*Aquila chrysaetos*) also occur, though they are less abundant than bald eagles and occur in areas less frequently disturbed by military operations (USAG Alaska 2020a). The Army maintains an inventory of bald and golden eagle nests that is updated as needed every five years with results from monitoring efforts.

Habitats within the withdrawn land areas that can support nesting bald eagles include forested habitats within one-quarter mile of anadromous water bodies. Potential golden eagle habitat includes all cliff areas below approximately 5,200 feet (Welch et al. 2020).

Helicopter raptor surveys, focused on bald and golden eagle nests, occurred most recently in 2018 within nesting habitats in YTA and DTA. No bald or golden eagle nests were observed in YTA; one bald eagle nest in good condition was observed in DTA, and nine golden eagle nests (three in good condition) were observed in DTA (Welch et al. 2020).

Owl, hawk, falcon, and osprey (*Pandion haliaetus)* nesting locations have been observed and, in some cases, enumerated in withdrawn lands or the immediate vicinity of the withdrawn lands. Raptor nests and raptor occurrences were recorded

during recent 2018 raptor monitoring efforts within and in the immediate vicinity of the training lands, and incidentally within DTA during the 2018 and 2019 surveys of sandhill cranes. Non-eagle raptor species observed included osprey, northern harrier (*Circus cyaneus*), northern goshawk (*Accipiter gentilis*), red-tailed hawk (*Buteo jamaicensis*), gyrfalcon (*Falco rusticolus*), peregrine falcon (*Falco peregrinus*), great grey owl (*Strix nebulosa*) and great horned owl (*Bubo virginianus*) (Welch et al. 2020).

3.13.6 FISH

The withdrawn lands lie within ADFG's Interior Region, Tanana River Management Area for fisheries. The Tanana River drainage is the second largest tributary system of the Yukon River and drains an area of approximately 46,000 square miles. Owing to recent increases in human populations, particularly in the Fairbanks area, habitat modifications due to development are prevalent throughout the drainage, including rock-armored banks, soil erosion, riparian vegetation removal, and unpassable road crossing structures for aquatic organisms (Hander and Legere 2012). Such development has the potential to reduce water quality, water quantity, and quality aquatic habitat.

Aquatic habitats in the withdrawn lands support recreational fishing. Fishing opportunities in some areas have been expanded due to stocking programs (USAG Alaska 2020a). Fishing opportunities are available year-round. Native fish species commonly targeted by anglers in the Tanana River Management Area include Chinook (*Oncorhynchus tshawytscha)* and coho (*O. kisutch)* salmon, Arctic grayling (*Thymallus arcticus),* burbot (*Lota lota*), lake trout (*Salvelinus namaycush),* and northern pike (*Esox lucius*). Though not native to the drainage, rainbow trout (*Oncorhynchus mykiss*) are available to anglers through lake stocking.

3.13.6.1 Management Agencies/Responsibility

ADFG is the state agency managing Alaska's fish and wildlife. The Army cooperates with ADFG and USFWS during actions that may impact fish and aquatic habitats through permitting and frequent communication.

3.13.6.2 Fish Stocking

Opportunities for fishing, especially during winter, would be highly limited in some areas without ADFG's stocking efforts, which reduce fishing pressure on sensitive native stocks and enhance quality of life for the Delta-Greely and Fairbanks communities. The following DTAW lakes are stocked to increase fishing opportunities: Koole, Weasel, Nickel, Chet, J, Ghost, South Twin, North Twin, Doc, Mark, Bolio, Bullwinkle, and Sheefish (Figure 3.13-4). In YTA, Horseshoe Lake and Manchu Lake are stocked (Figure 3.13-5). Commonly stocked fingerling, catchable, and subcatchable species include arctic grayling, rainbow trout, and lake trout.

Access for stocked lakes on withdrawn lands is managed through the iSportsman website. Fishing information for stocked lakes on withdrawn lands is available at https://usartrak.isportsman.net/Fishing.aspx. Location data, access information, stocked species, and most recent stocking dates, can be referenced on ADFG'S Lake Fishing Information webpage for the Delta area at: http://www.adfg.alaska.gov/index.cfm?adfg=fishingSportLakeData.main&StockingAreaID=21.

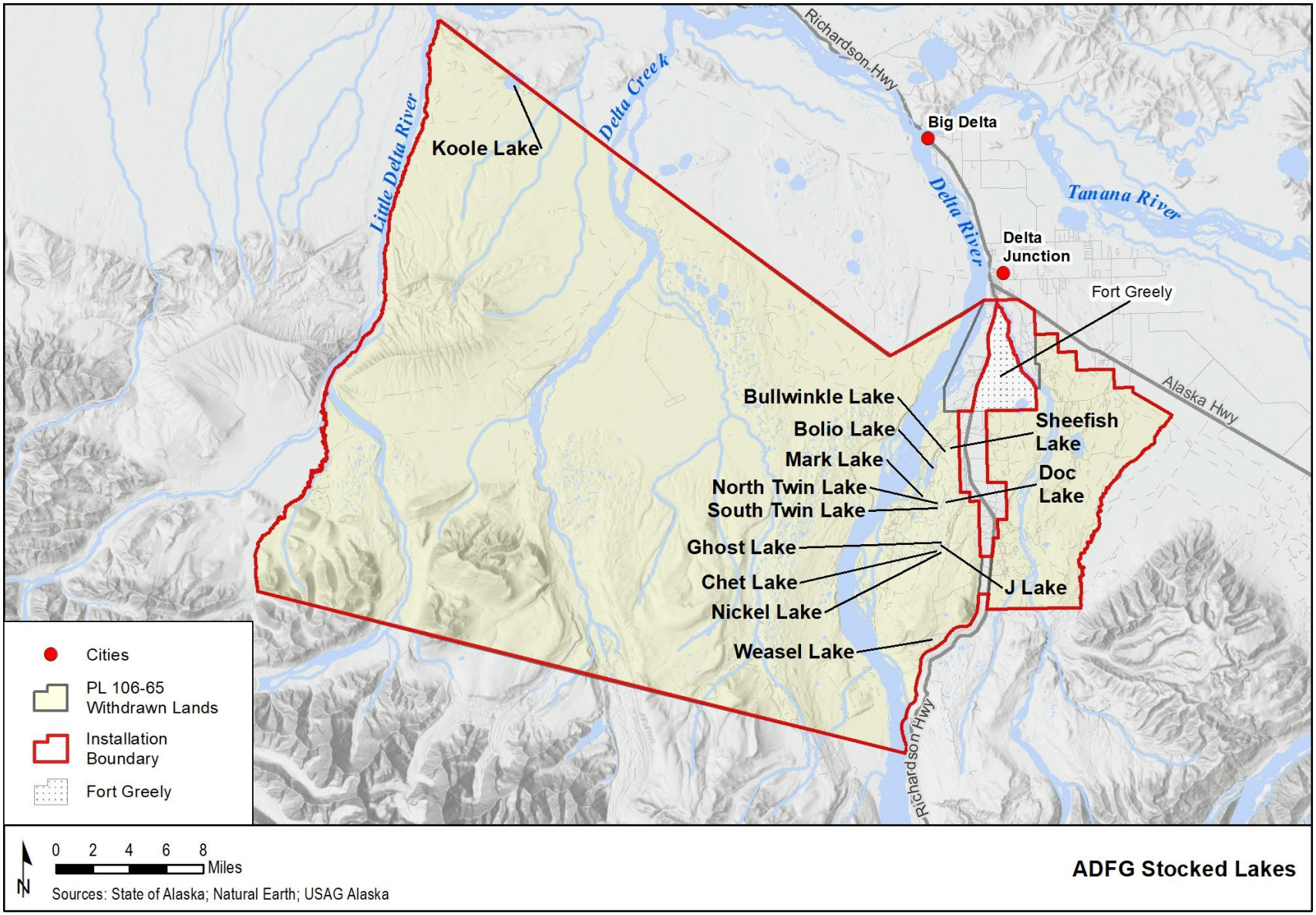


Figure 3.13-4. ADFG Stocked Lakes in Donnelly Training Area

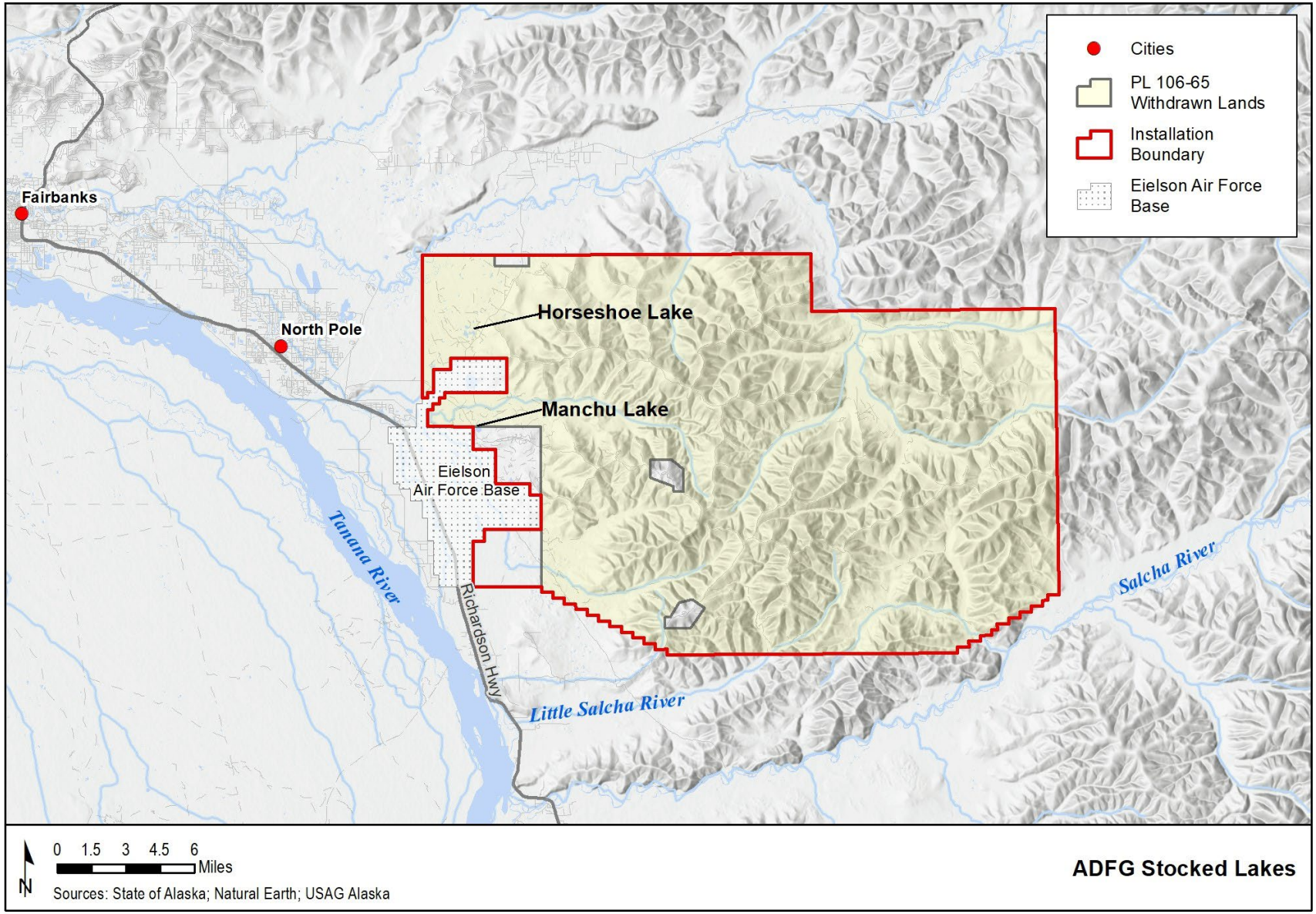


Figure 3.13-5. ADFG Stocked Lakes in Yukon Training Area

3.13.6.3 Wild Fisheries

Fish habitat and presence information is available from ADFG. ADFG maintains both the Alaska Freshwater Fish Inventory, which includes resident fish like the Arctic grayling, and the Anadromous Waters Catalogue (AWC) Alaska Fish Resource Monitor, which is specifically for anadromous species that are vital to Alaska, its ecosystems, and its culture such as Pacific salmonids. The Alaska Freshwater Fish Inventory is available online as a reference source with links for species information and an interactive mapper at: http://www.adfg.alaska.gov/index.cfm?adfg=ffinventory.main. An interactive mapper for the AWC with data links can be accessed at: https://www.adfg.alaska.gov/sf/SARR/AWC/index.cfm?adfg=maps.interactive.

An anadromous fish is a species that spends portions of its life cycle in both freshwater and saltwater and enters freshwater to spawn. The AWC lists streams, rivers, and lakes in Alaska that are determined to be important to salmonid and other anadromous fish species' spawning, rearing, and migration. Such water bodies are afforded protection under Alaska Statutes (AS 16.05.871) and have been known to provide for the various life history stages of anadromous species as seen or collected and identified by a qualified observer (ADFG 2021e). These waters require that a Fish Habitat Permit be issued by ADFG, based on submitted plans and specifications, before any action is taken "to construct a hydraulic project, or use, divert, obstruct, pollute, or change the natural flow or bed of a specified river, lake, or stream..." or "...to use wheeled, tracked, or excavating equipment or log dragging equipment in the bed of a specified river, lake, or stream..." (AS 16.05.871(b)). This includes use of vehicles or equipment in the water body and/or the use of explosives in or near the water body.

River and stream reaches in the withdrawn lands of YTA that are listed and mapped as anadromous waters include the Lower South Fork Chena River (Chinook salmon—spawning and rearing), Beaver Creek (Chinook salmon—spawning, rearing, and migration) near the northern YTA boundary, Ninety-eight Creek (Chinook salmon—rearing and migration) near the southeastern YTA boundary, and Moose

Creek (chum salmon presence) near the western YTA boundary. Though the Little Salcha River and many of its tributaries flow through YTA lands, anadromous fish presence and migration (chum salmon (*O. keta*)) has only been determined in river reaches downstream and outside of the southern YTA boundary (Giefer 2020). No water bodies within DTAW or DTAE have been determined to be anadromous waters, according to the AWC (Giefer 2020).

The Army has identified the need to determine the presence of anadromous fish or resident high-value fish in some rivers as an information gap and priority for the management objective of updating and maintaining planning-level fauna surveys (USAG Alaska 2020a). In 2018 and 2019, the Army commissioned instream fish surveys to evaluate fish species presence within the withdrawn training lands and to supplement data used to periodically update ADFG's Alaska Freshwater Fish Inventory and AWC (Welch et al. 2020). Despite suitable water temperatures, dissolved oxygen, and pH levels, no Pacific salmonids were caught or observed in DTA water bodies. Consequently, DTA was not resampled in 2019, at the discretion of the Army and fisheries biologists (Welch et al. 2020).

Instream surveys were conducted in YTA in August 2018 at sites in Moose, French, and Kanpeeover Creeks. Overall, few fish were observed. Adult chum salmon, slimy sculpin (*Cottus cognatus*), and Arctic grayling were observed or caught in Moose Creek, and Arctic grayling and round whitefish (*Prosopium cylindraceum*) were observed or caught on French Creek. Chinook salmon eDNA was detected in Moose Creek, despite not observing any during electrofishing. Though salmonid presence is known in Moose, Beaver, South Fork Chena, and Ninety-Eight Creeks in YTA, no Pacific salmonids were observed in YTA during the 2019 effort (Welch et al. 2020).

3.13.7 Invasive and Problematic Species

An invasive species, as defined by EO 13112, is a plant or animal that is non-native, resistant to standard control measures, and likely to cause harm to human health, the environment, or the economy. Invasive species are generally introduced into or spread within environments by human actions, such as transportation of vehicles, equipment, goods, or people, and ornamental or non-native plantings in landscaped

areas, land reclamation activities, and restoration actions. In the case of the withdrawn lands, invasive species degrade military training lands, which in turn decreases the quality and increases the cost of training capacity and mission (USAG Alaska 2018). Other non-invasive problematic species that require management are also addressed in this section.

3.13.7.1 Integrated Pest Management

Because invasive species are detrimental to the environment, they require removal or other management. This is done using an Integrated Pest Management (IPM) approach. This approach to pest management minimizes risks to human health, the environment, and economic resources by utilizing a combination of biological, cultural, physical, and chemical tools and methods.

The Army implements the IPM approach at all of its facilities and training lands including the withdrawn lands in Alaska, as described in the FWA Integrated Pest Management Plan (USAG Alaska 2018). The Army's Pest Management Coordinator, designated by the Garrison Commander, oversees the IPM program and maintains, reviews, and updates the Integrated Pest Management Plan annually in coordination with U.S. Army Environmental Command.

3.13.7.2 Invasive and Noxious Plant Species Management

Invasive plants can outcompete native vegetation, and large-scale infestations can change soil chemistry, affect water resources, and alter wildfire regimes (Alaska Committee for Noxious and Invasive Plant Management 2016). Noxious and invasive species are the first priority of pest management work on the training lands. Since invasive plant species are more likely to occur in high use and recently disturbed areas, invasive species surveys are often concentrated in these portions of the withdrawn lands. Protocols to prevent spread of invasive plant species during routine activities, for instance by military convoys (transportation-related vectors) and by training exercises (such as washing debris from equipment and vehicles) continue to be developed and implemented (USAG Alaska 2020a).

Colorado State University Center for Environmental Management of Military Lands (CEMML) periodically performs invasive plant surveys and maintains a spatial database of invasive plant populations which informs invasive species control. Additional spatial and tabular data for non-native, noxious, and invasive plant species occurrence are maintained by the University of Alaska Anchorage Alaska Center for Conservation Science; conservation data portals are available at: https://accs.uaa.alaska.edu/.

Invasive plant species were surveyed and subsequently mapped most recently between 2018 and 2020 in areas where populations are likely to spread. The focus of these surveys was on areas where previously recorded populations were likely to spread and areas identified as high risk for invasive infestations. Species considered high priorities were white sweetclover (*Melilotus alba*), bird vetch (*Viccia cracca*), and perennial sowthistle (*Sonchus arvensis*). The training area with the greatest populations of these species was the western portion of YTA, where most of the infrastructure and training activities occur. White sweetclover was the most abundant of the three high-priority species. Infestations of white sweetclover and bird vetch occur in DTA, but in much less abundance than in YTA (CEMML 2020).

Aquatic invasive plant species are also managed. CEMML conducts surveys for waterweed (*Elodea* spp.) in YTA and DTA with a focus on lakes and ponds that are stocked and/or easily accessed by roads or float planes. In addition to surveys, signs posted at access points inform the public of this aquatic invasive and ask that sightings be reported to ADFG'S invasive species hotline.

3.13.7.3 Nuisance Vegetation

Nuisance vegetation is vegetation that can be highly destructive, threatens right-of-way or impairs traffic visibility, and is overall very competitive and difficult to control once established regardless of whether it is a native or invasive species. Such vegetation requiring control includes weeds along roads interfering with transportation needs, and weeds in off-road areas interfering with range operations. In addition, vegetation control may be desired to manage and/or expand habitat areas used by big game species such as bison.

Visual inspections inform weed control operations which consist of mowing grassy areas prior to seed development to limit reproductive success; blading; rotary axe brushing; and herbicide applications when such mechanical efforts are infeasible or too hazardous. In areas where vegetation growth is a safety or security concern (such as electrical transformer sites) or interferes with specific missions (such as airfield runway operations), soil sterilant chemicals may be applied approximately once every three to five years to achieve desired vegetation control.

Managed species include European bird cherry (*Prunus padus*), white sweetclover, yellow toadflax (*Linaria vulgaris*), and bird vetch. Other common nuisance plant species that are common but not routinely managed include foxtail barley (*Hordeum jubatum*), quackgrass (*Elymus repens*), and narrowleaf hawksbeard (*Crepis tectorum*).

3.13.7.4 Herbicide Use

Registered herbicide use occurs when and where significant infestations of invasive plant species cannot be adequately controlled through mechanical means alone. Herbicide use in these instances is consistent with IPM principles. DoD-certified contractors and government personnel who are certified as pesticide applicators by the State of Alaska may perform herbicide applications on the withdrawn lands.

Herbicides are selected based on the species to be controlled and the environment in which those species have established. Species located near sensitive areas such as riparian buffers and aquatic areas require use of the aquatic formulations of herbicides. Common herbicide active ingredients used to control invasive vegetation include but are not limited to 2,4-D, Imazapyr, Aminopyralid, Metsulfuron-methyl, Glyphosate, and Triclopyr. A full herbicide use list containing trade names, EPA registration numbers, and active ingredients is maintained and updated annually as needed in the Integrated Pest Management Plan.

3.13.7.5 Invasive and Nuisance Animal Species Management

Documentation and monitoring of invasive animal species are integrated with monitoring for desirable species in fisheries management, a multitude of avian surveys, small mammal inventories, and planning-level surveys of flora and fauna. The withdrawn lands currently have very few faunal invasive species. Specific survey efforts tend to be more focused on invasive vascular plants (USAG Alaska 2020a).

The Army records and maps damage to natural resources caused by insect infestations. Such infestations can affect entire stands of vegetation, often resulting in die back or mortality, which can increase the risk of wildfire, make habitats less desirable to game species such as moose, and alter the training environment.

Infestations of willow leafblotch miner (*Micurapteryx salicifoliella*) have been recorded in four areas of DTAE, totaling approximately 35 acres. Willow leafblotch miner host plants include at least 10 species of willow (Salix spp.) in Alaska. In the interior region drainages of Alaska, this pest affects sandbar willow (*Salix interior*).

Aspen leaf miner (*Phyllocnistis populiella*) infestations have been recorded in YTA and DTAE in aspen trees as evidenced by damage to the top and bottom surfaces of quaking aspen leaves. This moth's host plants include quaking aspen, balsam poplar, and occasionally willow species in which its larvae's feeding habitats can lead to widespread damage.

Spruce bark beetles (*Dendroctonus rufipennis*) are a nuisance insect capable of creating large areas of tree die-off if they and their host trees are not managed well. Host species of spruce bark beetle in interior Alaska include white spruce and, occasionally, black spruce.

The Army uses IPM approaches for control of insect infestations, such as sticky traps for leaf miners and baited traps for spruce bark beetles. A 2018-2019 survey of amber-marked birch leaf miner (*Profenusa thomsoni*) determined the extent of this invasive insect within YTA by subsampling established (grid-like) monitoring sites using sticky traps placed on birch tree branches. This species was detected

throughout the sampled area in increased numbers compared to surveys conducted in 2006 and 2013 (CEMML 2020).

3.13.8 Special Status Species

Special status species are species listed or proposed for listing under the federal ESA or species requiring special management and conservation consideration under other federal or state agencies to reduce the likelihood and need for ESA listing. ADFG is responsible for the determination and maintenance of the State of Alaska Endangered Species List (AS 16.20.190). Alaska has relatively few threatened and endangered species, and none are found in the withdrawn lands. BLM maintains a list of agency-specific special status species. USFWS has identified 21 species of migratory nongame birds in interior Alaska that without additional conservation action are likely to become candidates for listing under the ESA (USFWS 2021).

Under the ESA, the National Oceanic Atmospheric Administration (NOAA) Fisheries office, also known as the National Marine Fisheries Service, is responsible for listing and managing threatened and endangered marine and anadromous species. The USFWS is responsible for listing and managing threatened and endangered freshwater and terrestrial species, as well as polar bear, Pacific walrus, and sea otter.

The Army's goal for special status species is to manage and protect species at risk to preclude listing. Of the wide variety of fauna found in the withdrawn lands, none are listed as threatened or endangered under the federal ESA, so there has been no need for species-specific threatened or endangered surveys (USAG Alaska 2020a). The sections below describe special status species listed by the Army, BLM, and the State of Alaska.

3.13.8.1 Army Special Status Species

The rusty blackbird (*Euphagus carolinus*) is the only Army species at risk. This migratory species is known to visit areas within the withdrawn lands as it favors moist habitats such as the wet environments in boreal forests. Rusty blackbirds forage on the ground and nest in trees of short stature, usually near standing water. Rusty

blackbird data have been collected on the withdrawn lands, and the Army continues to monitor this species. The Army regularly consults with ADFG and USFWS for updates on the species' status and considerations needed for species at risk habitats (USAG Alaska 2020a).

Recent migratory songbird (neotropical migrants) bird counts, habitat monitoring, and data collection efforts were conducted in 2016 and 2017 to identify important use areas and inform management decisions for these birds. Surveys included auditory point counts between May 1 and June 30 each year for the rusty blackbird in YTA. Survey results indicate that rusty blackbirds were detected in YTA and that areas with a high percentage of transitional habitats (high shrub/scrub and herb cover with less forest cover and recently burned areas) and standing freshwater constitute important habitats for these birds (Smith and Preston 2018).

DTAE and DTAW were studied in a similar design in 2017 and 2018. The study report indicated rusty blackbird was detected in DTAE and more frequently in DTAW, which may indicate habitat was better in DTAW over the years of the study (Jochum et al. 2021a).

3.13.8.2 BLM Special Status Species

BLM is required to use its authority to promote the purposes of the ESA through implementation of conservation programs for threatened and endangered species and habitats on which they depend under Section 7(a)(1) of the ESA. To help reduce the need for new ESA listings, BLM designates and manages sensitive species, and works with other governmental agencies to manage and recover special status species. To be designated as a BLM sensitive species, a species must be native to the lands for which BLM has significant management capability to affect its conservation status. Alaska's BLM Special Status Species List, which automatically includes federal endangered, threatened, proposed, and candidate ESA-listed species, includes 37 sensitive animal species and 51 sensitive plant species (BLM 2019). BLM sensitive animal and plant species occurring in interior Alaska are shown in Table 3.13-5 and Table 3.13-6. The Army does not maintain an inventory of BLM

special status species, but such species may be identified on the withdrawn lands incidentally to other flora and fauna surveys (USAG Alaska 2020a).

Table 3.13-5. BLM Sensitive Animal Species Potentially Occurring in Interior Alaska

Scientific Name	Common Name
BIRDS	
Branta canadensis occidentalis	Dusky Canada goose
Calcarius pictus	Smith's longspur
Calidris alpina arcticola	Dunlin arcticola
Contopus cooperi	Olive-sided flycatcher
Euphagus carolinus	Rusty blackbird
Gavia adamsii	Yellow-billed loon
Gavia stellata	Red-throated loon
Numenius phaeopus rufiventris	Whimbrel
MAMMALS	
Bison athabascae	Wood bison
INVERTEBRATES	
Acentrella feropagus	Mayfly (no common name)
Alaskaperla ovibovis	Alaska sallfly
Bombus bohemicus	Ashton cuckoo bumble bee, gypsy cuckoo bumble bee
Bombus distinguendus	Northern yellow bumble bee, great yellow bumble bee
Bombus kluanensis	Bumble bee (no common name)
Bombus perplexus	Confusing bumble bee
Bombus suckleyi	Suckley’s cuckoo bumble bee
Rhithrogena ingalik	Alaska endemic mayfly
FISH	
Lampetra alaskensis	Alaskan brook lamprey
Onchorhynchus mykiss	Steelhead (Gulkana River)

Table 3.13-6. BLM Sensitive Plant Species Potentially Occurring in Interior Alaska

Scientific Name	Common Name
Antennaria densifolia	Denseleaf pussytoes

Arnica lonchophylla ssp. lonchophylla (A. lonchophylla)	Longleaf arnica
Botrychium spathulatum	Spoon-leaf moonwort
Carex laxa	Weak sedge
Carex parryana	Parry sedge
Claytonia ogilviensis	Ogilvie Mountain springbeauty
Cryptantha shackletteana	Shacklette's cryptantha
Douglasia arctica (Androsace americana)	Mackenzie's River douglasia
Draba murrayi	Kathul Mountain draba
Draba ogilviensis	Ogilvie Range draba
Juncus articulatus	Jointed rush
Micranthes porsildiana *(M. nelsoniana* var. *porsildiana)*	Porsild's saxifrage
Montia vassilievii ssp. vassilievii	Bostock's miners lettuce
Oxytropis kokrinensis	Kokrines locoweed
Phacelia mollis	Soft phacelia
Physaria calderi	Calder's bladderpod
Poa porsildii	Porsild's bluegrass
Podistera yukonensis	Yukon podistera
Ranunculus turneri ssp. turneri	no common name
Smelowskia pyriformis	Pearshaped smelowskias
Symphyotrichum yukonense	Yukon aster

3.13.8.3 State of Alaska Special Status Species

The State of Alaska's special status species include state-defined endangered species and fish stocks of concern. ADFG identifies, monitors, and manages the state fish and wildlife species of concern. The State's *Wildlife Action Plan* provides an assessment of conservation concerns by species and prioritizes conservation actions and research for species with the greatest conservation needs (ADFG 2015).

3.13.8.3.1 Plants

The Alaska National Heritage Program, which is integrated with the University of Alaska Anchorage Alaska Center for Conservation Science, tracks and maintains a database of vascular plant species of conservation concern (Rare Vascular Plant List). This database also includes BLM sensitive species. The program does not have natural resource management or regulatory authority.

The Rare Vascular Plant List is not an exhaustive or comprehensive inventory of rare plant species meant to substitute for field-collected data. It is intended to indicate known occurrences or likelihood of occurrence, guide future surveys, and test hypotheses regarding habitat quality and abundance. The Army reviews this list annually for species of interest (USAG Alaska 2020a). As stated in the INRMP, vegetative species at risk are recorded during other surveys such as flora planning level surveys, vegetative community surveys, and Range and Training Land Assessment surveys.

3.13.8.3.2 Fish and Wildlife

Five species are listed under both the federal ESA and the State of Alaska Endangered Species List: short-tailed albatross (*Phoebastria albatrus);* Eskimo curlew (*Numenius borealis);* blue whale (*Balaenoptera musculus*); western north Pacific Distinct Population Segment humpback whale (*Megaptera novaeangliae)*; and north Pacific right whale (*Eubalaena japonica*).

ADFG compiles a statewide summary list of fish stocks that are of yield, management, or conservation concern. The list is updated annually to reflect any changes to stock of concern designations following each regulatory cycle (Munro 2019).

ADFG has not maintained a list of species of special concern since August 2011. It currently assesses needs of species with conservation concerns and prioritizes conservation action and research through the *Wildlife Action Plan* and identification of species of greatest conservation need contained therein (ADFG 2015).

3.13.9 WETLAND AND AQUATIC HABITATS

In the context of federal natural resources management, as established by USFWS, wetlands are most commonly defined as lands that are transitional between terrestrial and aquatic systems where the water table is usually at or near the ground surface or where shallow water covers the land (Cowardin et al. 1979). Such lands must have one or more of the following characteristics:

- At least periodically support predominantly hydrophytes
- A substrate consisting of predominantly undrained hydric soil
- A non-soil substrate saturated with water or covered by shallow water at some time during each year's growing season

The USFWS, which creates and maintains the National Wetland Inventory (NWI) of lands meeting the wetland definition, categorizes wetlands with ecologically similar habitats into a hierarchal system primarily based on the dominant plants or substrates where no plants occur in a wetland classification system (Cowardin et al. 1979).

As the lead agencies regulating wetlands, USACE (40 CFR Part 230) and EPA (33 CFR Part 328) define wetlands specifically as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

3.13.9.1 Wetland Functions and Values

Valuable physical, chemical, and biological functions are provided by Alaskan wetland ecosystems. Even in watersheds dominated by permafrost, wetlands can help to reduce peak flows supplied from spring snowmelt as water is dispersed across vegetated hummocks and slowed by vegetation. Wetland vegetation reduces soil erosion in permafrost areas by insulating the ice-rich soils to prevent or reduce warming and thawing. Permafrost helps to establish and sustain wetlands in this

region of Alaska. Nutrient cycling and the uptake of contaminants in Alaska's wetlands help to maintain or improve water quality (Fretwell et al. 1996).

Alaskan wetlands are immensely valued for their unique habitat. They provide villages in rural Alaska the subsistence resources needed to survive, as most opportunities for hunting, trapping, gathering, and fishing are found in or adjacent to wetland habitats. Many of the state's fish, mammals, and birds depend on these ecosystems during their life histories. In addition, recreational opportunities attract hunters, fisherman, birders, and others to Alaska's interior, which helps support local businesses and economies (Fretwell et al. 1996).

3.13.9.2 Land Withdrawal Wetland Extents

The NWI, a nationwide inventory and mapping of Waters of the United States (WOTUS), is based on interpretation of various years of aerial images. The Army has commissioned additional wetland surveys to supplement and improve upon existing NWI data to produce more accurate representations of wetland extents based on on-the-ground inspections.

The Army uses a database of mapped wetlands and other waters' extents based on data collected by CEMML for management, project planning and permitting. This database delineates wetlands and other waters based on field observation of vegetation, soils, and hydrology. This database is developed based on project need and so only accounts for a small portion of the total area of wetlands in the withdrawn lands. It is continually improved and updated (USAG Alaska 2020a).

Sixth-field hydrologic unit codes, or watersheds, are used for wetland resource delineation and permitting purposes on the withdrawn lands, as required by USACE. Management of wetlands and compliance with all applicable federal and state laws and regulations are actively pursued via ongoing wetland delineations for construction and military training exercises, wetland functional assessments, and the USACE Alaska District's regulatory permit process (USAG Alaska 2020a).

3.13.9.2.1 Yukon Training Area Wetlands

Approximately 4,500 acres within YTA have been mapped as wetlands or other waters based on the current CEMML wetlands information database. This sample is project-based and accurate, but accounts for only a small portion of the total area in YTA that may support wetland conditions. The NWI maps approximately 66,500 acres of YTA as wetlands or other waters (Figure 3.13-6), but may overrepresent the actual amount of wetlands or other waters since it is not based on field studies.

Wetlands occur most frequently where a poorly drained soil (or permafrost) is in a landscape position with depressional features and along stream corridors. Wetlands and other waters within YTA comprise scrub-shrub, forested, and emergent palustrine wetland systems.

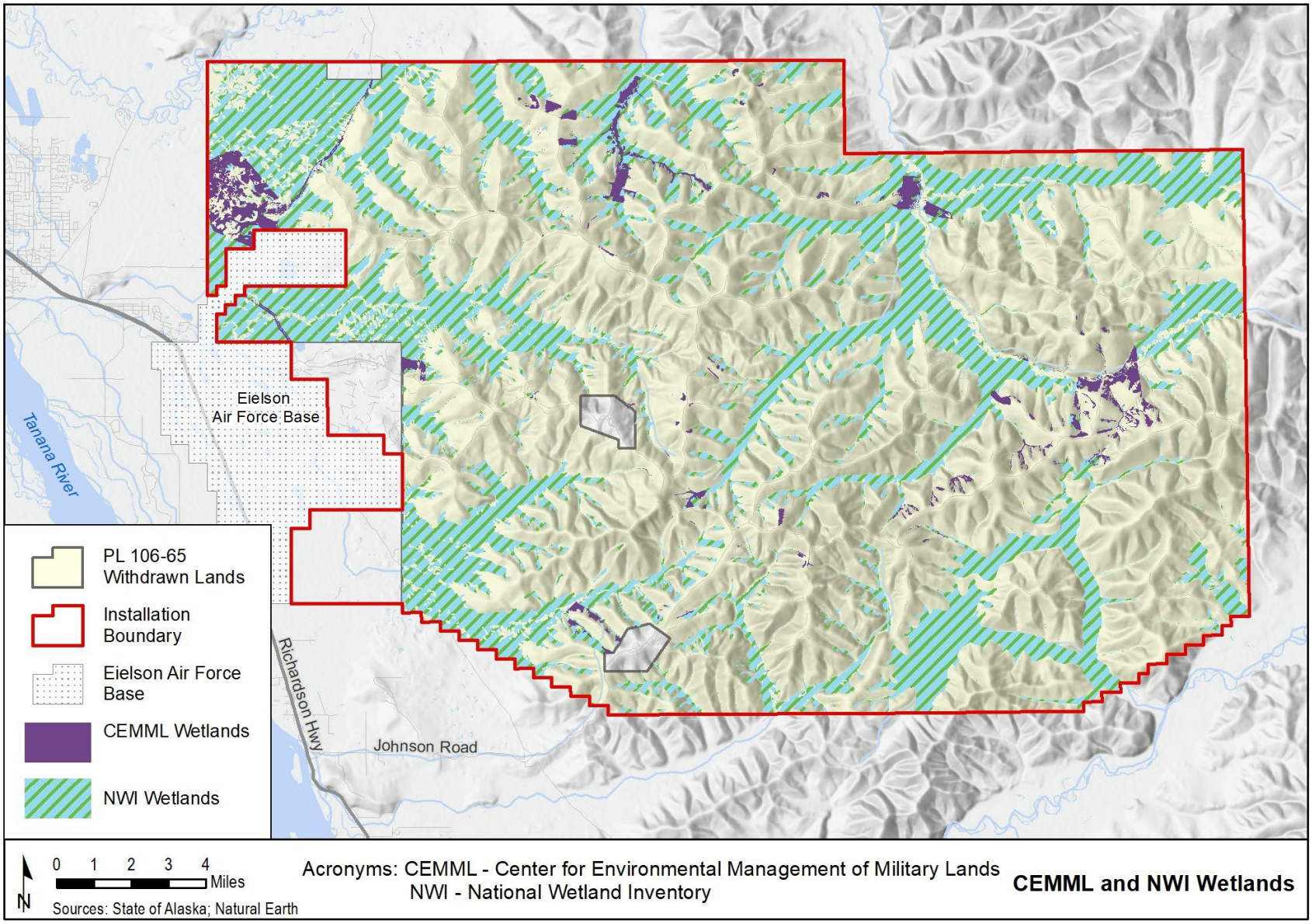


Figure 3.13-6. Yukon Training Area Wetlands Mapped by CEMML and the NWI

3.13.9.2.2 Donnelly Training Areas East and West Wetlands

Approximately 8,700 acres within DTAE and 16,400 acres within DTAW have been mapped as wetlands or other waters based on the current CEMML wetlands database. Approximately 14,500 acres of DTAE and 342,300 acres of DTAW have been mapped as wetlands or other waters based on a combination of the NWI and a study conducted in 1999 (Figure 3.13-7; Lichvar 1999). Wetlands and other waters within DTA comprise scrub-shrub, forested, and emergent palustrine wetland systems found in depressions on morainal landscapes, flats, slopes underlain by permafrost, or associated with riverine waters.

3.13.9.3 Wetland and Water Body Management

Though military operations have minimal impact on wetland areas in most watersheds, it is the intent of the Army's Wetland and Water Body Management Program to ensure compliance with Section 404 of the Clean Water Act (CWA), Section 10 of the Rivers and Harbors Act, and other environmental regulations on the basis that military training and mission readiness does not need to result in the long-term degradation or destruction of the environment (USAG Alaska 2020a). The USACE Alaska District's regulatory permit process is used to actively manage wetlands where impacts may occur as the Army carries out its mission. Thus, proposed activities are regulated through a permit review process, and unless the proposed activity is exempted or the permit is denied, permits (Section 404 of the CWA and Section 10 of the Rivers and Harbors Act) are issued with conditions that avoid or minimize losses to wetlands and other WOTUS.

Between 2000 and 2020, the Army received 61 federal permits for actions in the withdrawn lands performed in jurisdictional wetlands and other WOTUS. Permitted actions included work such as but not limited to culvert installations, road and trail construction or improvements, utility installation or upgrades, geotechnical surveys, streambank stabilizations, and soil stabilization and revegetation (moist soil management and wildlife habitat enhancement) (CEMML 2021).

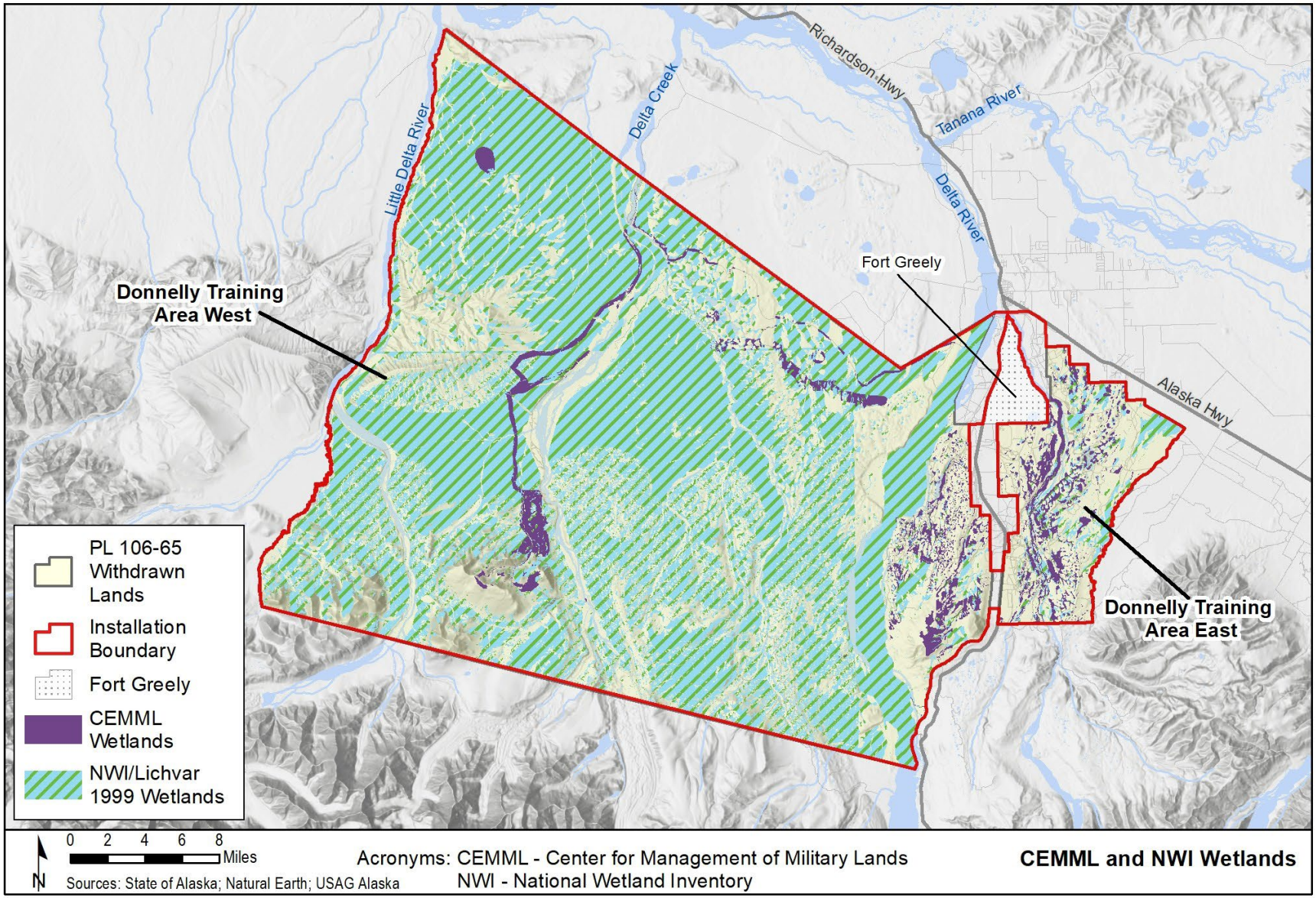


Figure 3.13-7. Donnelly Training Area Wetlands Mapped by CEMML and the NWI

Considerations for wetlands and water bodies other than permitting include damage control measures aimed at preventing careless use of training areas and repairing any damage that does occur. Damage control measures listed in USARAK Regulation 350-2—such as the development of resource protection area maps for planning training activities, use of hard surfaces for vehicle travel and parking as much as practicable, and avoiding travel on the edges of roadways—aid in the responsible management of these resources (USARAK 2020a). Units causing damage or otherwise noticing damage or erosion problems that may result in the degradation of wetlands or water bodies are required to report to Range Operations, which performs an assessment and, if needed, notifies the Environmental Resources Division as necessary. The Environmental Resources Division determines whether the damage requires restoration or consultation with relevant resource agencies.

3.14 WILDLAND FIRE

Fires are a common occurrence under natural conditions in interior Alaska and play an important role in maintaining diverse vegetation communities and valuable, productive wildlife habitat in boreal ecosystems. Fires in this region can burn thousands of acres, and under natural conditions occur with an estimated frequency of 100 to 150 years. Fires started by Army training make the frequency of wildfire in some areas much more frequent. Fire, by combusting accumulated organic matter, contributes to soil nutrient cycling. It also minimizes the extent of permafrost by removing insulating vegetation and canopy cover. Though fire is essential to healthy, functional boreal ecosystems, it also carries the potential for loss of human life, natural resources, and mission resources.

3.14.1 REGION OF INFLUENCE

The ROI focuses on the PL 106-65 lands within the boundaries of YTA and DTA, in which wildland fires may originate, or may affect, the Army's mission in those lands. In addition, the Army acknowledges that wildland fire behavior is often unpredictable as it's often influenced by severe weather patterns and varied terrain and vegetation that can be rugged and inaccessible. Past fire history data maintained by the Alaska

Interagency Fire Center, BLM Alaska Fire Service (AFS), and the Army include reliable geographic extents of fire perimeters dating back to 1980. Data prior to this are not considered reliable data according to BLM AFS. The Army used these data to define the outer extent of fires that originated within the withdrawn lands where the cause was known to be from the Army mission, and which burned beyond the PL 106-65 training lands to expand the ROI for this analysis beyond the boundaries of YTA and DTA as depicted in Figure 3.14-1 and Figure 3.14-2.

In YTA, the expanded ROI encompasses the northern extent of the Stuart Creek 2 fire (2013), which burned beyond the northern boundary of the withdrawn lands to south of the Chena River and west of the South Fork Chena River (Figure 3.14-1). The expanded ROI for DTA encompasses the northern extents of the 100-Mile Creek (2014), Mississippi (2013), and Carla Lake (1998) fires, which migrated into land north of DTA east of Delta Creek and west-southwest of the Delta River (Figure 3.14-2).

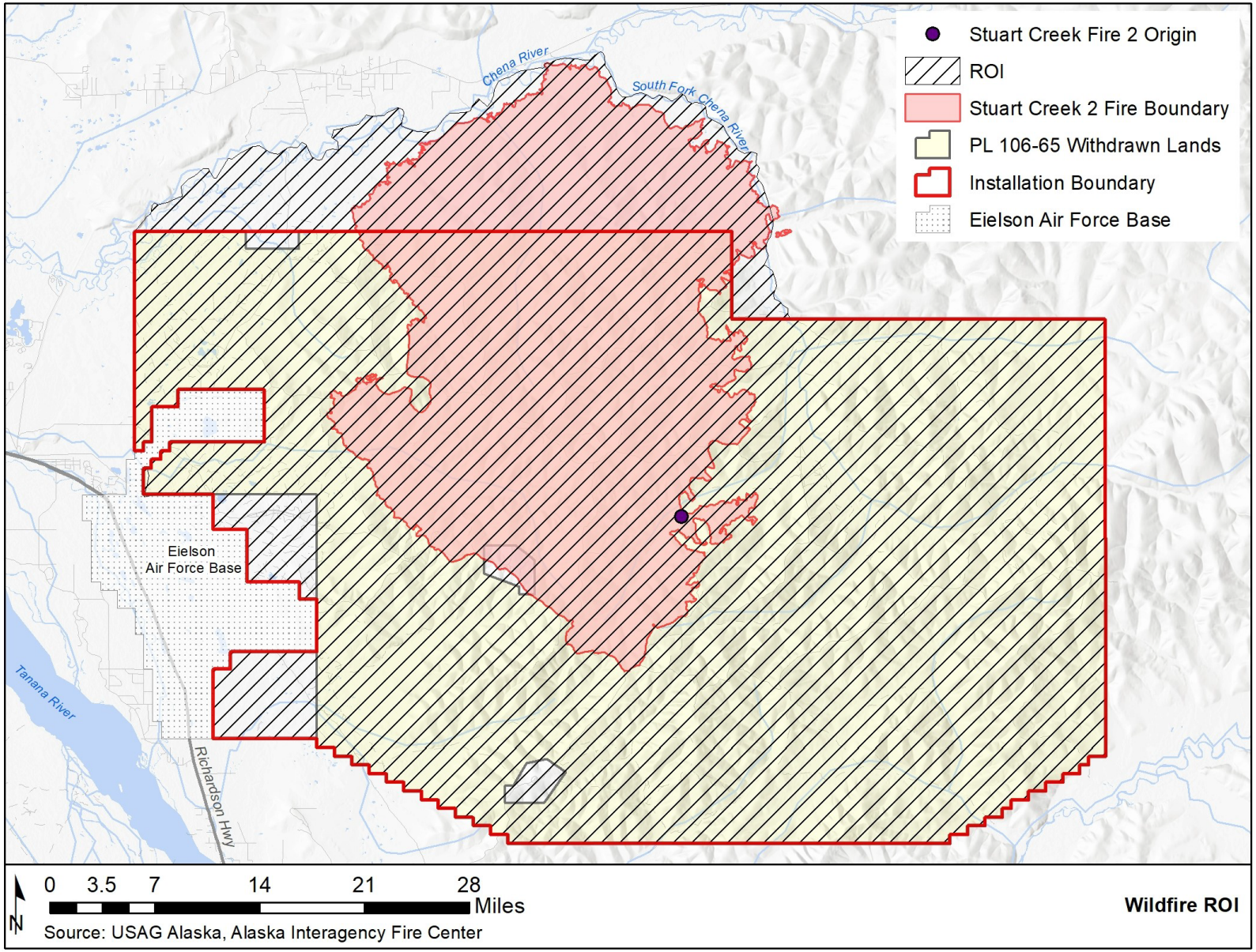


Figure 3.14-1. Wildfire Region of Influence for Yukon Training Area

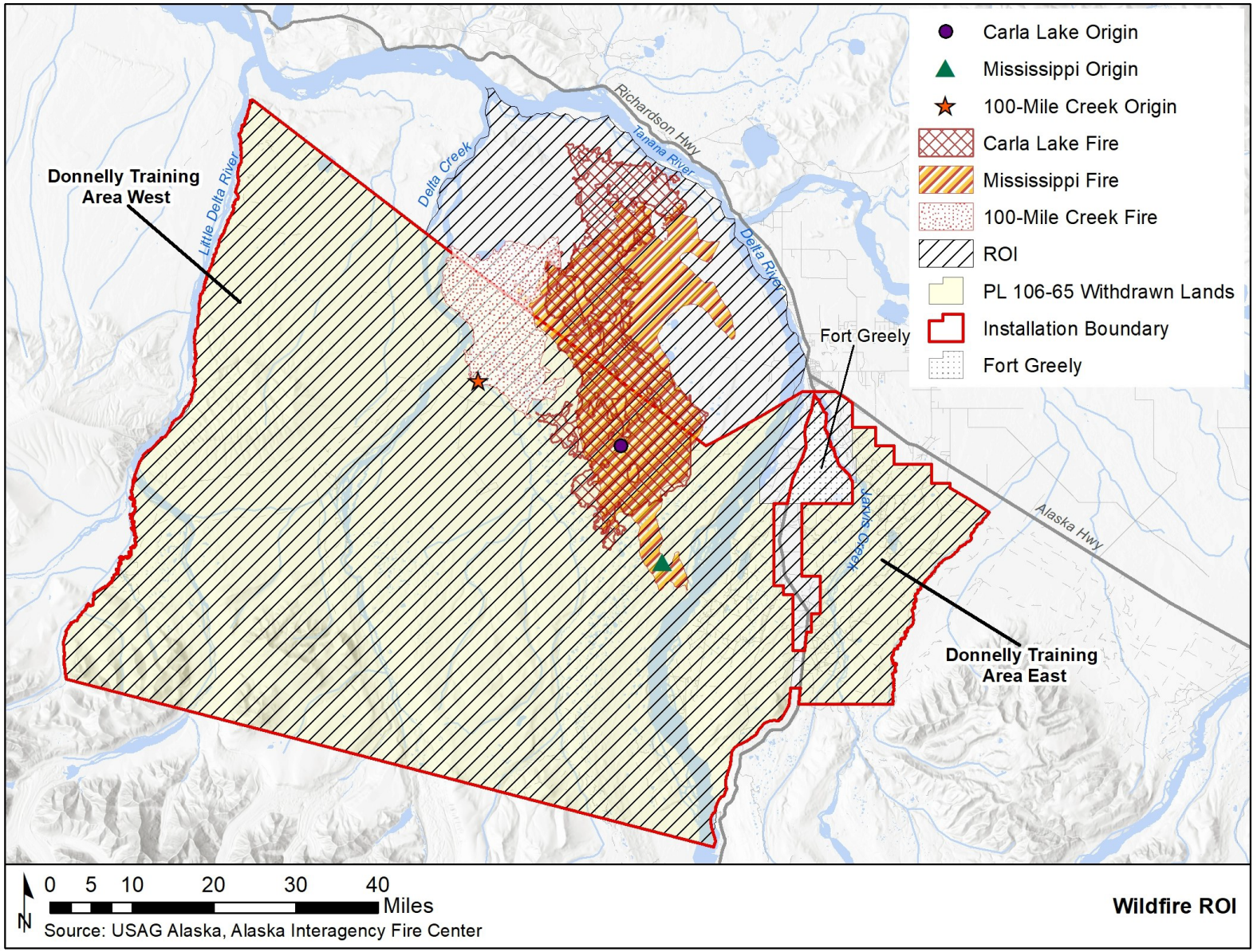


Figure 3.14-2. Wildfire Region of Influence for Donnelly Training Area.

3.14.2 LAWS AND REGULATIONS

The primary laws, regulations, and authorities that apply to wildfire in and around the withdrawn lands include, but are not limited to, those listed in Table 3.14-1.

Table 3.14-1. Laws, Regulations, and Authorities Related to Wildfire

Regulation or Authority	Description
Sikes Act (16 USC 670)	• Requires that secretaries of the military departments carry out a program to provide for the conservation and rehabilitation of natural resources on military installations that is consistent with the use of military installations to ensure the preparedness of the Armed Forces. • Requires the sustainable multipurpose use of the resources, including hunting, fishing, trapping, and non-consumptive uses. • Allows for public access to military installations to facilitate recreational and subsistence use, subject to safety requirements and military security.
Memorandum of Understanding between BLM and USAG Alaska Concerning Management of Lands in Alaska Withdrawn by PL 106-65 for Military Use	• Ensures coordination between the two agencies for management of withdrawn lands.

Under the Army Environmental Management System framework (U.S. Army 2007), Army installations are responsible for 1) designating a wildland fire program manager to implement an integrated wildland fire management plan, 2) reducing wildfire potential through management actions such as prescribed burns and construction of firebreaks, and 3) ensuring that only well-qualified, trained, and physically fit personnel conduct wildland fire management actions.

3.14.3 FIRE HISTORY

Potential known sources of fire on the withdrawn lands include training and live fire ranges, powerlines, ignitions along roadways, recreational activities, and lightning. Dense black spruce forests have high fuel loads and represent the greatest potential for high energy fires that often result in adverse effects on the ecosystem. Vast expanses of grassland provide high fuel loads that typically produce fires of high intensity but lower severity than fires in spruce forests.

Wildfire suppression in place across interior Alaska since the 1950s follows massive logging and forest disturbance starting in the early 1900s. On an ecosystem scale, these factors have resulted in a landscape with a more diverse range of stand maturity than would be expected under natural conditions. In areas that have been directly logged and managed, these conditions have resulted in evenly aged forest stands (60 to 120 years) and increased amounts of downed woody debris, leaving forest stands that are more vulnerable to insect damage, disease, and severe wildland fire than under natural conditions.

Historical fire data, sourced from BLM AFS and the Alaska Interagency Coordination Center, are maintained by the Army. Fire data for 2010 through 2019 were analyzed to summarize fire data by cause (Table 3.14-2 and Table 3.14-3). Fires with the cause of fire listed as other/unknown/miscellaneous include human-caused fires such as campfires, debris burns, power lines, and equipment fires or fires where the cause and origin were not identified.

These data summarize the total acreage of fires in the identified period of record, but do not make clear that many of the burned areas that comprise these datasets overlap spatially. For example, it is known that prescribed burns occur in the same areas where wildfires caused by live munitions or incendiary devices also burn. Prescribed fires, or planned fires used to meet management goals for habitat value or fuels reduction, are carried out periodically over the same areas, as a management tool to maintain a lower risk of unplanned fires. They are only carried out during favorable weather conditions and safeguard the community and firefighters by removing dangerous fuels that could burn out of control during extreme fire conditions. Prescribed fire also promotes regrowth of succulent, green vegetation that is preferred as forage by wildlife and improves their habitat.

In YTA, 109 fires and nine false alarms occurred and were responded to from 2010 through 2019 (Table 3.14-2), of which 83 burned less than 100 acres. The largest wildfire during this period occurred in 2013 and was caused by an incendiary device at Stuart Creek 2, burning approximately 87,000 acres.

Table 3.14-2. Fire Data by Cause in YTA from 2010 to 2019

Cause of Fire	Number of Fires	Estimated Total Acres Burned	Percentage of Total Burned Area
Lightning (natural)	6	73	0.1%
Military mission (live munitions or incendiary)	55	90,608	64.5%
Prescribed burn	19	34,643	24.7%
Other/Unknown/Miscellaneous	29	15,045	10.7%
Total	**109**	**140,369**	**100%**

Source: AICC 2021

In DTAW, 60 fires and seven false alarms occurred and were responded to from 2010 through 2019, of which 40 burned less than 100 acres. An incendiary device in the Mississippi Area was the source of the largest unplanned fire, which burned 67,338 acres of black spruce forest in 2013. Though these data help to illustrate past fire activity, it's important to note that due to how the BLM AFS tracks fire data, the reported estimated acreage burned may include area outside the boundary of a withdrawn land area. This is relevant to DTAW, where two fires ignited by an incendiary within the military boundary burned area off post. For the Mississippi Area fire, 26,211 acres (39 percent) burned on post and 41,213 acres (61 percent) burned off post. The 100 Mile Creek fire in 2014 was the other fire burning 6,831 acres (29 percent) off post and 16,439 acres (71 percent) on post. Fires may be allowed to burn off post when there are no risks to people or property.

During the same years, 87 fires and five false alarms occurred and were responded to in DTAE, of which 66 burned less than 100 acres (Table 3.14-3). A prescribed fire in 2019 was the largest fire at DTAE, burning approximately 13,646 acres.

Table 3.14-3. Fire Data by Cause in DTA from 2010 to 2019

Cause of Fire	Number of Fires	Estimated Total Acres Burned	Percentage of Total Burned Area
DTAW			
Lightning (natural)	3	408	0.1%
Military Mission (live munitions or incendiary)	29	82,885	25.7%
Prescribed Burn	8	175,832	54.6%
Other/Unknown/Miscellaneous	20	62,766	19.5%
Total	**60**	**321,891**	**100%**

Cause of Fire	Number of Fires	Estimated Total Acres Burned	Percentage of Total Burned Area
DTAE			
Lightning (natural)	2	16	0.1%
Military Mission (live munitions or incendiary)	30	31	0.1%
Prescribed Burn	25	28,273	95.9%
Other/Unknown/Miscellaneous	30	1,175	4%
Total	**87**	**29,495**	**100%**

Source: AICC 2021

Wildfire management actions are informed through wildfire risk assessment. Risk assessments are conducted every five years by a team of wildland fire behavior, fuels, and risk analysis experts and are spatially modeled using fire prediction software developed by the U.S. Forest Service and National Interagency Fire Center. These models simulate thousands of fire scenarios based on real-world weather data and AVC data collected from the withdrawn lands. The models give the Army information needed to evaluate the risk of wildfire threats on withdrawn lands. This includes the annual probability of fire, the intensity of fire anywhere on withdrawn land areas, and the values potentially affected by wildfire (natural and cultural resources, installation infrastructure, and access).

The most recent risk assessment completed for all FWA training lands, including YTA, concluded that the average annual ignitions of wildfire are low to moderate for a military installation, but that the potential for a given fire to grow large and become severe is substantial (The Wildland Fire Support Center 2020).

Large areas of YTA and DTA are modeled as low risk. Fires in some low risk areas may be considered positive when benefits are anticipated from reduced fuel loading. These overall risk levels are based on combined risk index consisting of annual wildfire ignition probability, expected mean fire frequency (fires per year), probability of exceeding control capacity, annual probability of a fire burning onto or off of YTA and DTA, and values potentially impacted. Values were identified by installation personnel and include installation infrastructure and natural and cultural resources.

3.14.4 WILDLAND FIRE MANAGEMENT

3.14.4.1 Background

The Army and BLM Alaska Eastern Interior Field Office share certain land management responsibilities in the withdrawn lands, including suppressing wildland fire and managing vegetative resources. Agreements signed between these two entities in 1995 stipulated that fire suppression services rendered by BLM AFS on USAG Alaska withdrawn lands were non-reimbursable.

Subsequently, a new interagency agreement was signed pursuant to section 3014(d)(2) of PL 106-65 to delineate the policies and procedures for fire suppression, preparedness, and fuels management services provided by BLM AFS for all range and forest lands under the responsibility of USAG Alaska on a cost-reimbursable basis. This memorandum of agreement took effect October 28, 2015, and remains in effect for a nine-year period unless terminated by either agency upon 180 days written notice to the other party. The memorandum of agreement states that USAG Alaska and BLM AFS must prepare and sign an annual operating plan (AOP), to be reviewed and updated annually. The AOP establishes or verifies responsibilities and management objectives, assigns authorizing officers and contacts, identifies procedures, limitations, and timelines, and lists reimbursable costs and fiscal responsibilities.

The AOP, developed in coordination with the Army's INRMP, ICRMP, Range Control Master Plan, and Fire and Emergency Services Response Plan, serves as the USAG Alaska Integrated Wildland Fire Management Plan. Agency signatories to the AOP include USAG Alaska, 11th Airborne Division, BLM Alaska Eastern Interior Field Office, and BLM AFS.

3.14.4.2 Responsibilities

As co-managing agencies, USAG Alaska and BLM work cooperatively and jointly to manage wildfires as they occur on withdrawn lands, as set forth in the memorandum of agreement and AOP. The FWA Fire Chief is the designated wildland fire program

manager for USAG Alaska withdrawn lands. To address the potential risks that wildfires originating from training areas within DTAE may pose to the City of Delta Junction and the Deltana region, the 11th Airborne Division and the City of Delta Junction jointly drafted and entered into a memorandum of agreement in May 2006 obligating the Army to implement mitigation treatments specific to this area. Although applicable measures from the 2006 memorandum of agreement will remain in place, a subsequent memorandum of agreement between BLM AFS and USAG Alaska established a Fire Mitigation Committee that keeps the City of Delta Junction informed of training actions, fire waivers, and resources available to fight fires (BLM and USAG Alaska 2015).

3.14.4.3 Management Options

Protecting human lives is the Army's highest fire management priority. Actions to protect properties, infrastructure, and natural and cultural resources are prioritized by considering human health and safety first, as well as the values of resources to be protected and protection costs.

Recognizing that wildfire is an essential ecological process for maintaining the health and biodiversity of boreal ecosystems, wildfires are allowed to burn when and where no risks to private property or military infrastructure are imminent. Although the Army recognizes that wildfires resulting from training actions are likely to occur more frequently than those occurring naturally, they are allowed to burn in cases where doing so may improve long-term fire management conditions or where firefighting conditions would pose high risks to firefighter safety. Unmanned fires, meaning those that do not pose a risk to public health and safety or imperil private property and therefore do not require an immediate attack response, are monitored.

Procedures and protocols are in place to ensure that resources are managed as intended, to maintain combat readiness, and to accomplish the Army's missions. Fire management actions on USAG Alaska withdrawn lands, as assigned by the FWA Fire Chief, are informed by the best available science and fall under four program management options for detection and suppression (USAG Alaska 2020a):

- Critical Management Option lands are given the highest priority for an initial attack response and receive maximum fire detection coverage. Landowners or managers receive notice of fire as soon as possible. In the event of escaped fires, priority is given to these areas over adjacent lands and resources. Lands are assigned this management option based on their proximity to specific high value or sensitive military assets, ranges, infrastructure, and/or civilian assets. Fires on lands under this option present a relatively high threat to human safety.
- Full Management Option lands receive the same maximum detection coverage and priority for an initial attack response as the Critical Management Option. Affected landowners or managers are notified to develop additional fire suppression only if the initial attack response is not successful, or if the fire is not controlled within the first burning period.
- Modified Management Option lands receive Full or Limited Management depending on conditions each year; the appropriate management is assigned each summer. This option provides a high degree of protection where warranted during critical burn periods and decreases protection accordingly as risks lessen. The potential for damage, land constraints, and/or landowner/manager input inform the attack response. When no initial attack is ordered, unmanned fires are monitored, and the landowner or manager is informed daily of the fire status.
- Limited Management Option lands receive routine detection effort and are located either in areas where natural fire has been deemed important to sustaining the native ecosystem or in areas where the resources at risk of fire damage do not warrant the expense of suppression. If the fire does not burn beyond the Limited Management area and no critical sites are deemed at risk, then no attack response is ordered. The landowners or managers are notified immediately and kept up to date as the fire situation is monitored.

3.14.4.4 Management Zones

Each training area has been assigned zones based on its fire management option, as shown in Table 3.14-4.

Table 3.14-4. Fire Management Zones Assigned by Training Area

PL 106-65 Training Area	Management Assignment
YTA (western portion)	Full Management Zone
YTA (eastern portion)	Limited Management Zone
DTAW	Limited Management Zone
DTAE	Full Management Zone

3.15 CULTURAL AND PALEONTOLOGICAL RESOURCES

This section summarizes content from the Army's 2020-2025 Integrated Cultural Resources Management Plan (USAG Alaska 2020b). It also incorporates information from a 2020 annual report from CEMML, which has conducted the majority of the archaeological surveys in DTA and YTA (Esdale et al. 2021).

3.15.1 REGION OF INFLUENCE

The ROI for cultural resources includes all the withdrawn lands of YTA, DTAE, and DTAW.

3.15.2 LAWS AND REGULATIONS

Various federal laws, EOs, regulations, standards and guidelines, and other directives describe the Army's responsibilities to manage cultural resources on lands it manages. The key federal responsibilities are summarized in Table 3.15-1.

Table 3.15-1. Laws, Regulations, and Authorities Related to Cultural Resource

Regulation or Authority	Description
National Historic Preservation Act (NHPA) of 1966	• Section 106: Consider impacts on National Register-eligible resources. Consult with the State Historic Preservation Officer, Native American tribes, local governments, applicants for federal permits or licenses, and the public. • Section 110: Establish program to identify, evaluate, and nominate National Register-eligible resources. Do not transfer, destroy, alter, or allow National Register-eligible properties to deteriorate. Record property if it will be altered or destroyed, and preserve historic properties if they will be transferred. • Section 111: Adapt use of historic properties that are no longer needed. • Section 112: Ensure that all research and preservation will be conducted by people meeting the Secretary of Interior's standards. • Section 304: Withhold site information that might invade privacy, damage resources, or impede use of traditional religious sites.
Archaeological Resources Protection Act (ARPA) of 1979	• Prohibited from damaging or altering archaeological resources over 100 years old and from unauthorized excavation. • Issue permits for archaeological investigations by non-USAG Alaska entities. • Prohibited from using metal detectors except when done in compliance with cultural resource management activities. • Ensure Military Police, legal staff, Public Affairs Office, and Fish, Game, and Recreation Management are familiar with ARPA.
Native American Graves Protection and Repatriation Act (NAGPRA) of 1990	• Identify cultural association of encountered human remains and ownership of funerary items, sacred objects, and objects of cultural patrimony. • Return said sensitive resources to owners, defined under NAGPRA. • Establish consultation procedures for discovery of these resources with relevant tribes. • Assess whether activities could result in the inadvertent discovery of these resources, and if so, consult. • If no other agreement, comply with 43 CFR § 10.4(a-d) in case of inadvertent discovery.
Paleontological Resources Protection Act (PRPA) of 2009	• Prohibits the excavation, collection, removal, and disturbance of paleontological resources without a permit • Permit activities must be performed by qualified personnel • Requires that activities be conducted for the purpose of furthering paleontological knowledge • Ensure that Military Police, legal staff, Public Affairs Office, and Fish, Game, and Recreation managers are familiar with PRPA
American Indian Religious Freedom Act of 1978	• Allow Native groups to freely access traditional sites, use sacred objects, and practice religion.
EO 11593: Protection and Enhancement of the Cultural Environment	• Preserve cultural resources for the future.

Regulation or Authority	Description
EO 13007: Indian Sacred Sites	• Allow Native religious practitioners access to sacred sites. • Consult with Native tribes to identify sites needed for traditional religious practices. • Keep sacred site locations confidential. • Avoid adversely affecting access to sacred sites or their physical integrity.
EO 13175: Consultation and Coordination with Indian Tribal Governments	• Identify programs that may impact tribal interests. • Regularly communicate with tribal governments. • Inform staff of the rights and concerns of tribal governments, and how to establish communication with them.
Presidential Memorandum: Distribution of Eagle Feathers for Native American Religious Purposes	• Allow eagle carcasses and feathers to be collected for Native religious activities.
Presidential Memorandum: Government-to-Government Relations with Native American Tribal Governments	• Conduct government-to-government consultation with Native tribes. • Assess impact of activities and programs on tribal resources and consider tribal rights and concerns during development.
Presidential Memorandum: Tribal Consultation	• Report on the results of consultations 90 days after signing memoranda described in EO 13175, and annually afterwards.
DoD American Indian and Alaska Native Policy	• Follow guidelines for government-to-government relations. • Address tribal concerns.
DoD American Indian and Alaska Native Policy: Alaska Implementation Guidance	• Follow guidelines for Alaska Native and American Indian policy.
DoD Instruction 4710.02: Department of Defense Interactions with Federally Recognized Tribes	• Follow consultation guidelines. • Maintain ongoing tribal consultation through a tribal liaison. • Consult with tribes for ICRMPs and INRMPs that could impact tribal rights and resources.
DoD Instruction 4715.16: Cultural Resources Management	• Integrate preservation into planning and management activities.
Army Regulation 200-1: Environmental Protection and Enhancement	• Protect and enhance the environment in compliance with environmental laws. • Follow requirements for developing ICRMPs, NHPA agreement documents, establishing government-to-government relationships with tribes, and creating programs to coordinate early between cultural resource management and project staff. • Complete environmental audits and status reports. • Conduct environmental surveys. • Develop program to identify and curate cultural and paleontological resources.

Regulation or Authority	Description
Army American Indian and Alaskan Native Policy	• Follow guidance for interacting with tribes and implementing responsibilities to tribes.
DoD American Indian and Alaska Native Policy: Alaska Implementation Guidance	• Follow guidance for specifically interacting with and implementing responsibilities to Alaska Native tribes.
Memorandum of Understanding between BLM and USAG Alaska Concerning Management of Lands in Alaska Withdrawn by PL 106-65 for Military Use	• Ensures coordination between the two agencies for management and stewardship of cultural resources on the withdrawn lands. • Defers authority to the Army to issue ARPA permits. • Assigns primary responsibility to maintain historic property inventories and databases as required by Section 110 of the NHPA and compliance with the Native American Graves Protection and Repatriation Act to the Army.

In addition to the laws and regulations described above, the Secretary of the Interior and the Advisory Council on Historic Preservation have issued standards and guidelines discussed in 48 FR 44716-44740. These recommendations are not law; they serve only as general guidance.

3.15.3 Tribal and Other Partnerships

The Army develops partnerships with interested parties to collaboratively manage cultural resources on their lands. The Army's primary partners include the organizations listed in Table 3.15-2.

Table 3.15-2. Cultural Resource Management Partners

Alaska Native Tribal Partners	• Village of Dot Lake • Healy Lake Village • Nenana Native Association • Northway Village • Native Village of Tanacross • Native Village of Tetlin • Doyon, Ltd. • Tanana Chiefs Conference
Agency Partners	• Alaska State Historic Preservation Officer • Advisory Council on Historic Preservation • National Park Service • Bureau of Land Management • Fairbanks North Star Borough Historic Preservation Commission • Interior and Arctic Alaska Aeronautical Foundation • Tanana-Yukon Historical Society • University of Alaska Museum of the North • Sullivan Roadhouse Association

3.15.4 HISTORICAL AND GEOGRAPHIC SETTING

Table 3.15-3 summarizes Alaska Native traditions in the area during the precontact and historic time periods. The following sections provide additional details.

Table 3.15-3. Timeline of Regional Cultural Traditions

Tradition		Period	Subsistence	Diagnostic Artifacts
Settlement		14,000-12,000 BP	Nomadic, focusing on large game.	
Paleoarctic Tradition (12,000-7,000 BP)	Nenana Complex	11,000-7,000 BP	Nomadic, with camps on high ground and along lake shores. Mammoth, bison, wapiti, and bird hunting	"Chindadn" points, unifacial choppers, and flake tools.
	Denali Complex	10,500-8,500 BP		Microblades, wedge-shaped cores, large blades, biconvex knives, endscrapers, and burins.
Northern Archaic Tradition		7,000-1,500 BP	Seasonal exploitation of moose, caribou, and fish.	Side-notched points.
Athabaskan Tradition		Starting c. 1,500 BP	Settlements near resource locations, with houses and cache pits.	A diverse tool kit, including fishhooks, ground and pecked lithic tools, and copper, and increased use of expedient tools.

Tradition	Period	Subsistence	Diagnostic Artifacts
Historic Period	Starting c. 220 BP	Communal seasonal round that transitions to increased sedentism and Euroamerican trade goods.	Traditional housing and tool technologies occur along with log houses and Euroamerican trade goods.

3.15.4.1 Precontact Context

Interior Alaska has been inhabited for over 14,000 years and is the location of some of the oldest archaeological sites in the Americas. The interior was well-settled by 13,000 before present (BP), although the established population may have declined from 13,000 to 12,000 BP. Populations may have decreased again c. 8,000 BP, about the time when the boreal forest formed.

The Paleoarctic Tradition (12,000 to 7,000 BP) was an early period that included nomadic hunting of large game. The Nenana Complex of the tradition includes sites within the Nenana Valley, characterized by “Chindadn” points. Assemblages of the related Denali Complex are distinguished by microblades and burins.

The Northern Archaic Tradition (7,000 to 1,500 BP) is associated with the emergence of side-notched points and diversified subsistence strategies. Populations may have increased around 6,000 BP. Subsistence was focused on seasonal game and, by the end of this period, had shifted from nomadic large game hunting to a more sedentary lifestyle featuring storage and the seasonal exploitation of more diverse, smaller, hyper-abundant resources. The Athabaskan culture, characterized by a diverse toolkit and seasonal settlements at sites of resource exploitation, may have emerged in the Tanana Valley earlier than 2,500 BP, but was well established by 1,500 BP.

3.15.4.2 Historic Context

The Salcha, Chena, Wood River, Goodpaster, and Healy Lake bands historically lived in the Tanana Valley and practiced a communal seasonal round of subsistence. After contact with Euroamericans, these bands established permanent settlements as a result of new economic and political forces, with traditional housing and tools cooccurring with log cabins and Euroamerican trade goods. Christian missionaries also dramatically altered the existing social order. The fur trade established by

Russians in the 1810s was continued by the British after 1847 and taken over by Americans after the purchase of Alaska in 1867.

The Gold Rush that followed discoveries in the Tanana uplands in 1898 brought large numbers of Euroamericans into the area, completely changing Native ways of life. The associated development of trails, roadhouses, posts, and communication systems facilitated agricultural homesteading near Fairbanks in the early 1900s and building of the Alaska Railroad after 1923. Development during World War II provided further transportation routes to the region and increased the local Euroamerican population.

3.15.4.3 Military Setting

The earliest military involvement in the interior was reconnaissance by the U.S. Army in the late 1800s. Between 1899 and 1906, the Army built posts and communication systems that connected the interior to Seattle. Ladd Field was built in 1939 to test technologies for extreme cold and was used as a critical aircraft transfer point in World War II. The Army constructed the Alaska Highway and established what would become Fort Greely, an alternative airfield to Ladd Field, in 1942. Ladd Field became Ladd AFB in 1947, when the Air Force became its own branch, and became a site for Cold War activities, including defense, reconnaissance, and research.

The Air Force transferred to Eielson AFB in 1961, and the Army took over Ladd AFB, renaming it Fort Jonathan Wainwright. Army activities focused on defense, training, and support services, and the Army created the CRREL in 1961. During the Vietnam War, Fort Greely's activities focused on arctic training. The 6th Infantry, a rapid deployment force active at FWA from 1986 to 1994, was primarily trained at Fort Greely.

3.15.5 Description of the Resource

The following descriptions of past surveys in each training area and discovered cultural resources are summarized from CEMML's 2020 annual report (Esdale et al. 2021) and the ICRMP (USAG Alaska 2020b). There are no known paleontological

resources on the withdrawn lands and faunal remains are only associated with archaeological sites, therefore they are not discussed in this document.

3.15.5.1 Precontact Resources

3.15.5.1.1 Yukon Training Area

Much of the road system and the western portion of YTA has been surveyed by CEMML archaeologists and other researchers (see Table 3.15-4 and Figure 3.15-1). As of 2020, CEMML had conducted systematic archaeological survey on 66,333 acres of land in YTA. This accounts for 25.6 percent of the total area. The road system and major training locations have been examined, and surveys are expanding into areas of future Range Control development (Esdale et al. 2021).

Table 3.15-4. Previous Surveys in YTA

Date	Author	Location
1979	John Cook (1979)	Road system
1992	Andrew Higgs and others (Higgs et al. 1999)	Stuart Creek area
1993	David Staley (1993)	19 hilltops
1998	Andrew Higgs and others (Higgs et al. 1999)	Stuart Creek area, road system
2002-Present	CEMML (Esdale et al. [2012, 2013, 2014, 2015, 2017, 2018, 2019, 2020, 2021] Gaines [2009], Gaines et al. [2010], Hedman et al. [2003], Marshall [2007], Raymond-Yakoubian and Robertson [2005], Raymond-Yakoubian [2006], and Robertson [2010])	See Figure 3.15-1

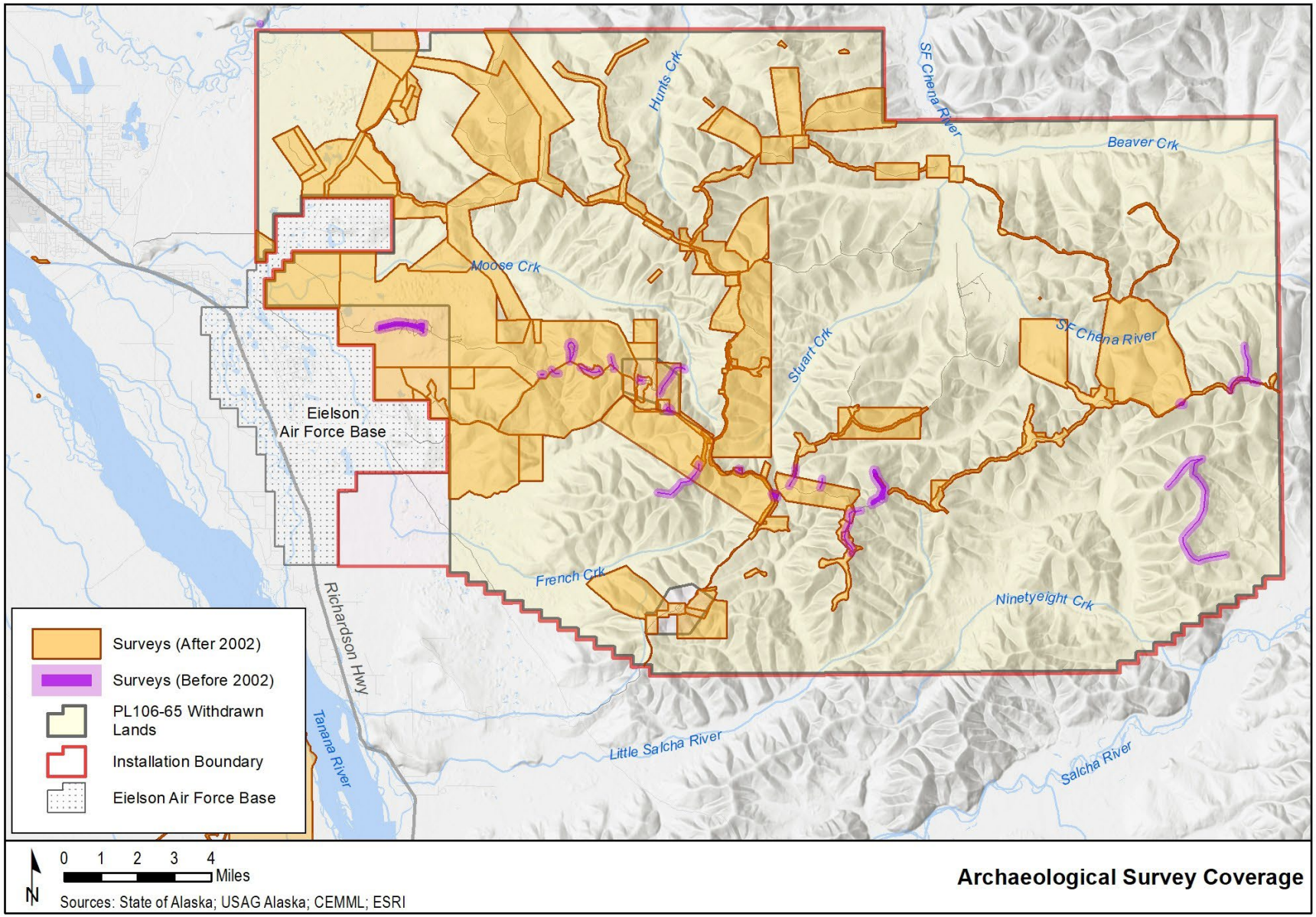


Figure 3.15-1. Current Archaeological Survey Coverage in Yukon Training Area

As of 2020, 22 archaeological sites had been discovered in YTA. Of these, 17 were determined to be ineligible for the National Register of Historic Places (National Register), and five had not been evaluated. These sites include isolated, non-diagnostic lithic debitage and rock shelters (Esdale et al. 2021).

Remaining unsurveyed areas likely have high potential for containing additional archaeological sites. Low potential areas in YTA mostly surround rivers and other narrow lowland areas (USAG Alaska 2020b).

3.15.5.1.2 Donnelly Training Area

DTAE and some of the northern portion of DTAW have the most comprehensive survey coverage (see Table 3.15-5 and Figure 3.15-2) (USAG Alaska 2020b). A total of 129,670 acres of land was surveyed in DTA between 2002 and 2020, accounting for 20.4 percent of the total land area (Esdale et al. 2021). The center of DTAW is a low-potential area and is largely unexplored because it is an active impact area. The northwest area is also considered low potential, although high-potential unsurveyed areas exist to the west, south, and east. A survey is planned for a central north section of DTAW in 2022 (USAG Alaska 2020b).

Table 3.15-5. Previous Surveys in DTA

Date	Author	Location
1967	Frederick Hadleigh West (1967)	Areas surrounding Donnelly Ridge site (XMH-00005)
1980-1983	Julia Steele (1980a, 1980b, 1982a, 1982b, 1983a, 1983b), Steele and Boyer (1980)	DTAE, existing roads and trails, other locations
1988	Georgeanne Reynolds (1988)	Donnelly Dome area
1993	David Staley (1993)	Small area west of Donnelly Dome
1999	Andrew Higgs and others (Higgs et al. 1999)	Dinosaur Ridge uplands, bluff overlooking east fork of Little Delta River, Little Delta River glaciated highlands, Delta River lowlands and floodplain, and Jarvis Creek lowlands, glaciated lowlands, and glaciated highlands
2002	Daniel Odess (2002)	Donnelly Dome area

Date	Author	Location
2002-Present	CEMML (Esdale et al. [2012, 2013, 2014, 2015, 2017, 2018, 2019, 2020, 2021], Robertson et al. [2004, 2006, 2007, 2008], Gaines [2009], Gaines et al. [2010], Hedman et al. [2003], Marshall [2007], Raymond-Yakoubian and Robertson [2005], Raymond-Yakoubian [2006], and Robertson [2010])	See Figure 3.15-2
2010	New South Associates (2010)	Various small areas in DTAE and DTAW.

As of 2020, 478 archaeological sites have been identified in DTA. Of these, five are historic and 473 date to the precontact period. Fifty-five have been found eligible for the National Register, 67 are not eligible, and the remaining 356 have not yet been evaluated (Esdale et al. 2021).

Three archaeological districts in DTA are eligible for the National Register: Donnelly Ridge (XMH-00388), Heart among the Glaciers (XMH-01552), and Jarvis Creek (XMH-01553). All the recognized Interior Alaska cultural traditions are represented at precontact sites in DTA. These sites have been critical in defining the Denali Complex and understanding culture change over time.

3.15.5.2 Historic Resources

The majority of National Register-eligible historic resources in the vicinity of the training areas are historic buildings and structures from the FWA main post, associated with World War II and the Cold War. There are five historic archaeological sites in DTA and none in YTA. The former include a roadhouse, an abandoned early 1900s vehicle, and sites associated with the winter cutoff of the historic Fairbanks-Valdez Trail.

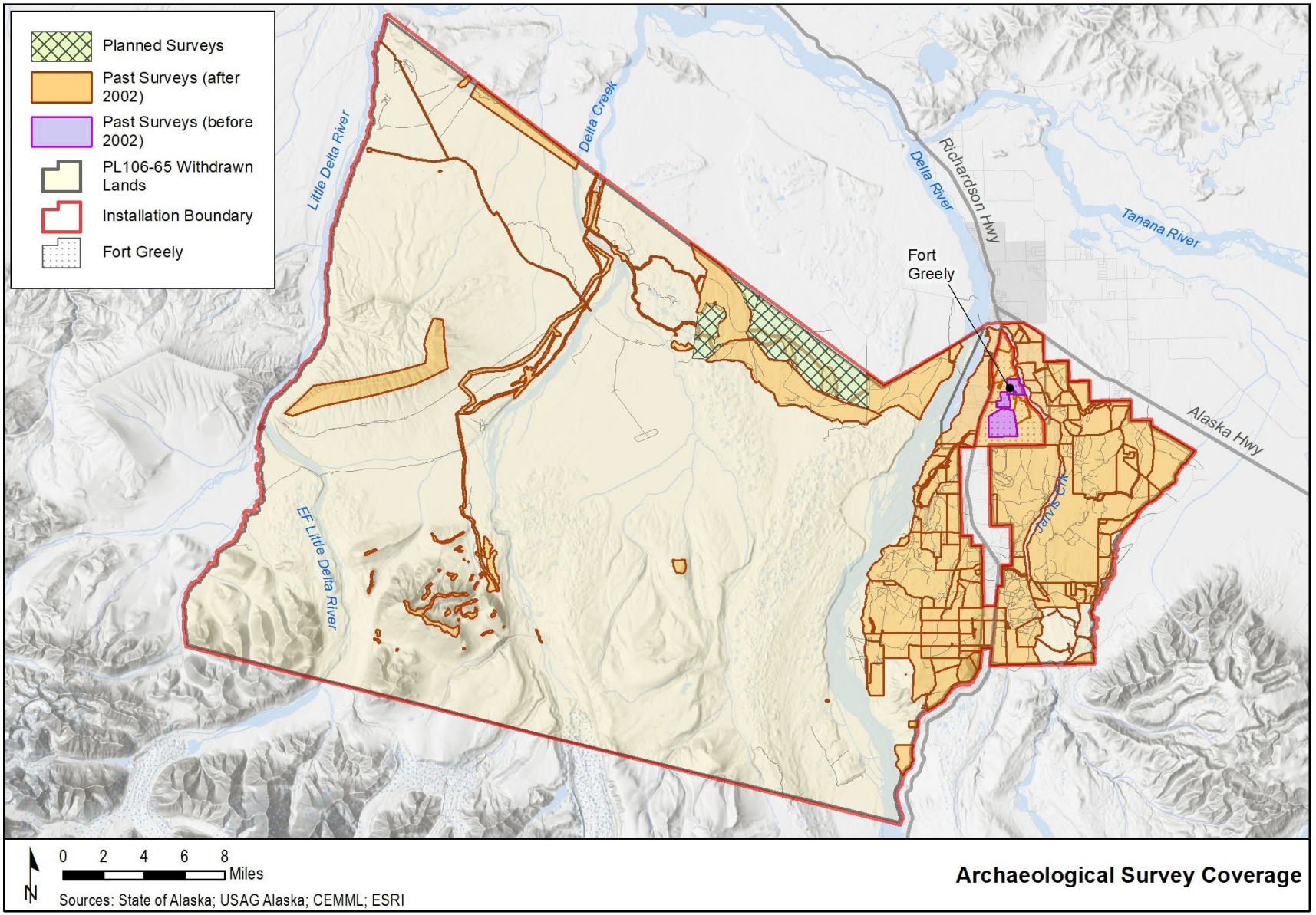


Figure 3.15-2. Current and Planned Archaeological Survey Coverage in Donnelly Training Area

3.15.5.3 Properties of Traditional Religious and Cultural Significance

The Army, in consultation with its Native tribal partners, has yet to identify any traditional cultural properties, sacred sites, or other significant cultural places in YTA or DTA. Past efforts to identify properties of traditional religious or cultural significance include a 2008 survey in DTA and an indigenous place name study in YTA. The Army remains open to new information about significant traditional religious and cultural sites.

3.15.6 CURRENT MANAGEMENT AND RESPONSIBILITIES

The Army implements the management objectives identified in the ICRMP and listed in Table 3.15-6 (USAG Alaska 2020b). In accordance with its 2016 Memorandum of Understanding with BLM, the Army takes primary responsibility to maintain historic property inventories and databases as required by Section 110 of the National Historic Preservation Act (NHPA) and for compliance with the Native American Graves Protection and Repatriation Act. The Army also issues Archaeological Resources Protection Act (ARPA) permits for activities on the withdrawn lands (BLM and USAG Alaska 2016).

Table 3.15-6. ICRMP Objectives

	Objective
1	Develop appropriate procedures to ensure all undertakings on Army-managed lands meet standard review requirements.
2	Develop, improve, and expand awareness of historic properties and their preservation by military and non-military personnel.
3	Develop partnerships with Alaska Native tribes and other consulting parties toward obtaining technical assistance regarding historic property management on Army-managed lands.
4	Request and consider input from interested parties and Alaska Native tribes early in project planning stages.
5	Implement a cultural landscape planning approach to cultural resources management that recognizes the complexity of the human cultural interaction with the natural terrain through time.
6	Update GIS data layers for traditional Alaska Native place names, archaeological sites, historic buildings and structures, and culturally relevant sites.
7	Re-focus site monitoring to assess the effects of authorized activities on known archaeological sites.

	Objective
8	Develop and implement a plan to annually conduct determinations of eligibility on archaeological sites prioritized toward areas of heavy use and in potential development zones.
9	Evaluate the six existing Army archaeological districts for contributing/noncontributing sites.
10	Re-evaluate the Ladd AFB Cold War Historic District and Fort Greely Cold War Historic District.
11	Develop a system to monitor maintenance and repair activities on historic buildings and structures.
12	Streamline protocols for maintaining confidentiality of archaeological site location information as well as sacred sites, traditional cultural properties, and sites of traditional religious and cultural significance to tribes, as appropriate.
13	Survey unsurveyed areas anticipated for ground disturbance by training activities.
14	Coordinate with Range Control to ensure that Range, ITAM, and Land Rehabilitation and Maintenance staff have access to up-to-date historic property data as needed for project planning.

3.16 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

The following subsections describe the existing conditions related to socioeconomic resources in the withdrawn land and the surrounding community. Socioeconomic resources include population and demographic information, employment, income, industry information, and description of local communities, and considers how the uses of the withdrawn land influence regional socioeconomics.

While the withdrawn lands are largely undeveloped, training activities that rely on these lands affect regional socioeconomics through the presence of permanent and transient personnel who contribute to and participate in the regional economy.

This section also considers environmental justice, identifying communities with minority or low-income populations that may be susceptible to disproportionate impact.

3.16.1 REGION OF INFLUENCE

3.16.1.1 Socioeconomics

The ROI for socioeconomics is defined as the FNSB and the Southeast Fairbanks Census Area (Figure 3.16-1). This area encompasses all the lands at YTA, and 99

percent of lands at DTA (the other one percent is a portion of DTAW that falls in the Denali Borough). This ROI reflects that the military presence in the region, which is attributable to the withdrawn lands at YTA and DTA, affects socioeconomic conditions in the entire regional economy by providing employment, income, community services, and infrastructure.

Assessment of the socioeconomic affected environment focuses on the FNSB as representative of the region. The FNSB accounts for over 70 percent of the combined population of the FNSB and the Southeast Fairbanks Census Area. Furthermore, two-thirds of the population of the Southeast Fairbanks Census Area lives in the western third of the census area, which is nearest to the FNSB and the withdrawn lands (Census 2021).

3.16.1.2 Environmental Justice

The ROI for environmental justice includes both the socioeconomics ROI and the subsistence ROI.

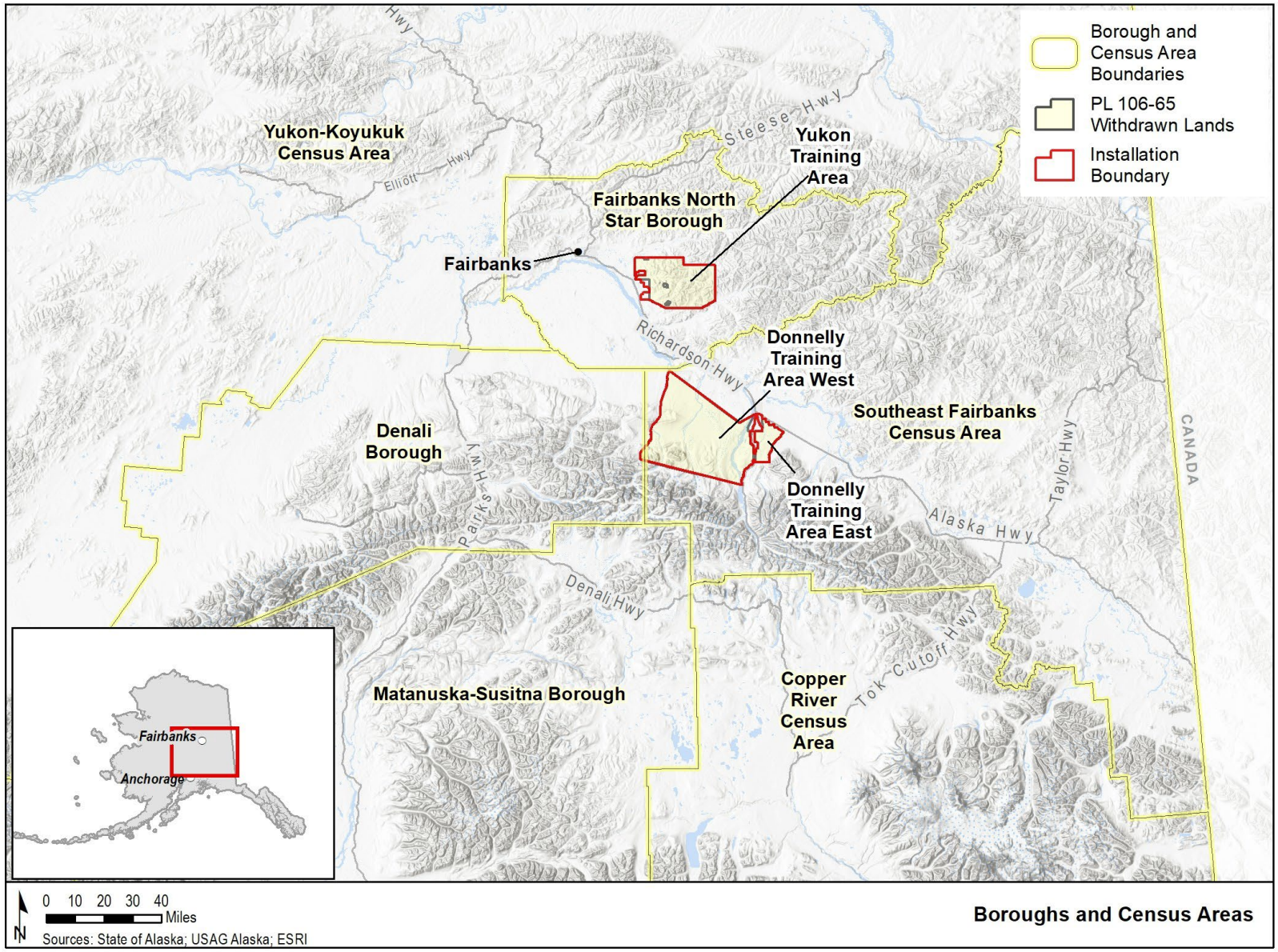


Figure 3.16-1. Boroughs and Census Areas

3.16.2 LAWS AND REGULATIONS

3.16.2.1 Socioeconomics and Environmental Justice

The primary laws, regulations, and authorities that apply to socioeconomics and environmental justice for this project include, but are not limited to, those listed in Table 3.16-1.

Table 3.16-1. Laws, Regulations, and Authorities Related to Socioeconomics

Regulation or Authority	Description
BLM Withdrawal Regulation (43 CFR Parts 2300-231 0)	• Requires consideration of socioeconomic impacts for withdrawals of public land. Nationally, defense preparedness and local jobs are important social resources and are net benefits from the Alaska Army lands withdrawal renewal.
EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	• Requires federal agencies to incorporate environmental justice into their programs, policies, and activities. • Designed to identify and address disproportionately high and adverse human health or environmental effects on citizens in either of these categories: • Minority populations are those identifying their race and ethnicity as something other than non-Hispanic White Alone (Census 2011). • Low-income populations are defined as those whose total family income is below the poverty threshold as defined by the U.S. Census.

3.16.3 FAIRBANKS NORTH STAR BOROUGH

Incorporated in 1964, the FNSB is a second-class borough that encompasses 7,361 square miles of interior Alaska. It has two incorporated cities, Fairbanks and North Pole, as well as many smaller unincorporated communities. The economic and population center of the region is in and around the communities of Fairbanks and North Pole. The total population in this area accounts for over 83 percent of the total FSNB population (Census 2021).

3.16.4 POPULATION, DEMOGRAPHICS, AND HOUSING

The State of Alaska estimates a 2020 FSNB population of 97,159. Between 2020 and 2045, the FNSB is forecasted to continue to grow, adding about 10.5 percent, or

10,200 residents, over that period (Table 3.16-2). This is only slightly less growth than the state overall, which is forecasted to add 11.7 percent to its total population over that period (Alaska DLWD 2020).

Table 3.16-2. Population

Year	FNSB	Alaska
2000	82,840	626,932
2005	90,381	667,146
2010	97,581	710,231
2015	98,808	737,786
2020	97,159	728,903
2025*	100,724	753,360
2030*	102,754	771,767
2035*	104,418	787,706
2040*	105,869	801,596
2045*	107,397	813,822

*Forecasted

Source: Alaska DLWD 2020

The distribution of population by age is affected by the presence of significant military populations in the FNSB. Table 3.16-3 compares the age distribution in the FNSB to that of the state as a whole and shows that the FNSB skews younger than the state. The median age for the FNSB is 32.8, while that of the state is 35.0 (Census 2021).

Table 3.16-3. Age

		Age Distribution			
Location	**Median Age**	**Under 5**	**5 to 18**	**Over 18**	**Over 65**
FNSB	32.8	7.9%	6.5%	75.8%	9.8%
Alaska	35	7.0%	5.2%	75.4%	12.4%

Source: Census 2021

The U.S. Census Bureau (Census) tracks race as a self-identified association with one or more of the following social groups: White, Black or African American, Asian, American Indian and Alaskan Native, Native Hawaiian and Other Pacific Islander, or Some Other Race. The Census tracks ethnicity as whether or not a person identifies as being of Hispanic or Latino origin (Census 2017). Table 3.16-4 summarizes race and ethnicity information for FNSB. Compared to the state as a whole, FNSB has a

smaller proportion of Alaskan Native population and a larger proportion of White population.

Table 3.16-4. Race and Ethnicity

Race and Ethnicity Category	FNSB	Alaska
Race Alone, Not Hispanic or Latino		
White	66.0%	57.5%
American Indian and Alaska Native	7.6%	14.8%
Asian	3.2%	5.9%
Black or African American	4.0%	2.8%
Some Other Race	0.8%	0.6%
Native Hawaiian and Pacific Islander	0.6%	1.7%
Two or More Races	10.1%	9.8%
Hispanic or Latino Ethnicity	7.7%	6.8%
Share of Minority Population*	34.0%	42.5%

Source: Census 2021

* Balance of population that is not Non-Hispanic White Alone

3.16.5 Regional Cash Economy

As one of Alaska's largest communities, Fairbanks is a regional economic hub and has a concentration of regional healthcare, education, and government service providers. In addition, the military presence at FWA, Fort Greely, and related facilities is a major contributor to regional employment and income and contributes to the demographic and economic character of the communities surrounding the installations.

3.16.5.1 Employment and Income

Table 3.16-5 presents employment, income, and poverty indicators for the FNSB as compared to the state. The median household income in the FNSB is slightly lower than that of the state, but the FNSB has lower poverty and unemployment rates than the state. The FNSB also has a higher labor force participation rate, influenced by regional age distribution.

Table 3.16-5. Employment and Income

Item	FNSB	Alaska
Median Household Income	$76,992	$77,640
Poverty Rate	8.0%	10.7%
Unemployment Rate	6.5%	7.2%
Labor Force Participation Rate	71.7%	68.6%
Employed Civilian Labor Force (persons)	45,530	347,582

Source: Census 2021

Table 3.16-6 presents the estimated 2021 base population for FWA, including full-time, rotational, and transient military, civilians, and contractors. As shown in the table, the 2021 total base population (12,884) is about 28 percent of the employed civilian labor force in the FNSB (45,530), illustrating the military's significant contribution to employment and income in the region.

Table 3.16-6. Military Population

	FWA 2021
Total Full-Time Military	6,723
Total Military*	9,876
Total Full-Time Civilians	3,006
Total Civilians*	3,008
Total Base Population	**12,884**
School-Aged Children of Military, DOD, and Non-DOD Civilians	4,709
Other Military Family	5,510
Total Family Members	**10,219**
Total Attributable Population	**23,103**

Source: USAG Alaska PAIO 2021

* Including rotational and/or transient

Additionally, there are approximately 10,200 military family members in the FNSB, some of whom may work in non-military jobs. The combined military and military family population accounts for 23 percent of the FNSB population.

To consider how the use of the withdrawn lands on YTA and DTA contribute to the base population, average annual total training days by training area were assembled,

as shown in Table 3.16-7. This direct use of the withdrawn lands represents approximately 590 full-time-equivalents, based on an assumed 8-hour average training day and a 2,080-hour work year.

Table 3.16-7. Military Use of Training Areas In Soldier Days

Training Area	Average Annual Soldier Days*
YTA	68,200
DTA	85,258
Total	**153,458**

Source: USARAK 2021

* Soldier days equal the number of soldiers trained in a specific task and can vary from a few hours to multiple days depending on the training event. Value includes use of the following facilities: training areas, drop zones, firing points/ranges, observation points, airspace, and other.

The USAG Plans, Analysis, and Integration Office (PAIO) estimates that all Defense operations, which would include FWA, contribute 28 percent of all revenue generated in the Fairbanks economy when accounting for salaries, local expenditures, and military construction (USAG Alaska PAIO 2021). For Fiscal Year 2020, the PAIO estimated $769 million in spending across salaries ($565 million), local contracts and purchases ($121 million), and military construction ($83 million).

3.16.6 Environmental Justice

Based on the income and poverty information presented in Table 3.16-5, and the demographic information in Table 3.16-4, the FNSB has a smaller proportion of minority and low-income residents than the state. There may be areas throughout the ROI with concentrations of low-income or minority populations.

Any disproportionate impact on a minority or low-income individual or community arising from changes in management of the withdrawn lands would be a function of whether that individual or community relies upon use of the withdrawn lands in some manner—such as for subsistence hunting—regardless of where the user lives. As such, individuals from throughout the ROI may be affected.

Table 3.16-8 lists communities in the FNSB and the Southeast Fairbanks Census Area that have minority or low-income population percentages that are at least five percent greater than that of the state as a whole. Figure 3.17-1 shows the location of these communities relative to the withdrawn lands.

Table 3.16-8. Communities with Minority and Low-Income Concentrations

Community	Percent Minority	Percent Low Income (Poverty Rate)	Population
ALCAN Border	77.3%	0%	176
Dot Lake Village	91.7%	27.8%	36
Eagle	54.2%	12.5%	86
Fox	30.4%	22.8%	448
Healy Lake	100%	0%	7
Northway	96.1%	45.1%	102
Tanacross	94.8%	15.7%	153
Tetlin	90.1%	41.8%	223
Alaska	**42.5%**	**10.7%**	**737,068**

Source: Census 2021

3.17 SUBSISTENCE

This section considers subsistence use of the withdrawn lands. Subsistence use refers to the non-commercial, customary, and traditional uses of wild, renewable resources. Management of lands for productive subsistence harvest and resource use is an essential component of Alaskan history, culture, and economy.

3.17.1 REGION OF INFLUENCE

The ROI for subsistence use is defined by the set of communities that fall within the same GMU subunits as the withdrawn lands, including GMUs 20A, 20B, and 20D, as well as other nearby communities whose residents may utilize the withdrawn lands for subsistence purposes, as shown in Figure 3.17-1. The identified ROI was determined to be representative for the purpose of characterizing subsistence in the region surrounding the withdrawn lands.

3.17.2 LAWS AND REGULATIONS

Federal and state regulations have similar definitions of subsistence, with both providing for the non-commercial, customary and traditional uses of wild, renewable resources for food, shelter, fuel, clothing, tools, transportation, making and selling of handicraft articles, customary trade, barter, or sharing for personal or family consumption.

Federal and state regulations differ in defining the segment of the population which qualifies as eligible to participate in subsistence harvest pursuant to federal or state regulations. Both federal and state regulations use ADFG's GMU boundaries as their geographic units of administration. The withdrawn lands intersect ADFG GMU subunits 20A, 20B, and 20D (see Figure 3.17-1).

Consideration of subsistence under NEPA reflects a broad definition of subsistence which may be more inclusive than the specifically regulated federal subsistence activity on federal lands pursuant to the Alaska National Interest Lands Conservation Act (ANILCA). Additionally, state and federal regulations have some regulatory differences.

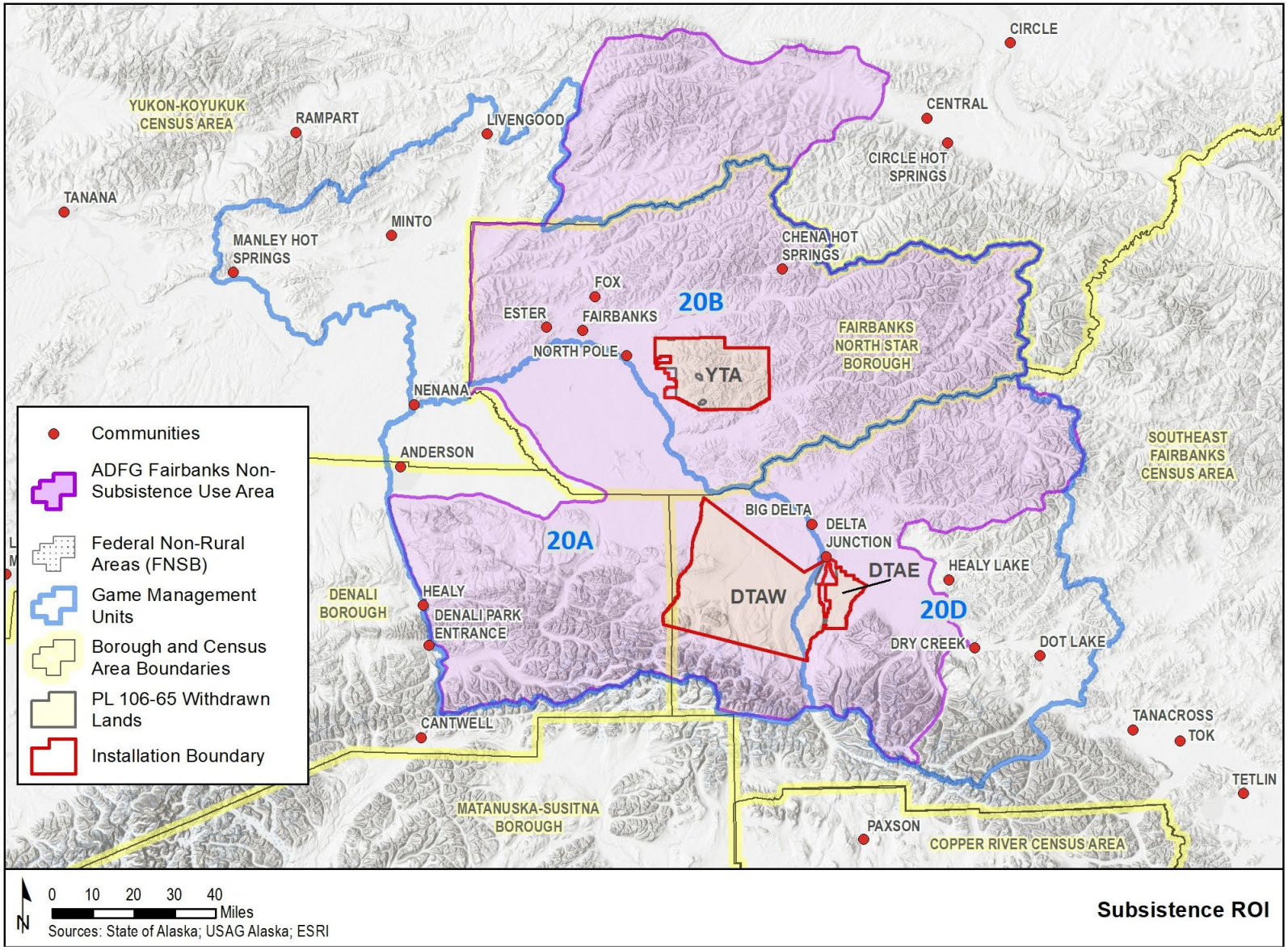


Figure 3.17-1. Subsistence ROI

3.17.2.1 Federal Laws and Regulations

Section 810 of ANILCA requires that an evaluation of subsistence uses and needs be completed to "withdraw, reserve, lease, or otherwise permit the use, occupancy or disposition of public lands." Federal subsistence regulations do not apply to military training lands, as specified in 50 CFR § 100.3(d), but because changes in management of the withdrawn lands would affect federal lands subject to ANILCA, BLM is required to prepare a subsistence analysis under Section 810. This analysis is found in Appendix 7.0.

Under federal subsistence regulations, which apply only to federal public lands, rural residents are eligible to engage in subsistence practices allowed under ANILCA. The entirety of the FNSB is designated a non-rural area under federal subsistence regulations, meaning that FNSB residents are not qualified to participate in federal subsistence harvest. As such, much of the population living adjacent to the withdrawn lands would remain ineligible for participation in federal subsistence harvest under ANILCA, regardless of the status of the withdrawn lands. There are other nearby rural communities outside of the FNSB (Figure 3.17-1) that include residents who are federally qualified subsistence users and who may participate in subsistence under ANILCA on any federal public lands (including federal lands within the FNSB), pursuant to existing federal harvest regulations for ADFG GMUs 20A, 20B, and 20D. Federal subsistence regulations under ANILCA do not apply to the withdrawn lands because the lands are currently withdrawn from the public domain for military training purposes under PL 106-65. Return of the lands to federal public domain would make federal subsistence regulations applicable to the lands, which could result in additional opportunity for federally qualified rural residents in the region.

3.17.2.2 State Laws and Regulations

Under state regulations, all permanent Alaskan residents are considered subsistence users. ADFG manages harvest subject to a subsistence priority, and as such subsistence users may be eligible to harvest fish and game subject to subsistence

regulations. Some areas of the state, which have been designated by ADFG as being within urbanized areas, are categorized as non-subsistence use areas. Within these areas, ADFG allows harvests under sport, personal use, or commercial hunting and fishing regulations, but not under subsistence regulations.

AFDG's Fairbanks Non-subsistence Use Area encompasses the withdrawn lands. Due to this designation, there is effectively no state subsistence priority for harvest of resources on the withdrawn lands, and hunting and fishing are subject to ADFG general regulations and management. These state-designated non-subsistence areas often overlap with federally designated non-rural areas, though they remain separate regulatory designations.

3.17.2.3 Summary of State and Federal Seasons and Bag Limits

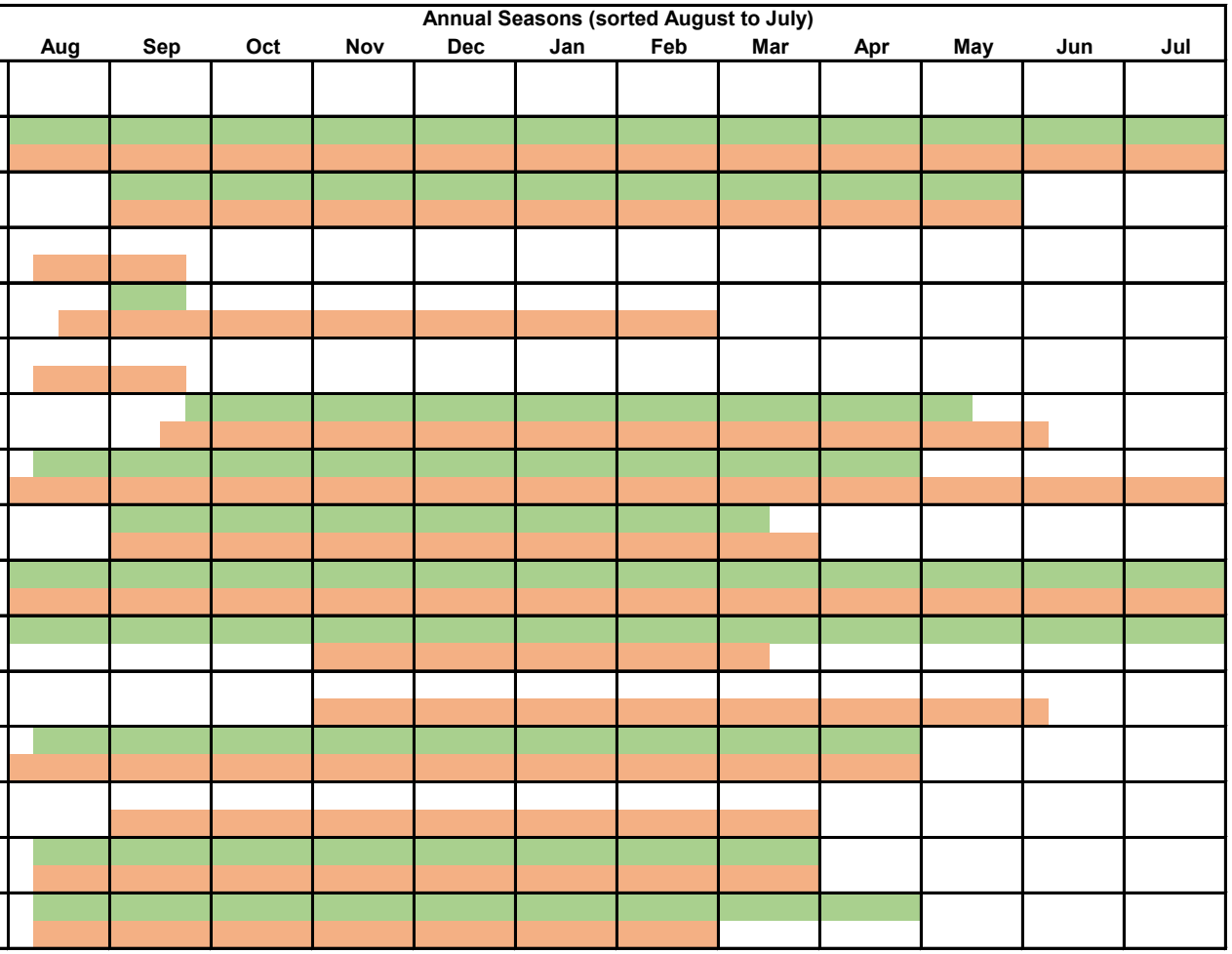
As discussed in the laws and regulations section, because the lands are withdrawn from the public domain, federal subsistence harvest regulations are not applicable to them, and all harvest of fish and game for subsistence or sport purposes occurs pursuant to ADFG's state regulations. As such, seasons and harvest limits are governed by ADFG general regulations. If the withdrawn lands were returned to the public domain, rural residents (as defined by federal regulations) may have additional opportunities for subsistence harvest due to differences in federal harvest season dates and bag limits.

Tables 3.17-1 through 3.17-3 crosswalk the seasons and harvest limits for a variety of game species under state and federal regulations for GMUs 20A, 20B, and 20D. As shown in the tables, bag limits are generally aligned between federal and state regulations. In general, state regulations also offer early and late season opportunities for key big game species such as moose, though these early and late hunts are generally managed hunts within small areas requiring that hunters obtain a harvest ticket or permit, which are limited in quantity. September offers the most moose hunting opportunity in both the federal and state regulations. The tables illustrate that under federal subsistence regulations, hunters may enjoy longer seasons for small game and furbearers, though bag limits remain aligned with state regulations. Note that these differences between state and federal regulations would

not be relevant for residents of the FNSB, as they are located in a federally defined non-rural area and would not be eligible to participate in subsistence under ANILCA. Federally qualified hunters could take advantage of federal seasons as well as hunting under state regulations. Therefore, availability of federal public land could benefit nearby rural communities outside of this non-rural area.

Table 3.17-1. Summary of Federal and State Harvest Regulations, GMU 20A

Species	Type	Limits	Annual Seasons (sorted August to July)
			Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul
Bison	Federal	No Federal Season	
	State	No State Season	
Black Bear	Federal	3 bear	
	State	3 bear	
Brown Bear	Federal	1 bear	
	State	1 bear	
Caribou	Federal	No Federal Season	
	State	1 bull caribou	
Moose	Federal	1 bull moose	
	State	1 moose	
Sheep	Federal	No Federal Season	
	State	1 ram	
Beaver	Federal	6 beaver	
	State	No limit	
Coyote	Federal	10 coyotes	
	State	no limit	
Fox	Federal	10 foxes	
	State	10 foxes; no trap limit	
Hare	Federal	no limit	
	State	no limit	
Lynx	Federal	2 lynx	
	State	2 lynx; no trap limit	
Muskrat	Federal	No Federal Season	
	State	no limit	
Wolf	Federal	10 wolves	
	State	10 wolves	
Wolverine	Federal	No Federal Season	
	State	1 wolverine	
Grouse	Federal	15 grouse	
	State	15 grouse	
Ptarmigan	Federal	20 ptarmigan	
	State	20 ptarmigan	



Sources: ADFG 2021b, DOI 2021; No Federal Season indicates that harvest will follow only ADFG regulations. This summary: 1) does not reflect special management areas within the subunits which may impose additional restrictions, 2) reflects ADFG regulations for state residents and federal subsistence regulations for rural residents, 3) reflects the maximum ADFG season duration and bag limit across resident-eligible hunts, including hunts requiring a permit or a drawing, and 4) generalizes season dates using equal 4-week months for display purposes.

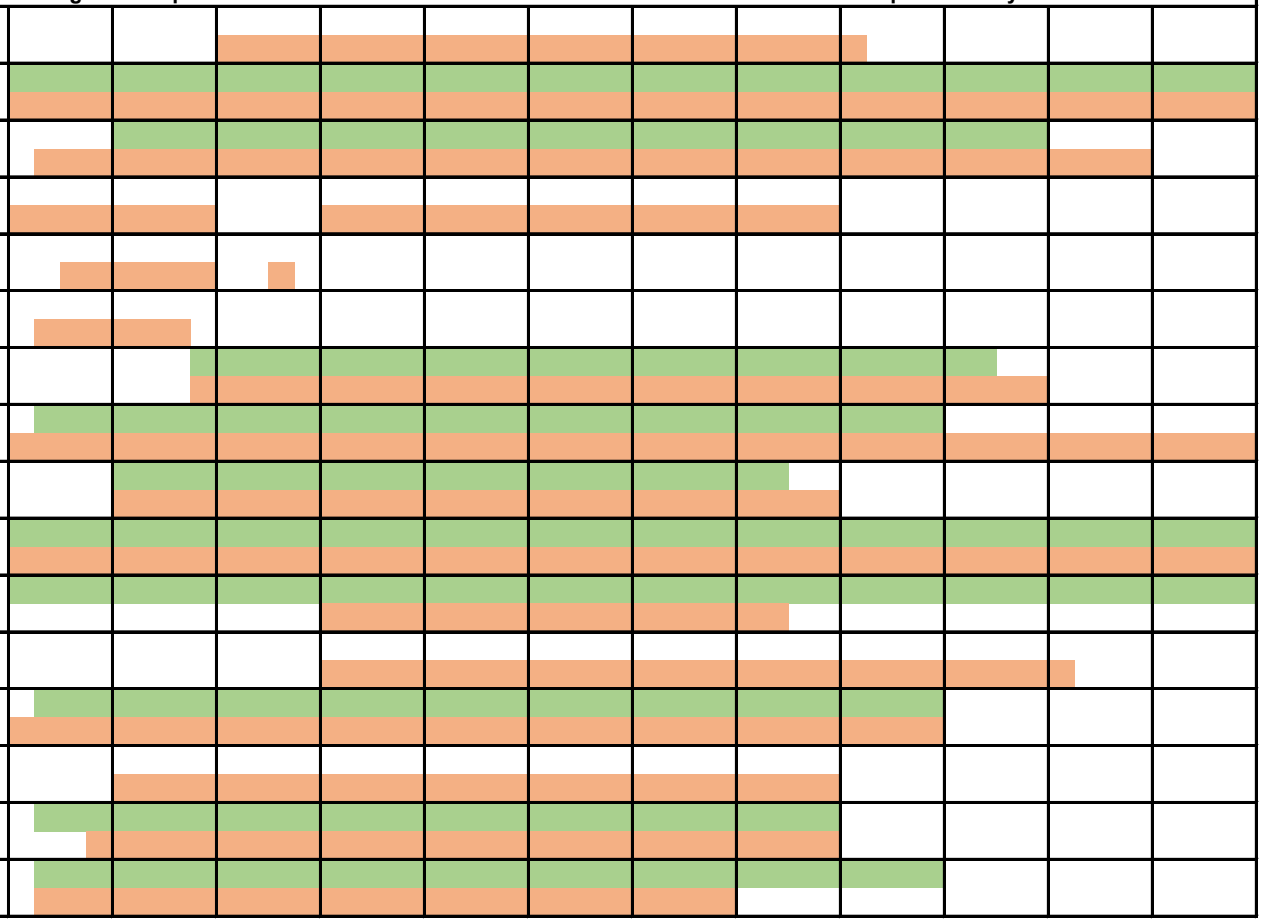
Table 3.17-2. Summary of Federal and State Harvest Regulations, GMU 20B

Species	Type	Limits	Annual Seasons (sorted August to July)											
			Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Bison	Federal	No Federal Season												
	State	No State Season												
Black Bear	Federal	3 bear												
	State	3 bear												
Brown Bear	Federal	1 bear												
	State	1 bear												
Caribou	Federal	No Federal Season												
	State	1 caribou												
Moose	Federal	1 bull moose												
	State	1 moose												
Sheep	Federal	No Federal Season												
	State	1 ram												
Beaver	Federal	6 beaver												
	State	No limit												
Coyote	Federal	10 coyotes												
	State	no limit												
Fox	Federal	10 foxes												
	State	10 foxes; no trap limit												
Hare	Federal	no limit												
	State	no limit												
Lynx	Federal	2 lynx												
	State	2 lynx; no trap limit												
Muskrat	Federal	No Federal Season												
	State	no limit												
Wolf	Federal	10 wolves												
	State	10 wolves												
Wolverine	Federal	No Federal Season												
	State	1 wolverine												
Grouse	Federal	15 grouse												
	State	15 grouse												
Ptarmigan	Federal	20 ptarmigan												
	State	20 ptarmigan												

Sources: ADFG 2021b, DOI 2021; No Federal Season indicates that harvest will follow only ADFG regulations. This summary: 1) does not reflect special management areas within the subunits which may impose additional restrictions, 2) reflects ADFG regulations for state residents and federal subsistence regulations for rural residents, 3) reflects the maximum ADFG season duration and bag limit across resident-eligible hunts, including hunts requiring a permit or a drawing, and 4) generalizes season dates using equal 4-week months for display purposes.

Table 3.17-3. Summary of Federal and State Harvest Regulations, GMU 20D

Species	Type	Limits	Annual Seasons (sorted August to July)
			Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul
Bison	Federal	No Federal Season	
	State	1 bison every 10 years	
Black Bear	Federal	3 bear	
	State	3 bear	
Brown Bear	Federal	1 bear	
	State	1 bear	
Caribou	Federal	No Federal Season	
	State	1 caribou	
Moose	Federal	No Federal Season	
	State	1 moose	
Sheep	Federal	No Federal Season	
	State	1 ram	
Beaver	Federal	6 beaver	
	State	No limit	
Coyote	Federal	10 coyotes	
	State	no limit	
Fox	Federal	10 foxes	
	State	10 foxes; no trap limit	
Hare	Federal	no limit	
	State	no limit	
Lynx	Federal	2 lynx	
	State	2 lynx; no trap limit	
Muskrat	Federal	No Federal Season	
	State	no limit	
Wolf	Federal	10 wolves	
	State	10 wolves	
Wolverine	Federal	No Federal Season	
	State	1 wolverine	
Grouse	Federal	15 grouse	
	State	5 grouse	
Ptarmigan	Federal	20 ptarmigan	
	State	20 ptarmigan	



Sources: ADFG 2021b, DOI 2021; No Federal Season indicates that harvest will follow only ADFG regulations. This summary: 1) does not reflect special management areas within the subunits which may impose additional restrictions, 2) reflects ADFG regulations for state residents and federal subsistence regulations for rural residents, 3) reflects the maximum ADFG season duration and bag limit across resident-eligible hunts, including hunts requiring a permit or a drawing, and 4) generalizes season dates using equal 4-week months for display purposes.

3.17.3 Regional History and Resource Significance

Prior to Euroamerican settlement, native Alaskans were organized into semi-nomadic bands and inhabited broad ranges of land in interior Alaska, their seasonal movement reflecting the seasonal availability of fish and game. As settlement began in the Fairbanks area in the early 1900s, native Alaskans developed more permanent communities in the region, relying on more localized subsistence harvest (USARAK 1999). Figure 3.17-1 shows the locations of the communities in the ROI, including both urban and rural communities.

3.17.3.1 Moose

Within GMUs 20A, 20B, and 20D, moose (*Alces alces*) is one of the most important game species for hunters in the region. Moose are the largest member of the deer family, with the Alaska-Yukon subspecies being the largest (ADFG 2022a). Approximately 6,000 to 8,000 moose are harvested each year in the state of Alaska, which equates to about 3.5 million pounds of usable meat (ADFG 2022a).

ADFG prepares management and harvest reports for game species by management units in 5-year periods. These reports use field-collected data to summarize wildlife population sizes and distribution. ADFG uses this information to make management and harvest objectives and goals. Data from the most recent management reports suggest that moose populations are growing, and current population sizes fall within the management objectives. ADFG will continue to manage the population, with the goal of maintaining current population sizes. To meet these objectives, ADFG GMUs 20A, 20B, and 20D have harvest objectives of 900 to 1,100 moose, 600 to 1,500 moose, and 500 to 700 moose, respectively, over the next five years (Young 2017; Hollis 2018; Bruning and Schmidt 2018). The Delta Junction Management Area of 20D, open to hunting only by permit via drawing hunts, is located on the eastern bank the Delta River, south of the Tanana River, and encompasses most of DTAE and a small portion of DTAW. Managed hunts in this area resulted in an average harvest of 10-11 moose per year for the six-year period between 2010 and 2015 (Bruning and Schmidt 2018).

3.17.3.2 Caribou

Caribou (*Rangifer tarandus*), a large member of the deer family, play an important role in interior Alaska subsistence harvest. Approximately 32 herds of caribou are distributed across the state of Alaska, and three herds reside within ADFG GMUs 20A, 20B, and 20D: the Delta herd, the White Mountains herd, and the Macomb herd, respectively. Approximately 22,000 caribou are harvested each year in the state of Alaska. A 400-pound caribou equates to approximately 100 pounds of usable meat, indicating that approximately 2.2 million pounds of meat is harvested in the state each year (ADFG 2022b).

Caribou management is organized by herd rather than GMU. The Delta caribou herd in GMU 20A has been steadily declining and did not meet the 2012-2017 management objectives of 5,000 to 7,000 caribou population size at the end of the 5-year period. The population decline resulted from adverse weather and predation from wolves and grizzly bears (Hollis 2021). Future management goals for the herd aim to restore its size to provide higher quality hunts and increased harvest opportunity.

Historically, the Fortymile caribou herd in GMU 20B was managed separately from the White Mountains caribou herd, but due to the recent herd mixing, the two populations have been managed together as the Fortymile caribou herd since 2012. The Fortymile caribou herd historical range was located east and southeast of Fairbanks in the lower east end of GMU 20B. The Fortymile caribou herd population steadily increased to over 50,000 by 2009, while the White Mountains caribou herd population declined below 500. The newly managed Fortymile caribou herd has been steadily increasing and meets management objectives (Nelson 2020).

The Macomb caribou herd is a smaller herd that resides in the foothills of the eastern Alaska Range, from Delta River south to the Mentasta Highway. Their range overlaps with DTA. Due to wolf predation and historically high harvest rates, the Macomb caribou herd population has stayed below its goal size of 1,000 individuals for decades, fluctuating between 500 and 800 caribou. The hunting boundary has been moved west to reduce ease of access to the hunting area from the Richardson

Highway. The 2012-2017 management objectives were set to 600 to 800 caribou, with a harvest objective of 30 to 50 caribou (Schmidt 2021). This objective was met with the most recent population count at 729 caribou.

3.17.3.3 Bison

Plains bison (*Bison bison*) are less widely hunted for subsistence use than moose or caribou and occur only in GMU 20D. The Delta bison herd spends the spring in DTA and the rest of the year on the Delta Junction Bison Range, which overlaps with the Gerstle River Training Area southeast of DTA. The Delta bison herd population has remained stable and its only management objective is to maintain a harvestable surplus of 70 or more bison per year (Schmidt and Cooper 2021). Future management of the herd will focus on maintaining a stable population as well as monitoring the herd for abnormal diseases that may spill over to livestock.

3.17.4 AVAILABILITY OF SUBSISTENCE USE DATA

Visitation data for the withdrawn lands do not distinguish between public use of the lands for subsistence and recreation use. Relevant data were gathered from available state and federal databases to characterize subsistence resources and use in the ROI. These datasets are described below and are referenced in subsequent sections.

3.17.4.1 USATRAK iSportsman

As described in Section 3.4, use of the USARTRAK iSportsman check-in system is required for public access to the withdrawn lands. Information collected from users includes trip purpose. The data available from this system is the only data source that provides information that is geographically specific to the PL 106-65 withdrawn lands.

3.17.4.2 ADFG Community Subsistence Information System

A source of subsistence-related information is the ADFG Community Subsistence Information System (CSIS), a state program that periodically performs subsistence harvest surveys within individual communities to profile subsistence resource harvest

in detail for each rural community in Alaska. Because the program focuses on rural communities as defined by the state, no data are available from the program for communities in the immediate vicinity of the withdrawn lands, since these are located within the Fairbanks Non-subsistence Use Area defined by the state. Additionally, as previously discussed, there are differences between the regulatory definitions of subsistence at the state and federal level.

Summary harvest information was available from the CSIS for several outlying communities in the ROI, including Anderson, Cantwell, Denali Park, Dot Lake, Dry Creek, Ferry, Healy, Manley Hot Springs, Minto, Nenana, Northway, Paxon, Rampart, Tanacross, Tanana, Tetlin, and Tok (Figure 3.17-1). While not comprehensive in its coverage of communities in the ROI, this data source was useful because it provided a general summary of harvest that included salmon and non-salmon fish, providing some context as to the relative importance of game and fish in the ROI.

3.17.4.3 ADFG Detailed Harvest Data

ADFG's management of hunting in Alaska includes collection of detailed harvest information from hunter-reported harvest, surveys, and other methods. Publicly available ADFG datasets publish harvest statistics at the GMU level (e.g., GMU 20) and subunit level (e.g., GMUs 20A, 20B, and 20D). The ADFG datasets do not provide a means of distinguishing specifically where harvest occurred within a GMU, and ADFG data that directly reports harvest on the withdrawn lands is not available. The data are able to report only at the GMU subunit level (i.e., 20A, 20B, or 20D).

To ensure that best available data were being utilized, a special data request was made to ADFG to obtain more detailed harvest information. ADFG was able to provide harvest records for the last decade that report targeted species, GMU subunit of harvest, and the zip code of the hunter's residence for harvest that occurred in GMUs 13 or 20. Figure 3.17-2 displays the geographic delineation of GMU subunits across the communities identified in the ROI. The provided dataset did not include fish, included only some game species, and included harvest recorded by the state, which includes joint state/federal harvest, but excludes any data from federal

subsistence-only hunts. However, it did include a substantial amount of data for the key species of moose and caribou that were used to characterize overall harvest patterns. While this dataset does not explicitly quantify harvest on the withdrawn lands, and is based on ADFG harvest records not necessarily limited to subsistence uses, the zip code information in the dataset provided the most geospatially detailed information available to characterize the game species of importance in each GMU subunit and the importance of the GMU subunits to communities in the ROI.

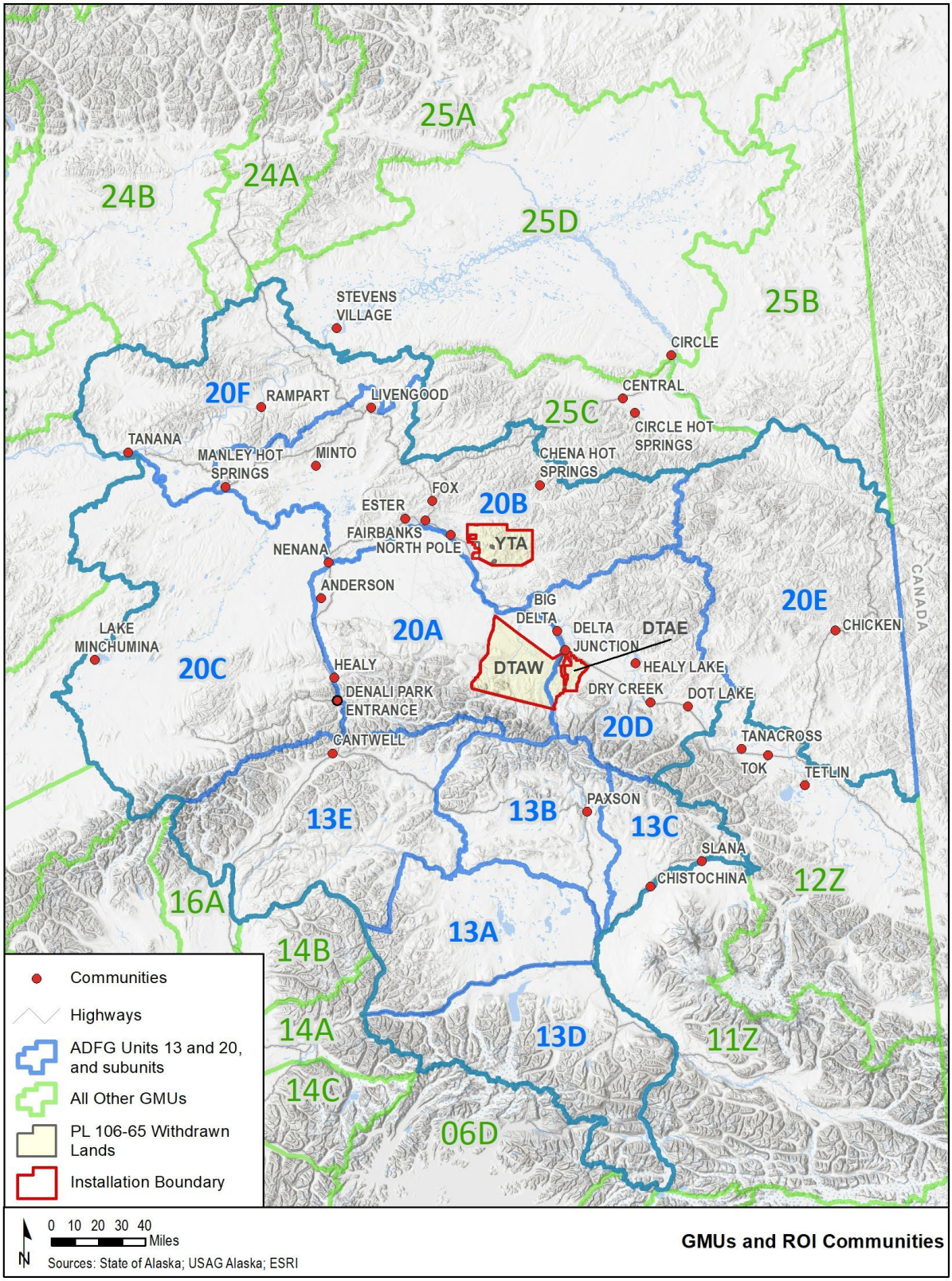


Figure 3.17-2. ROI Communities and GMU Subunits

The dataset included hunter zip code of residence, but not explicit identification of the community of residence. Of the 23 zip codes that encompass the ROI communities, 15 zip codes are representative of a single community, while eight zip codes include populations from more than one community. In order to allocate the harvest data in zip codes containing more than one community, a spatial analysis estimated the proportion of each community's population in the zip code. For example, 71 percent of harvest records in zip code 99573 were assigned to Chistochina, and 29 percent to Paxson, based on the proportion of the population of the zip code that could be attributed to each community based on available census data. This approach was determined to be the best available interpretation of the data, with the following notable assumptions:

- The approach results in the same harvest patterns for residents of a given zip code. Data are not available to determine, for example, if Chistochina and Paxson residents actually target moose and caribou in different proportions, because the species mix is driven by the zip code level data.
- The analysis was based on harvest records for the 2010 to 2020 period, and excluded records associated with unsuccessful hunts. This focuses the analysis on where game tends to be successfully harvested, though these locations may not be representative of all locations utilized for other subsistence activities, successful or otherwise.
- The analysis excludes incomplete records. In total, there were approximately 27,000 complete harvest records (successful hunts) available for the 11-year period from 2010 through 2020, representing harvest of beaver, bison, black bear, lynx, caribou, Dall sheep, and moose. The data available from ADFG did not include brown bear, and the only furbearers represented were beaver, river otter, and lynx. Additionally, the dataset does not appear to include harvest information for hunts open only to federally qualified subsistence users (e.g., GMU 13 federal caribou hunts). As such, this dataset is considered representative, but not necessarily exhaustive.

- Due to the nature of the data extracted for this purpose by ADFG, it is not readily comparable to the general harvest data reported in Section 3.4, because this dataset focuses on harvest by residents of the communities in the ROI, rather than from the total population of hunters. These data are best interpreted as indicative of trends and gross levels of harvest in the ROI, rather than as precise estimates of harvest for each community.

Overall, the ADFG harvest data offers the most detailed characterization of community-level harvest that is available for the ROI communities.

3.17.4.4 Federal Subsistence Hunt Data for GMU 13

Because there is currently no federal subsistence harvest on the withdrawn lands, federal subsistence harvest information from other areas is referenced. GMU 13, which is directly south of GMU 20, hosts federal subsistence hunts for caribou and moose. Recent harvest information for these federal subsistence hunts showed that federally qualified GMU 20 residents in Delta Junction were frequent participants in the federal subsistence hunts in GMU 13. These data were useful as a means of considering the importance of a federal subsistence priority in providing opportunities to harvest subsistence resources and attracting subsistence hunters from within the region, as well as for considering how changes in management and access on the withdrawn lands might affect competition during key moose and caribou seasons (OSM 2022).

3.17.5 Recorded Use of the Withdrawn Lands

The only available data that is specific to use occurring on the withdrawn lands comes from the USARTRAK iSportsman check-in database. In YTA, approximately 20 percent of the withdrawn lands are permanently closed to recreation, and the remaining 80 percent (196,700 acres) are publicly accessible, meaning they are open to recreation and public use, including any uses with subsistence purposes, subject to applicable Army and ADFG regulations, as previously described. In DTA, approximately 25 percent of the withdrawn lands are permanently closed to public access, and the remaining 75 percent (468,000 acres) are open to public use.

Subunits on these lands may be intermittently closed for training purposes at the discretion of the Army.

Available visitation data indicate that the harvest of fish and game is a key public use of lands and represented about 47 percent of use in 2020 based on the recreation user USARTRAK iSportsman check-in system.

Other uses of land recorded by USARTRAK iSportsman that may be expected to have a subsistence component include camping, wood harvest, and harvest of other plants or natural materials for subsistence use. These types of recreation represented about 8 percent of use in 2020.

The USARTRAK system also includes an 'Other Use' category, which represented about 29 percent of reported use. No data are available to subdivide this category. This category includes experiential activities such as hiking and nature viewing but may also include harvest of plants or materials for subsistence use, such as berry picking.

3.17.6 Consideration of the Importance of the Withdrawn Lands for Subsistence Use by Communities in the ROI

3.17.6.1 CSIS Profile of Regional Subsistence

Based on the CSIS, summary harvest information was available for several outlying communities in the ROI, including Anderson, Cantwell, Denali Park, Dot Lake, Dry Creek, Ferry, Healy, Manley Hot Springs, Minto, Nenana, Northway, Paxon, Rampart, Tanacross, Tanana, Tetlin, and Tok (Figure 3.17-1). For these communities, a profile of per capita subsistence harvest by resource type is provided in Table 3.17-4. As shown in the table, quantity and type of resource harvest varies by community, though in general, fish, large land mammals, and vegetation are harvested in all the communities. When considering the data in aggregate, per capita harvest for the region is estimated at 189 pounds per year.

Table 3.17-4. Summary of Subsistence Harvest by Community

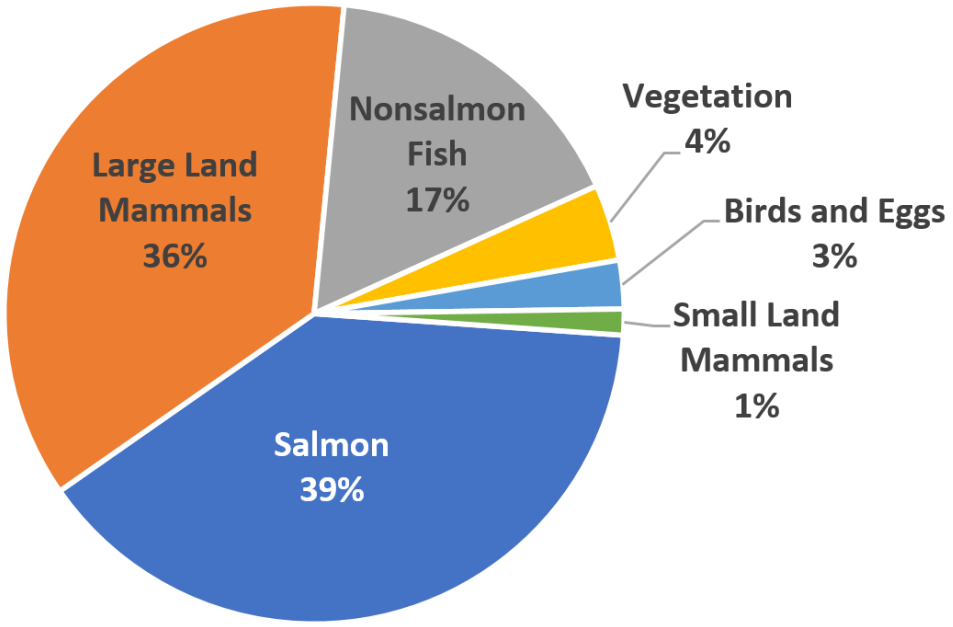
Community	Data Year [1]	Survey Population [2]	Per Capita Harvest (Pounds)	Salmon	Non-Salmon Fish	Large Land Mammals	Small Land Mammals	Birds and Eggs	Vegetation
Rampart	2014	39	378	231 (61%)	31 (8.2%)	103 (27%)	4 (1.1%)	9 (2.4%)	1 (0.3%)
Tanana	2014	204	969	692 (71%)	168 (17%)	94 (10%)	1 (0.1%)	8 (0.8%)	6 (0.6%)
Manley Hot Springs	2012	123	426	350 (82%)	32 (7.5%)	21 (4.9%)	1 (0.2%)	2 (0.5%)	20 (4.7%)
Minto	2012	176	226	97 (43%)	21 (9.3%)	87 (38%)	2 (0.9%)	10 (4.4%)	9 (4.0%)
Nenana	2015	584	111	46 (41%)	13 (12%)	37 (33%)	2 (1.8%)	7 (6.3%)	6 (5.4%)
Anderson	2015	186	80	37 (46%)	10 (13%)	25 (31%)	-	2 (2.5%)	6 (7.5%)
Ferry	2015	41	111	63 (56%)	11 (10%)	17 (15%)	-	4 (3.6%)	15 (13%)
Healy	2014	1006	52	9 (18%)	5 (10%)	34 (67%)	-	1 (2.0%)	2 (3.9%)
Denali Park	2015	172	57	26 (44%)	9 (15%)	10 (17%)	-	1 (1.7%)	12 (20%)
Cantwell	2012	196	101	15 (15%)	7 (7%)	72 (71%)	1 (1.0%)	1 (1.0%)	5 (5.0%)
Dry Creek	2011	91	140	17 (12%)	3 (2.2%)	106 (77%)	-	1 (0.7%)	11 (8.0%)
Dot Lake	2011	50	118	44 (37%)	8 (6.8%)	50 (42%)	1 (0.8%)	1 (0.8%)	14 (12%)
Tanacross	2004	151	166	39 (16%)	88 (35%)	99 (40%)	11 (4.4%)	5 (2.0%)	8 (3.2%)
Tok	2011	1312	202	51 (25%)	24 (12%)	111 (55%)	2 (1.0%)	4 (2.0%)	9 (4.5%)
Tetlin	2004	139	242	2 (0.9%)	124 (58%)	65 (30%)	13 (6.1%)	6 (2.8%)	4 (1.9%)
Northway	2014	194	314	41 (13%)	124 (39%)	86 (27%)	16 (5.1%)	28 (8.9%)	19 (6.1%)
Paxson	2013	32	214	57 (27%)	40 (19%)	84 (39%)	15 (7.0%)	5 (2.3%)	12 (5.6%)
COMBINED	-		189	74 (39%)	32 (17%)	68 (36%)	3 (1.3%)	5 (2.5%)	7 (4.0%)

Source: ADFG 2021a. Note: Values may not add due to rounding. Marine mammals and marine invertebrates not displayed due to negligible harvest. Combined total reflects weighting by survey population. Includes communities surveyed by ADFG; does not include the communities in the Delta Junction area, which are located within the State non-subsistence use area, but are federal subsistence rural communities.

1. *Most Representative Year* as designated by ADFG in the Community Subsistence Information System database.

2. Population estimated by ADFG for data year

Figure 3.17-3 presents the breakdown of this harvest between the different resource categories. While the withdrawn lands do not offer significant opportunities for harvest of salmon, there are opportunities for harvest of plants, animals, and natural resources falling into the remaining categories. These data illustrate the regional importance of lands that provide hunting, non-salmon fishing, and vegetation harvest opportunities.



Source: ADFG 2021a

Figure 3.17-3. Regional Subsistence Resource Use Summary

3.17.6.2 Species Harvested by GMU Subunit and Community

Based on the detailed harvest data obtained from ADFG for harvest in GMUs 13 and 20, and federal subsistence hunt data for GMU 13, an analysis was performed to estimate, by community, the types of game targeted by hunters and the proportion of hunting that occurs in each GMU subunit for each community. Note that data are not available to describe where harvest occurs beyond the GMU subunit level.

The ADFG dataset included information for harvest of eight game species: beaver, bison, black bear, Canadian lynx, caribou, Dall sheep, moose, and river otter. The federal subsistence hunt data for GMU 13 included moose and caribou harvested under

federal subsistence permits only, not for federal subsistence harvest that occurred by use of state harvest tickets or joint state/federal registration permits, or harvest for potlaches. Figure 3.17-4 summarizes the average number of animals harvested per year by GMU subunit, based on the 2010-2020 period, for the combined harvest of all communities in the ROI. Figure 3.17-5 converts these harvest counts to an estimate of meat yield for moose, caribou, sheep, bear, and bison, based on typical meat yield by species from the ADFG species profile for each animal (ADFG 2022c).

As shown in the figures, GMUs 20B, 20A, and 20D are the three most important GMU subunits for moose harvest for ROI communities, accounting for about 78 percent of total moose harvest for those communities. The ROI communities have an estimated average annual harvest of nearly 1,000 moose, generating over 400,000 pounds of moose meat per year.

For caribou, available data suggest that the most important GMU subunits for ROI communities are 13B, 20B, and 20E. The use of GMU 13 skews heavily toward Delta Junction and other federally qualifying rural communities in the southeast portion of the ROI, for whom access to GMU 13 via the Richardson Highway is most convenient. GMUs 20B, 20D, and 20E are important areas for caribou harvest from the Fortymile caribou herd. Available data shows harvest of nearly 600 caribou per year for the ROI communities, generating around 52,000 pounds of meat per year.

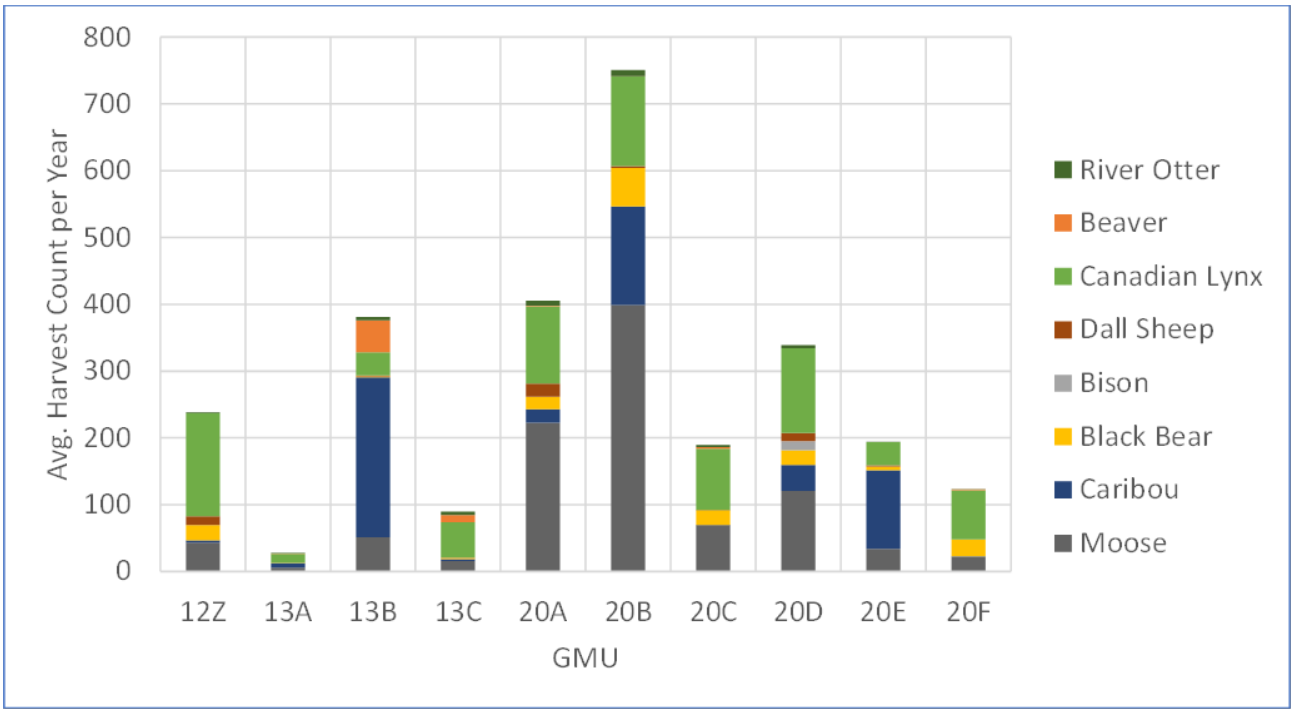


Figure 3.17-4. Total Harvest by ROI Communities by GMU Subunit and Species

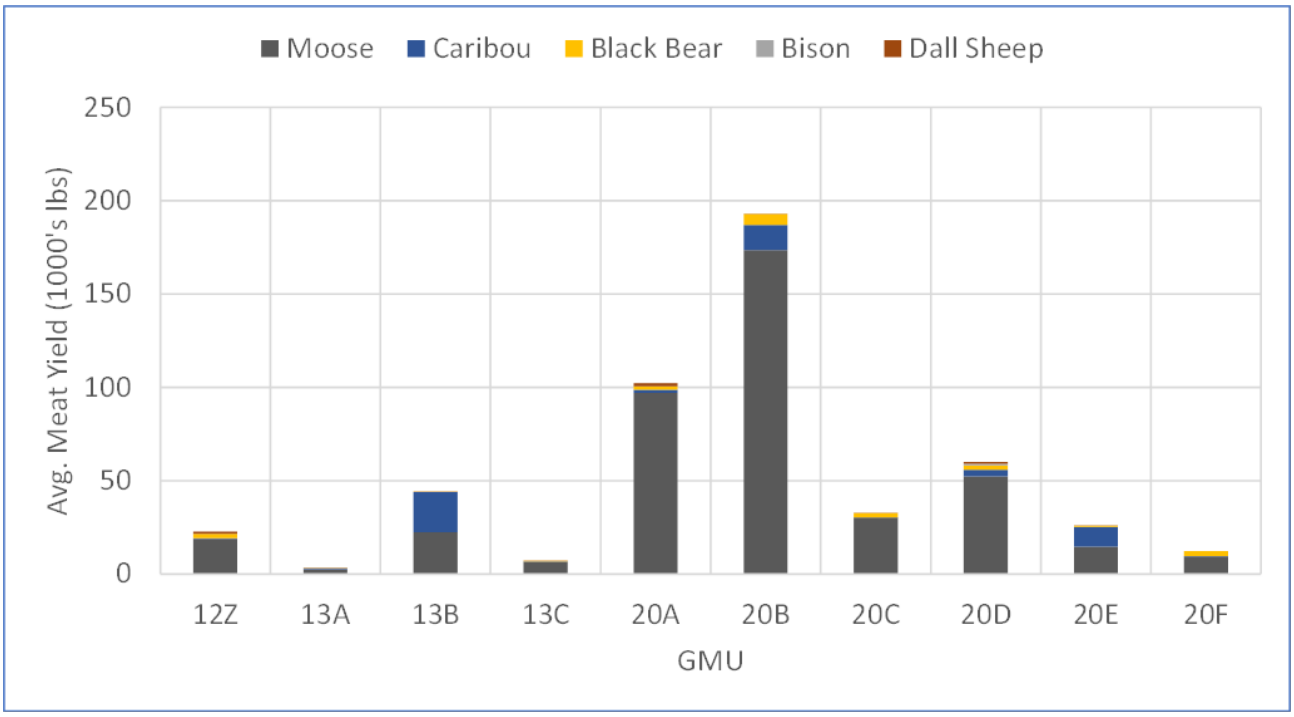


Figure 3.17-5. Total Estimated Meat Yield, for Harvest by ROI Communities

Similar data is presented for Fairbanks and Delta Junction in Figures 3.17-6 through 3.17-9. Fairbanks residents tend to harvest in GMU 20A and 20B. Delta Junction residents also utilize 20A, and they utilize 20D more than 20B. Delta Junction makes substantial use of federal subsistence opportunities in GMU 13.

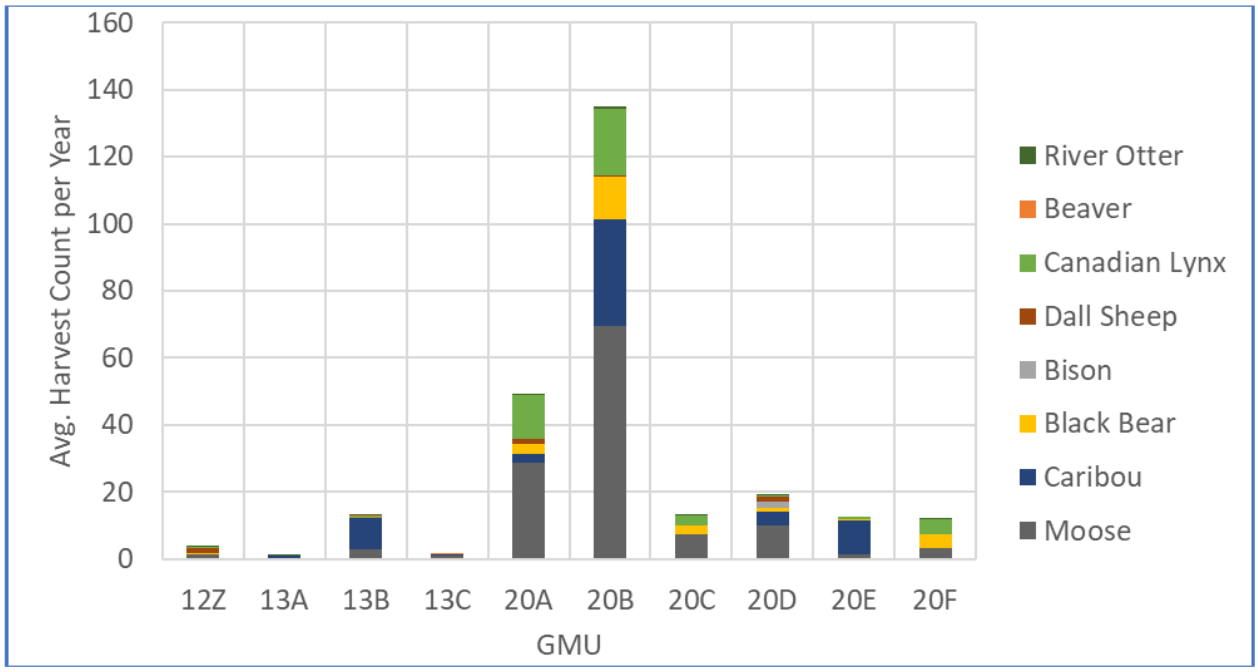


Figure 3.17-6. Fairbanks Resident Harvest by GMU Subunit and Species

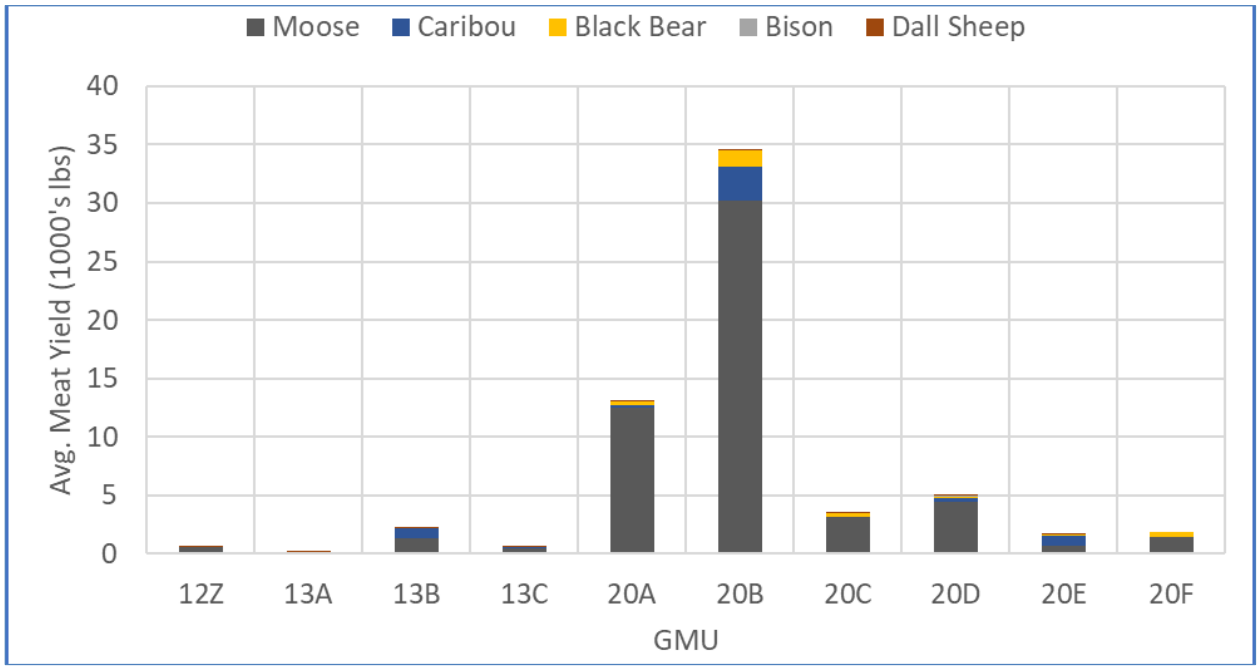


Figure 3.17-7. Fairbanks Estimated Annual Meat Yield by GMU Subunit

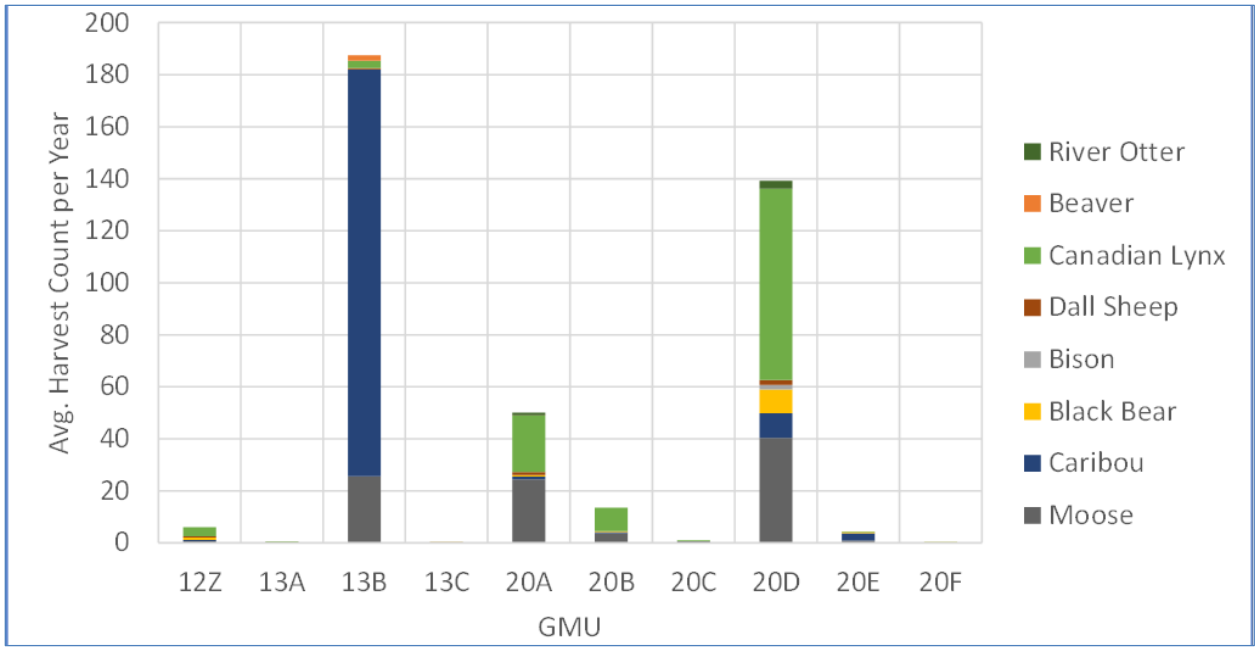


Figure 3.17-8. Delta Junction Resident Harvest by GMU Subunit and Species

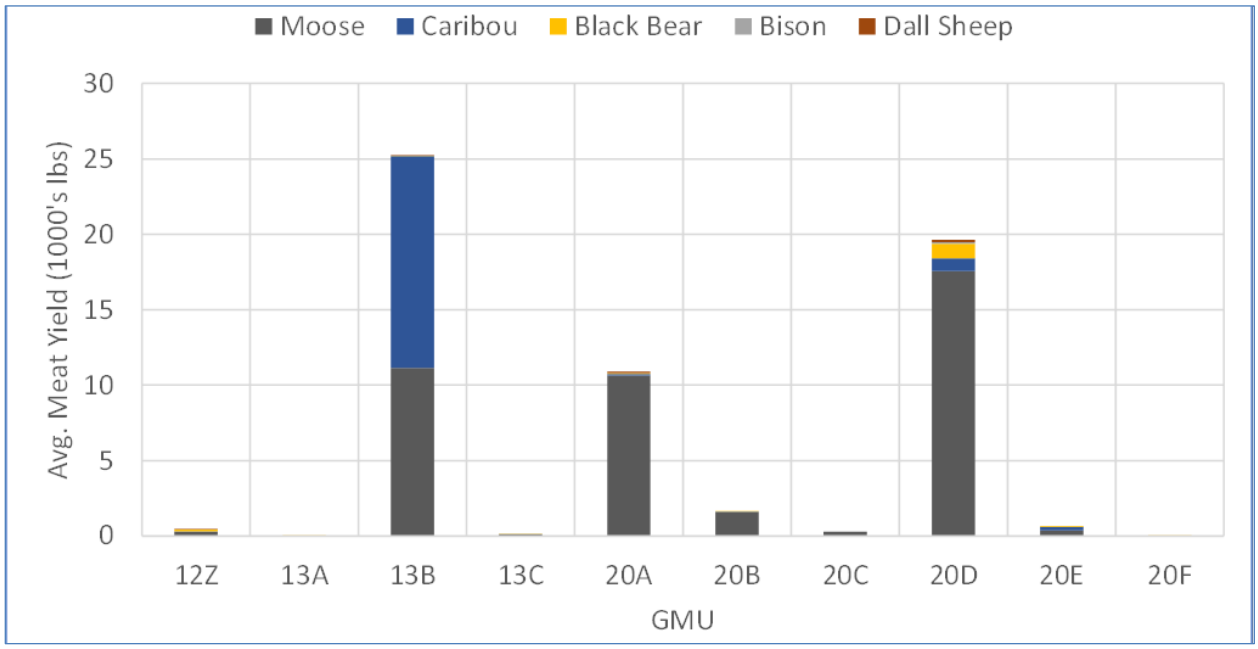


Figure 3.17-9. Delta Junction Estimated Annual Meat Yield by GMU Subunit

Tables 3.17-5 and 3.17-6 summarize average annual moose and caribou harvest by community and GMU subunit. These tables indicate which GMUs are most important to each community in terms of harvest of these two key game species.

Table 3.17-5. Summary of Average Annual Moose Harvest Count by ROI Community and GMU Subunit

Community	12Z	13A	13B	13C	20A	20B	20C	20D	20E	20F	Total
Alcan Border	0.6	-	-	0.1	-	-	-	0.1	0.5	-	**1.2**
Anderson	0.2	-	-	0.1	4.8	1.0	2.0	0.5	-	-	**8.6**
Big Delta	0.3	-	0.5	0.1	9.5	1.5	0.3	15.6	0.4	-	**28.1**
Cantwell	-	-	4.5	-	0.5	0.1	0.3	0.4	-	0.1	**5.9**
Central	-	-	-	-	-	0.2	-	-	0.1	-	**0.3**
Chena Hot Springs	-	-	-	-	-	-	-	-	-	-	**0.0**
Chicken	0.3	-	-	-	-	-	-	-	0.2	-	**0.5**
Chistochina	0.8	1.3	3.5	1.4	0.2	0.2	-	0.2	0.1	-	**7.5**
Circle	-	-	-	-	0.1	-	-	0.1	0.1	-	**0.3**
Circle Hot Springs	-	-	-	-	-	-	-	-	-	-	**0.0**
Delta Junction	0.6	-	25.6	0.3	24.5	3.6	0.6	40.4	0.8	0.1	**96.5**
Denali Park	-	-	-	-	2.9	0.2	2.1	-	-	-	**5.2**
Dot Lake	-	-	-	-	0.4	0.1	-	0.6	-	-	**1.1**
Dry Creek	0.1	-	0.1	-	1.8	0.3	0.1	3.0	0.1	-	**5.4**
Eagle	1.3	-	-	0.1	-	-	-	0.1	0.8	-	**2.3**
Ester	1.5	0.2	2.9	1.6	46.9	94.1	13.6	13.5	3.0	3.7	**181.2**
Fairbanks	1.3	0.2	3.1	1.2	28.6	69.5	7.3	10.1	1.5	3.2	**126.0**
Ferry	-	-	-	-	0.4	-	0.3	-	-	-	**0.7**
Fox	1.4	0.9	2.2	0.5	24.5	78.0	9.5	7.8	1.5	2.8	**128.9**
Healy	-	0.1	0.5	-	15.4	0.7	10.9	0.1	-	0.1	**27.7**
Healy Lake	-	-	-	-	0.4	0.1	-	0.6	-	-	**1.1**
Lake Minchumina	-	-	-	-	0.1	0.1	2.0	0.1	-	-	**2.3**
Livengood	-	-	-	-	-	0.1	-	-	-	-	**0.1**
Manley Hot Springs	-	-	-	-	0.1	3.2	2.1	-	-	1.0	**6.4**
Minto	-	-	-	-	-	5.0	-	-	-	-	**5.0**
Nenana	-	-	-	-	8.5	6.4	5.9	-	-	-	**20.7**
North Pole	1.5	0.9	4.3	1.4	52.2	133.9	11.4	23.9	5.9	7.5	**242.8**
Northway	4.1	-	-	0.4	0.1	-	-	0.5	2.7	-	**7.8**
Paxson	0.4	0.5	2.1	0.5	0.1	0.1	-	0.1	-	-	**3.8**
Rampart	0.1	-	-	-	-	-	0.1	-	-	0.3	**0.5**
Slana	3.5	1.5	2.2	5.3	0.5	0.2	-	0.1	-	-	**13.3**
Stevens Village	-	-	-	-	-	-	-	-	-	0.1	**0.1**
Tanacross	2.2	-	-	0.2	-	-	-	0.3	1.5	-	**4.2**
Tanana	-	-	-	-	-	0.3	1.5	-	-	3.2	**4.9**
Tetlin	1.9	-	-	0.2	-	-	-	0.2	1.3	-	**3.6**
Tok	21.3	0.1	0.2	2.0	0.5	0.3	-	2.3	13.8	-	**40.3**
Total	**43.3**	**5.6**	**51.6**	**15.2**	**222.9**	**399.1**	**69.8**	**120.5**	**34.2**	**22.0**	**984.2**

Table 3.17-6. Summary of Average Annual Caribou Harvest Count by ROI Community and GMU Subunit

Community	12Z	13A	13B	13C	20A	20B	20C	20D	20E	20F	Total
Alcan Border	-	-	0.0	-	-	-	-	-	1.4	-	**1.4**
Anderson	-	0.1	0.2	-	0.1	0.4	-	-	0.2	-	**0.9**
Big Delta	0.2	0.1	1.9	-	0.4	0.2	-	3.6	1.1	-	**7.4**
Cantwell	-	0.1	4.4	-	0.1	-	-	-	-	-	**4.5**
Central	-	-	0.0	-	-	-	-	-	-	-	**0.0**
Chena Hot Springs	-	-	0.0	-	-	-	-	-	-	-	**0.0**
Chicken	-	-	0.0	-	-	-	-	-	0.6	-	**0.7**
Chistochina	-	1.0	6.4	0.7	-	0.1	-	0.1	0.5	-	**8.8**
Circle	-	-	0.2	-	-	-	-	-	-	-	**0.2**
Circle Hot Springs	-	-	0.0	-	-	-	-	-	-	-	**0.0**
Delta Junction	0.4	0.2	156.4	-	1.0	0.5	-	9.5	2.8	-	**170.6**
Denali Park	-	-	0.1	-	0.8	0.1	-	-	0.1	-	**1.1**
Dot Lake	-	-	0.1	-	-	-	-	0.2	-	-	**0.3**
Dry Creek	-	-	0.4	-	0.1	-	-	0.7	0.2	-	**1.4**
Eagle	-	-	0.0	-	-	-	-	-	2.7	-	**2.8**
Ester	1.4	1.1	15.2	0.5	3.8	33.5	-	8.1	8.6	0.2	**72.3**
Fairbanks	0.2	1.0	9.2	0.1	2.5	31.8	0.1	4.1	10.1	0.1	**59.2**
Ferry	-	-	0.0	-	0.1	-	-	-	-	-	**0.1**
Fox	0.1	0.5	9.7	0.2	3.1	28.7	-	3.6	6.1	0.2	**52.2**
Healy	0.2	0.1	0.7	-	4.2	0.6	-	-	0.3	-	**6.1**
Healy Lake	-	-	0.1	-	-	-	-	0.2	-	-	**0.3**
Lake Minchumina	-	-	0.0	-	0.1	-	-	-	-	-	**0.1**
Livengood	-	-	0.0	-	-	-	-	-	-	-	**0.0**
Manley Hot Springs	-	-	0.0	-	-	0.2	-	-	0.1	-	**0.3**
Minto	-	-	0.0	-	-	-	-	-	-	-	**0.0**
Nenana	-	-	0.5	-	0.8	1.1	-	0.1	0.1	-	**2.6**
North Pole	0.3	1.3	18.7	0.8	2.6	50.2	-	8.6	18.6	0.1	**101.3**
Northway	0.1	-	0.0	-	-	0.1	-	-	8.8	-	**9.0**
Paxson	-	0.4	5.0	0.3	-	-	-	-	0.3	-	**6.0**
Rampart	-	-	0.0	-	-	-	-	-	-	-	**0.0**
Slana	0.1	0.2	9.9	0.8	-	-	-	-	0.2	-	**11.2**
Stevens Village	-	-	0.0	-	-	-	-	-	-	-	**0.0**
Tanacross	-	-	0.0	-	-	-	-	-	4.8	-	**4.9**
Tanana	-	-	0.0	-	-	-	-	-	0.1	0.4	**0.5**
Tetlin	-	-	0.0	-	-	-	-	-	4.1	-	**4.2**
Tok	0.5	-	0.4	0.1	-	0.3	-	0.3	45.7	-	**47.2**
Total	**3.5**	**5.9**	**239.4**	**3.5**	**19.7**	**147.8**	**0.1**	**39.2**	**117.6**	**0.9**	**577.6**

3.17.6.3 Estimated Seasonal Round of Subsistence Use

Based on the detailed harvest data obtained from ADFG and using the recorded date of harvest, the annual seasonal harvest pattern was reviewed by community. Note that species data provided by ADFG is not exhaustive; it excludes fish and some big game species such as brown bear, it had limited furbearer information, and it excluded small game. Additionally, because the federal subsistence harvest data for GMU 13 did not include date of harvest, incorporation of that data required proportional estimation of seasonality based on dated records from the ADFG dataset. These data should be interpreted as providing a characterization of seasonal patterns only.

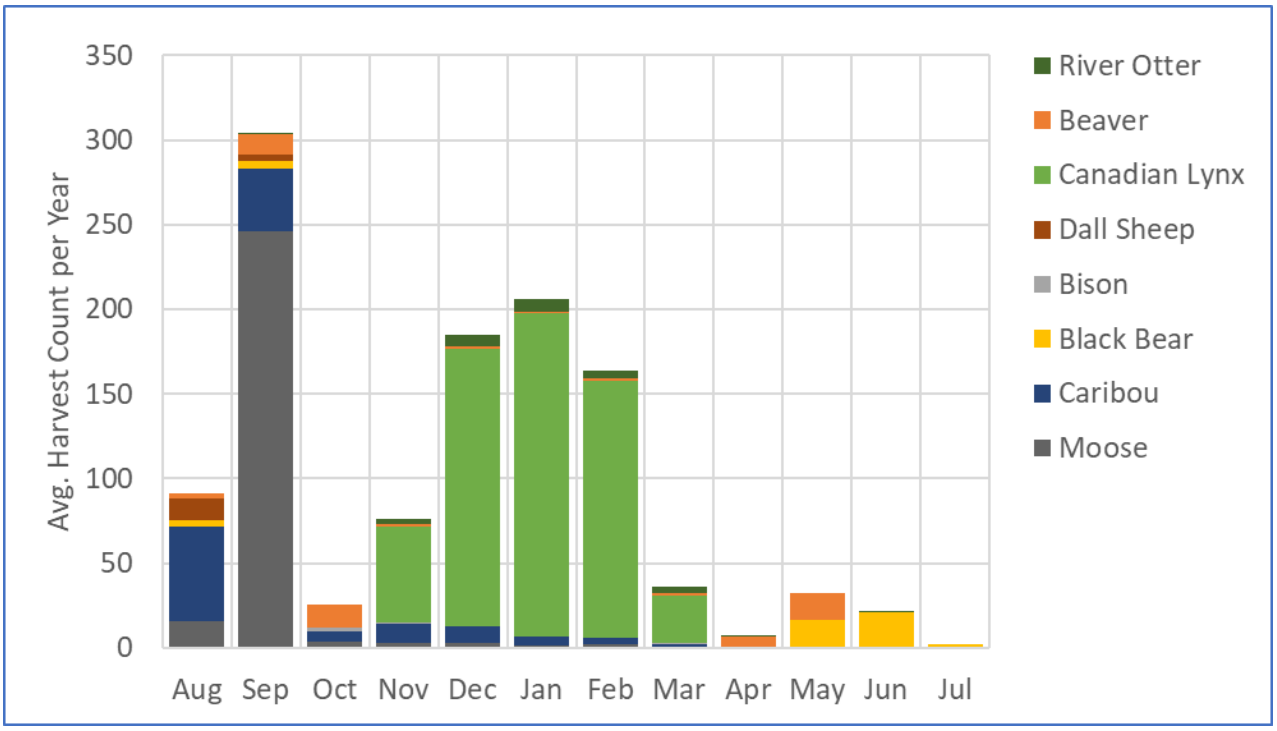
Figure 3.17-10 illustrates the seasonal round of subsistence for all ROI communities together, showing the importance of August and September for moose and caribou harvest, as well as bear in the spring and summer. Figure 3.17-11 shows that across all ROI communities, 85 percent of meat harvested per year occurs in August and September.

Figures 3.17-12 through 3.17-15 present similar data for Fairbanks and Delta Junction. Both of these communities have similar harvest seasonality.

3.17.6.4 Estimated Importance of GMUs 20A, 20B, and 20D by Community

Using the same datasets as in previous subsections, this subsection focuses on GMU subunits 20A, 20B, and 20D, which encompass the withdrawn lands, and on moose and caribou, which account for the majority of hunting in these subunits. GMUs 20A, 20B, or 20D account for about 75 percent of moose harvested by the ROI communities and 36 percent of the caribou. The lower percentage for caribou in these subunits is due to the substantial caribou harvest in GMU 13B (41 percent of ROI caribou harvest). This reflects an abundant and relatively accessible caribou herd, as well as (for rural communities) the availability of Federal subsistence permits and seasons. Tables 3.17-7 and 3.17-8 summarize the proportion of each community's moose and caribou harvest that occurs in 20A, 20B, and 20D, first for federal rural communities (those outside the FNSB), then for Fairbanks and Delta Junction.

Figure 3.17-10. Estimated Seasonal Round, All ROI Rural Communities



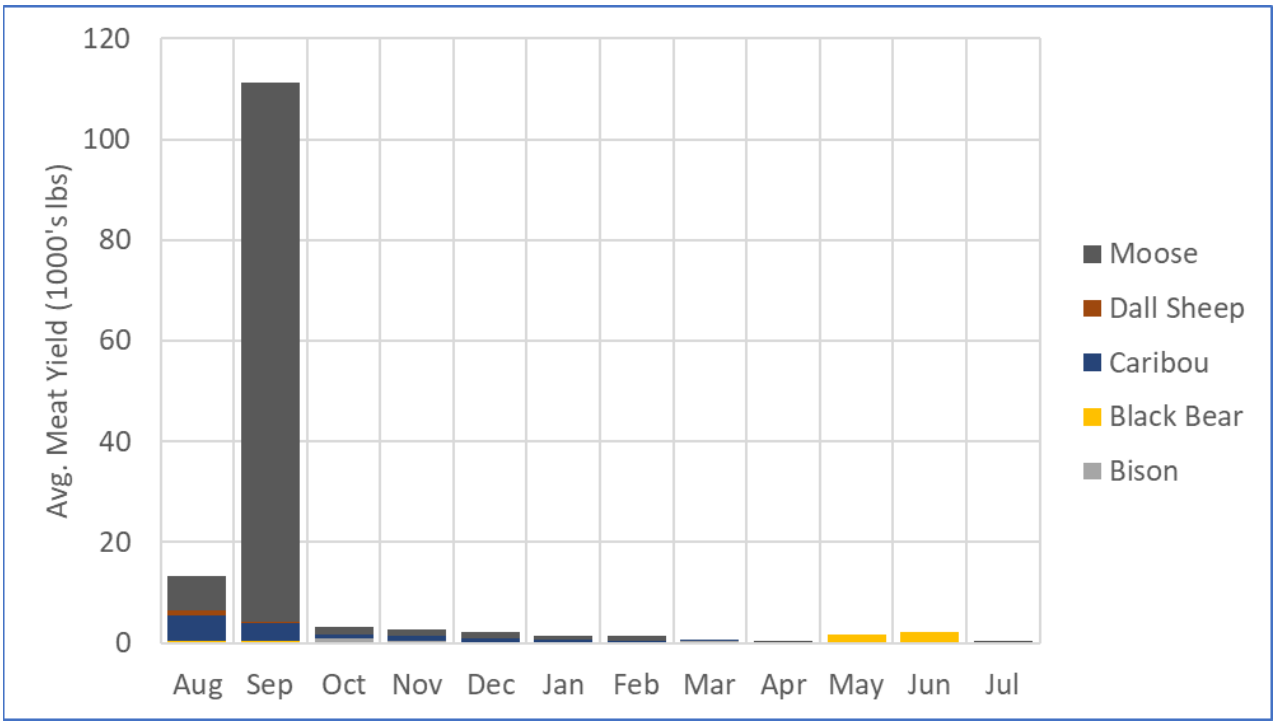


Figure 3.17-11. Estimated Seasonal Meat Yield, All ROI Rural Communities

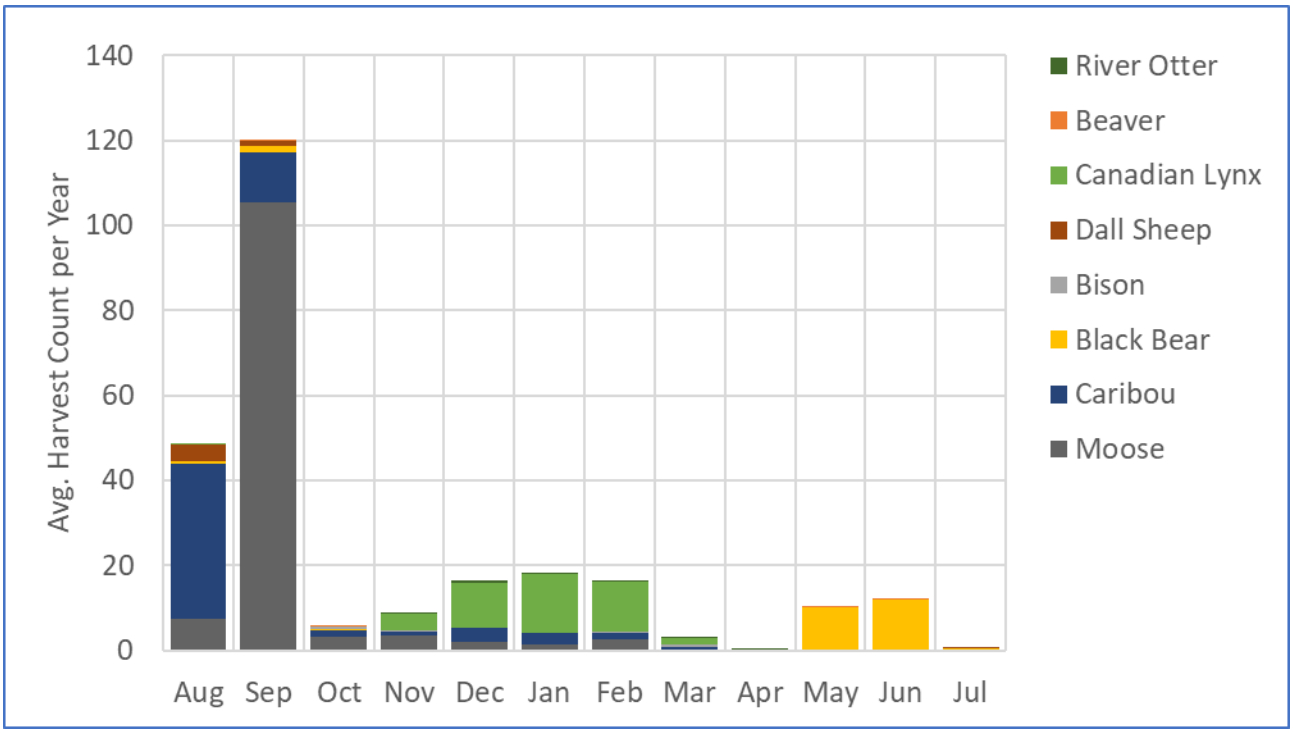


Figure 3.17-12. Estimated Seasonal Round, Fairbanks

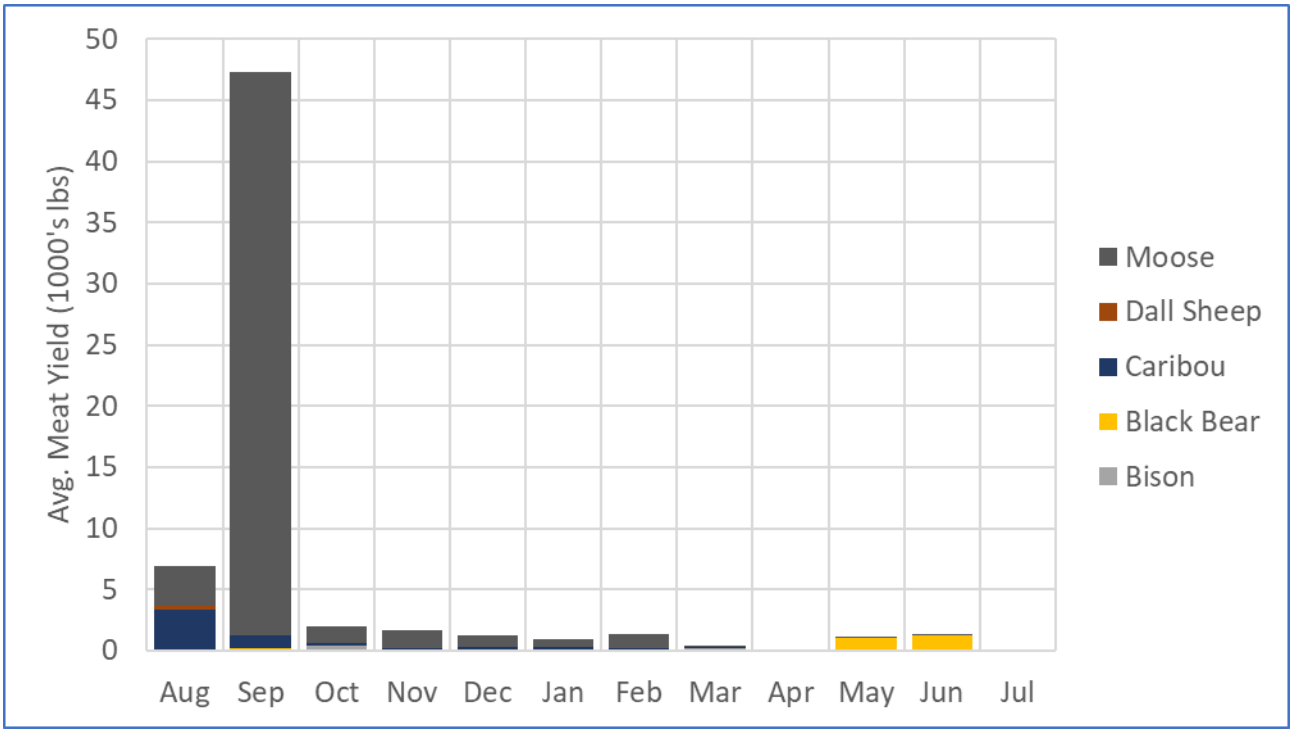


Figure 3.17-13. Estimated Seasonal Meat Yield, Fairbanks

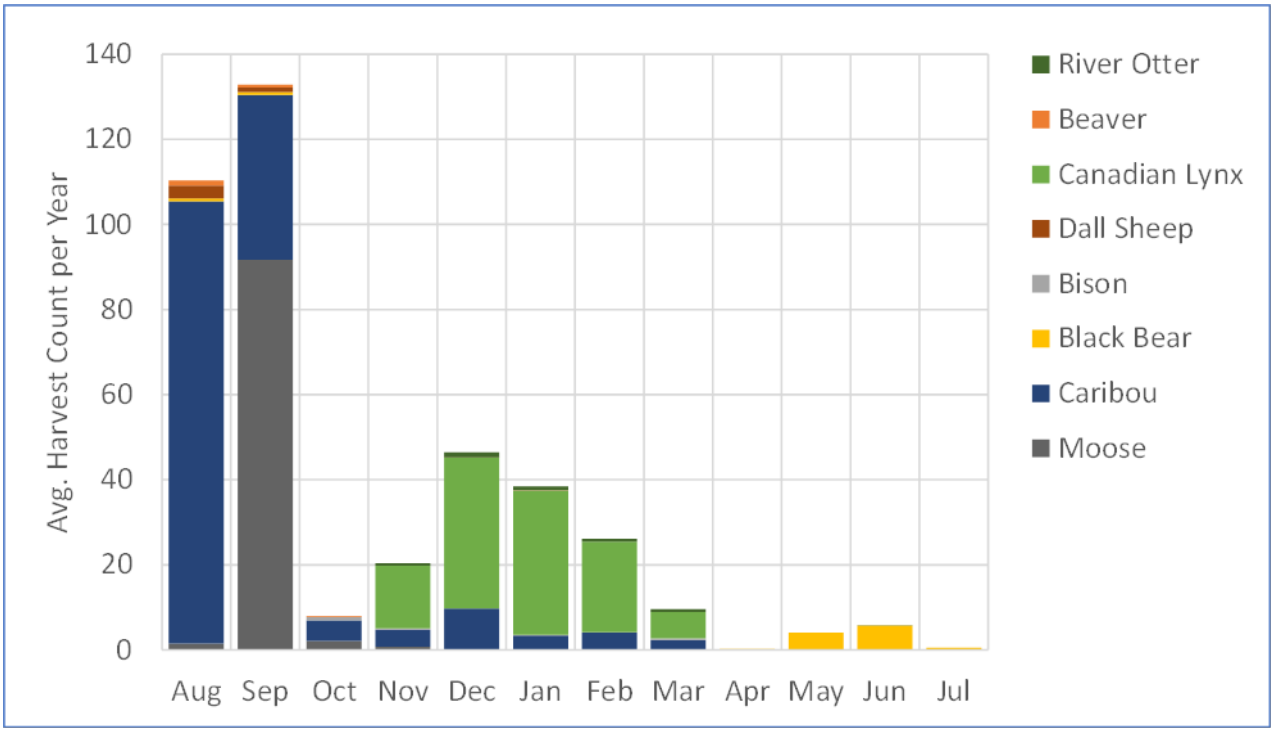


Figure 3.17-14. Estimated Seasonal Round, Delta Junction

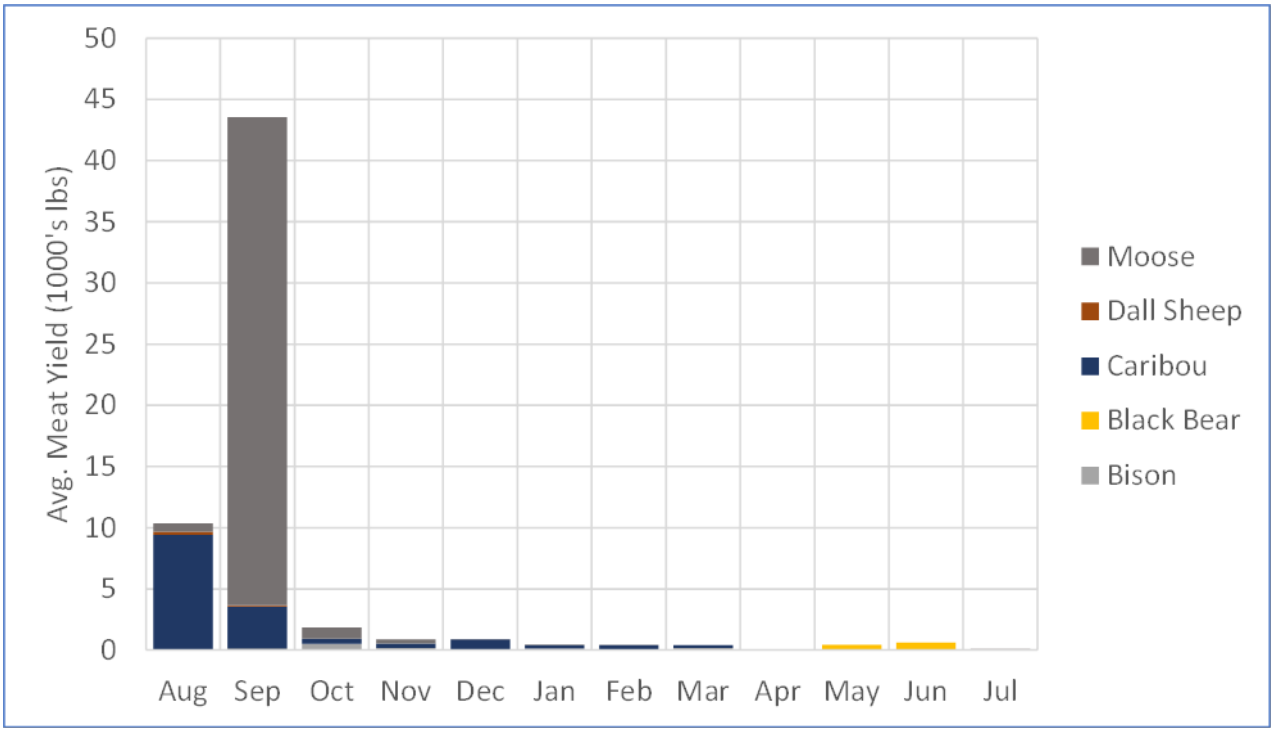


Figure 3.17-15. Estimated Seasonal Meat Yield, Delta Junction

Table 3.17-7. Average Moose Harvest Proportion in GMUs 20A, 20B, and 20D

Community	Total Harvest	% in 20A	% in 20B	% in 20D	% in 20A/B/D	% in Other
Alcan Border	1.2	1%	1%	5%	7%	93%
Anderson	8.6	56%	12%	6%	74%	26%
Big Delta	28.1	34%	5%	56%	95%	5%
Cantwell	5.9	9%	2%	6%	17%	83%
Central	0.3	0%	67%	0%	67%	33%
Chena Hot Springs	0.0	0%	0%	0%	0%	100%
Chicken	0.5	1%	1%	6%	8%	92%
Chistochina	7.5	2%	2%	2%	7%	93%
Circle	0.3	33%	0%	33%	67%	33%
Circle Hot Springs	0.0	0%	0%	0%	0%	100%
Delta Junction	96.5	25%	4%	42%	71%	29%
Denali Park	5.2	56%	3%	0%	59%	41%
Dot Lake	1.1	33%	5%	57%	95%	5%
Dry Creek	5.4	34%	5%	56%	95%	5%
Eagle	2.3	1%	1%	4%	6%	94%
Ester	181.2	26%	52%	7%	85%	15%
Fairbanks	126.0	23%	55%	8%	86%	14%
Ferry	0.7	55%	3%	0%	58%	42%
Fox	128.9	19%	61%	6%	86%	14%
Healy	27.7	55%	3%	0%	58%	42%
Healy Lake	1.1	33%	5%	57%	95%	5%
Lake Minchumina	2.3	4%	4%	4%	12%	88%
Livengood	0.1	0%	100%	0%	100%	0%
Manley Hot Springs	6.4	1%	50%	0%	51%	49%
Minto	5.0	0%	100%	0%	100%	0%
Nenana	20.7	41%	31%	0%	71%	29%
North Pole	242.8	21%	55%	10%	86%	14%
Northway	7.8	1%	1%	6%	8%	92%
Paxson	3.8	2%	2%	2%	6%	94%
Rampart	0.5	0%	0%	0%	0%	100%
Slana	13.3	4%	1%	1%	6%	94%
Stevens Village	0.1	0%	0%	0%	0%	100%
Tanacross	4.2	1%	1%	7%	8%	92%
Tanana	4.9	0%	6%	0%	6%	94%
Tetlin	3.6	1%	1%	5%	7%	93%
Tok	40.3	1%	1%	6%	7%	93%
Total	**984.2**	**23%**	**41%**	**12%**	**75%**	**25%**

Table 3.17-8. Average Caribou Harvest Proportion in GMUs 20A, 20B, and 20D

Community	Total Harvest	% in 20A	% in 20B	% in 20D	% in 20A/B/D	% in Other
Alcan Border	1.4	0%	1%	1%	1%	99%
Anderson	0.9	10%	40%	0%	50%	50%
Big Delta	7.4	5%	2%	49%	56%	44%
Cantwell	4.5	2%	0%	0%	2%	98%
Central	0.0	0%	0%	0%	0%	100%
Chena Hot Springs	0.0	0%	0%	0%	0%	100%
Chicken	0.7	0%	1%	1%	1%	99%
Chistochina	8.8	0%	1%	1%	1%	99%
Circle	0.2	0%	0%	0%	0%	100%
Circle Hot Springs	0.0	0%	0%	0%	0%	100%
Delta Junction	170.6	1%	0%	6%	6%	94%
Denali Park	1.1	74%	8%	0%	83%	17%
Dot Lake	0.3	5%	2%	55%	62%	38%
Dry Creek	1.4	5%	3%	51%	59%	41%
Eagle	2.8	0%	1%	1%	1%	99%
Ester	72.3	5%	46%	11%	63%	37%
Fairbanks	59.2	4%	54%	7%	65%	35%
Ferry	0.1	68%	12%	0%	81%	19%
Fox	52.2	6%	55%	7%	68%	32%
Healy	6.1	69%	10%	0%	79%	21%
Healy Lake	0.3	5%	2%	55%	62%	38%
Lake Minchumina	0.1	100%	0%	0%	100%	0%
Livengood	0.0	0%	0%	0%	0%	100%
Manley Hot Springs	0.3	0%	67%	0%	67%	33%
Minto	0.0	0%	0%	0%	0%	100%
Nenana	2.6	31%	41%	3%	76%	24%
North Pole	101.3	3%	50%	9%	61%	39%
Northway	9.0	0%	1%	1%	1%	99%
Paxson	6.0	0%	0%	0%	1%	99%
Rampart	0.0	0%	0%	0%	0%	100%
Slana	11.2	0%	0%	0%	0%	100%
Stevens Village	0.0	0%	0%	0%	0%	100%
Tanacross	4.9	0%	1%	1%	1%	99%
Tanana	0.5	0%	0%	0%	0%	100%
Tetlin	4.2	0%	1%	1%	1%	99%
Tok	47.2	0%	1%	1%	1%	99%
Total	**577.6**	**3%**	**26%**	**7%**	**36%**	**64%**

Use of GMUs 20A, 20B, and 20D for moose is important to many of the ROI communities. Nineteen of the 36 ROI communities harvest 50 percent or more of their moose in GMUs 20A, 20B and 20D, and 10 communities utilize these GMU subunits for 75 percent or more of their harvest. These data show that GMUs 20A, 20B, 20D offer some of the most attractive moose opportunities in the region for ROI communities.

With regard to caribou, 15 communities use these GMU subunits for 50 percent or more of their caribou harvests, and five communities use these GMU subunits for 75 percent or more of their harvest. In general, opportunities for caribou harvest in GMU 13, coupled with the federal subsistence management priority there, are likely to attract hunters living in GMU 20.

This harvest data provided the best available proxy for characterization of community-level subsistence patterns in GMUs 20A, 20B, 20D. While it is not determinable how much of the quoted harvest of moose and caribou occurs on the withdrawn lands, it follows that access to these lands is important to hunters. Given the accessibility and existing road infrastructure on the withdrawn lands, it is presumed that these offer attractive hunting opportunities relative to more remote and less developed areas within the GMUs.

Given this information, it may be concluded that the withdrawn lands overlap important moose and caribou range in the region and are prime hunting locations due to their proximity to major communities, their location along state highway corridors, and the existing access infrastructure within the withdrawn lands.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter describes the environmental consequences associated with each of the alternatives, including direct, indirect, and cumulative environmental impacts. Each resource area is addressed individually, in the same order as they appeared in the Affected Environment chapter. Where applicable, the following sections include discussions of ongoing or new avoidance, minimization, or mitigation measures that can be taken to reduce or eliminate the impacts of an alternative on a resource. Cumulative impacts for each resource are described in Section 4.18.

As required by 40 CFR § 1502.16, this chapter also describes, in Section 4.19, a summary of environmental impacts from the proposed action and No Action Alternative, adverse environmental effects that cannot be avoided, compatibility with land use plans, irreversible or irretrievable commitments of resources, and the relationship between short-term uses of the environment and long-term productivity.

Analysis of the environmental consequences of the proposed action focuses on resource areas that are inherently impacted by ongoing activities, and incorporates concerns that were identified during the scoping period. Direct effects are those caused by the action and that occur at the same time and place, whereas indirect effects are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable (40 CFR § 1508.8). For example, soil compaction due to military vehicle use would be a direct impact, while increased turbidity in water from soil disturbance at road crossings would be an indirect impact. Impacts are characterized as beneficial or adverse, and short-term or long-term. Beneficial impacts are those that would result in a positive change in the condition or appearance of the resource, or a change that would move the resource toward a desired condition. Adverse impacts are those that would result in a negative change to the appearance or condition of the resource. Short-term impacts are those that would be temporary and associated only with certain pieces of the action. Short-term

impacts are often associated with construction, but in the context of the proposed action's 25-year extension of this land withdrawal, they are predominantly associated with elements of military training and operations that are periodic or non-continuous, rather than continuous. Long-term impacts are those that would be permanent or would persist for the full duration of the proposed action. For example, occasional closures of areas to recreation due to training activities may be a short-term impact, while the reduced availability of lands for alternative uses would be a long-term impact.

Impact Characterizations. Qualitative terms used to assess the anticipated impacts associated with each alternative are generally defined as presented below. These terms are further adapted to address the unique characteristics of each resource category carried forward for analysis in this chapter. Impacts are characterized with respect to intensity, ranging from no impacts to significant impacts, and whether the impacts would be adverse or beneficial.

- **None** – No measurable impacts are expected to occur.
- **Negligible** – Barely perceptible impacts are expected to occur.
- **Minor** – Measurable impacts on a resource are expected, but would be slight and may not be perceptible to an observer.
- **Moderate** – Noticeable impacts expected to have a measurable effect on the resource but would be less than significant.
- **Significant** – Impacts would be obvious and would have serious consequences on the resource that would be readily noticed by an observer.
- **Adverse** – Impacts would reduce the quality of the resource/issue.
- **Beneficial** – Impacts would improve the resource/issue.

Significance. The significance of an impact is determined by the intensity and the context of the impact. Intensity refers to the severity or extent of an impact (i.e., none, negligible, minor, moderate, or significant) and context relates to the environmental circumstances at the location of the impact. Significance criteria were developed in

consideration of CEQ's guidance for determining significance (40 CFR § 1508.27). For this analysis, the first four qualitative impact categories (none, negligible, minor, and moderate) are considered not significant. The "none, negligible, minor, and moderate" qualitative impact categories could be a result of avoidance, minimization, or mitigation of adverse impacts. The significance criteria are described for each resource area at the beginning of each environmental consequences section. The terms impact and effect are interchangeable.

Avoidance, Minimization, and Mitigation Measures. The Army is committed to avoiding or mitigating adverse effects to the extent practical. Avoidance and mitigation measures can include the following (40 CFR § 1508.20):

- Avoiding the impact altogether by not taking a certain action or parts of an action
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action
- Compensating for the impact by replacing or providing substitute resources or environments

If needed, mitigation measures would be implemented to reduce anticipated significant impacts (in accordance with NEPA) and/or to offset or compensate for unavoidable adverse impacts on a resource. The Army also implements BMPs and SOPs, which are practices or protocols that are intended to maintain compliance with regulatory standards and, when implemented, are proven to reduce impacts on a resource.

4.2 LAND USE AND VISUAL RESOURCES

Impacts on land use would be considered significant if an Army action were to result in any of the following:

- Incompatibility with existing 11th Airborne Division land use designations
- A permanent inconsistency with local land use policies as defined in local, state, or federal plans
- The introduction of permanent features that would disrupt, divide, or isolate existing neighborhoods, communities, or land uses
- Substantial land use conflict with off-post land use

Visual resources would be significantly impacted by actions that resulted in deleterious changes to the visual character of the region, including actions that resulted in any of the following:

- Substantial changes to a scenic vista
- Substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within view of a state scenic highway
- Substantial degradation of existing visual character or quality of a site and its surroundings
- Creation of a new source of substantial light or glare that would affect day or nighttime views in the area

4.2.1 NO ACTION ALTERNATIVE

4.2.1.1 Land Use

Under this alternative, withdrawn lands would remain withdrawn from all forms of appropriation under PLO 5187, including location and entry under the mining laws, and from leasing under the Mineral Leasing Act until further classified by the Secretary of the Interior. All land use actions would be compliant with relevant federal regulations.

Training and readiness operations would be eliminated under the No Action Alternative, and concerns associated with encroachment of incompatible land uses in surrounding areas would be reduced.

Under the No Action Alternative, withdrawn lands that currently provide airfield safety zones would no longer be withdrawn for military use. Allen AAF would remain in use as part of the Fort Greely Army installation, and airfield safety zones that extend into currently withdrawn lands would extend over land no longer withdrawn for military use. Implementation of measures to ensure compatible uses in airfield safety zones or APZs would reduce this impact to minor.

Removal of YTA, DTAE, and DTAW from military use would not constitute an end to the need for cold-weather training areas. Rather, closure of these training areas would require finding alternative locations for military training and test capabilities and capacities elsewhere within the operating region. The alternative locations would need to provide the same unique arctic conditions, establishing a new range elsewhere within the region or finding replacement training and test resources outside of the region. Since there are no other suitable U.S. military installations located in an adequately cold region, this would result in a serious adverse change to the Army's cold-weather training and testing capacity and mission readiness, and its ability to meet the purpose and need of the proposed action.

4.2.1.2 Visual Resources

Long-range viewsheds would not change under the No Action Alternative. There would be no substantial changes to any scenic vistas or resources, no degradation of existing visual character or quality, and no new sources of light or glare. Changes to the local and regional landscape under the No Action Alternative would result in a reduction in military vehicles and personnel on public and off-road routes. Impact areas would be remediated, as possible. These areas would no longer support training populations or the use of artillery or other heavy machinery, would be remediated if contaminated, and would return to a more natural condition over time. These changes would result in a beneficial impact on visual resources and on the Richardson Highway segment designated a State Scenic Byway.

4.2.2 ACTION ALTERNATIVE 1

4.2.2.1 Land Use

Action Alternative 1 would ensure that the withdrawn lands remain available to support cold-weather training actions over a long period. This 25-year or longer duration allows the DoD to effectively plan investments in infrastructure, equipment, and resource management programs with certainty. By ensuring the continued use of the withdrawn lands and associated airspace for military uses, Action Alternative 1 would support the military training mission.

The withdrawn lands would continue to be managed by both the Army and BLM under Action Alternative 1, recognizing their primary use for the military. BLM would continue to issue leases, easements, rights of way, or other authorizations for non-military uses of the withdrawn lands subject to agreement by the 11th Airborne Division, in accordance with the Memorandum of Understanding regarding management of the lands under PL 106-65 (BLM and USAG AK 2016). Existing rights of way and outgrants would remain in place or may be modified under applicable regulations. Training areas would continue to be used in their current capacity. Civilian use of the withdrawn lands would continue to be allowed with required authorizations. Firing ranges, surface danger zones, and non-dudded impact areas would remain under strict access control or completely off-limits. All dudded impact areas would remain closed to public access due to UXO hazards.

The Army would continue to implement the ICUZ program to promote land use planning that is compatible with land uses in the surrounding community and to ensure that impacts on land uses in areas surrounding the withdrawn lands remain less than significant. The Army would continue to participate in ongoing initiatives with local planning agencies, as described in Sections 10.8.2 and 10.8.3 of the ICUZ Plan (USAG Alaska 2017a), including assisting the FNSB Planning Department in updating the Military Noise Overlay. The Army would continue to monitor land use within one mile of the military boundary, consistent with recommendations in the Joint Land Use Study Program (DoD 2004). Concerns regarding surrounding land uses

and encroachment would continue to be addressed through regular revisions of the ACUB and ICUZ documents. USAF aerial operations occurring over withdrawn lands would be consistent with guidance in the Air Installations Compatible Use Zones Program (USAF 2015).

Seasonal or permanent land use practices that are implemented under the INRMP to protect natural resources would continue. These practices are in place to avoid impacts on sensitive resources such as bison calving areas, passerine habitat, or sensitive vegetation communities. Seasonal land use planning also considers fire management and disturbance of soil and water resources. These land use practices help to keep impacts on natural resources from training actions to a moderate level. The training and compliance procedures described in the ICRMP would continue and ensure that land uses that may affect cultural resources or historic properties are coordinated with the cultural resources management staff.

4.2.2.2 Visual Resources

Under Action Alternative 1, there would be no changes to visual resources or character in withdrawn lands. Continued military training and operations would not result in substantial changes to any scenic vistas or resources and no new sources of light or glare. Long-range viewsheds would not change, and ongoing impacts on the visual landscape in impact areas would continue as needed to fulfill the military's training mission. Recreational visitors who travel into the training lands would continue to experience the visual effects of military modifications of the natural landscape, but since such visitors selected to recreate on a military range, the impacts on the visual landscape would be consistent with expectations. Motorists would continue to observe parts of the withdrawn lands from the Richardson Highway, but most impact areas are remote and not visible from the highway. The Richardson Highway State Scenic Byway from Fort Greely to Fairbanks would continue to be protected by AKDOT&PF, in coordination with the 11th Airborne Division. Range modifications that are visible to residents of communities adjacent to the withdrawn lands constitute an ongoing impact on visual resources, but since

these impacts are longstanding and are not substantially worsened by training actions, they are considered to be less than significant.

Continuing the land withdrawal also would preclude other types of visual modifications such as mine-related features, clear cuts, dams, and off-highway vehicle trails. Because of the restrictions associated with the uses of the withdrawn lands and their location on large intact tracts of tundra and other visually arresting landscapes, the land withdrawal would continue to provide this beneficial impact on visual resources.

4.3 NOISE

Noise impacts would be considered significant if an Army action were to:

- Violate any federal, state, or local noise regulation
- Substantially increase areas that are incompatible with noise sensitive receptors
- Cause an increase in quantity or severity of noise complaints
- Result in noise that would negatively affect the health of the community

4.3.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, the discontinued use of withdrawn lands for military training would result in return of most lands to BLM management. While military airfield use and overflights would still be regular occurrences in the region, the No Action Alternative would result in fewer live-fire training activities, troop movements, convoys, and deployments in the region, which would reduce annual noise generation from these activities, reduce noise impacts on communities and wildlife, and reduce the risk of noise complaints. The No Action Alternative would eliminate most non-aviation activities that generate noise, including peak noise levels from demolition and large caliber weapons from ranges on both YTA and DTA and peak noise levels from small caliber weapons from DTA. The elimination of training actions would have a beneficial effect on the ambient noise environment and surrounding

communities, as it would reduce activities with the potential to violate federal, state, or local noise regulation, reduce the areas that are incompatible with noise sensitive receptors, reduce noise complaints, and reduce noise that would negatively affect the health of the community.

4.3.2 ACTION ALTERNATIVE 1

Under Action Alternative 1, minor to moderate noise impacts from Army training and operations would continue in the withdrawn lands. While most of the noise is limited to remote areas, moderate impacts may continue to affect surrounding areas, including noise impacts from aviation activities, peak noise levels from demolition and large caliber weapons from YTA into an undeveloped area of Eielson AFB under unfavorable weather conditions, small caliber peak noise levels above 104 dB from DTA extending into Fort Greely, and peak noise levels between 115 and 130 dB associated with demolition and large caliber weapons from DTA extending into the Fort Greely cantonment area under unfavorable weather conditions.

The Army has developed and implemented policies that reduce noise impacts that affecting the health of the community, noise complaints, violation of noise regulations, and incompatible land use. The ICUZ program includes the Army's plan to take all reasonable, economical, and practical measures to reduce and control flight noise to adjacent areas and sensitive receptors. The ICUZ program is intended to achieve land use compatibility between military installations and the neighboring community to the maximum extent practicable. The program requires communication with local government entities and citizens whenever planning is under way that will affect the installation or the community. This includes an ongoing program designed to accomplish the following:

- Provide information, criteria, and guidelines to federal, state, regional, and local planning bodies, civic associations, and similar groups
- Inform these groups of the requirements of operational activity, potential noise exposure, aircraft accident potential, and ICUZ plans
- Describe the noise-reduction measures being used

- Ensure that all reasonable, economical, and practical measures are taken to reduce or control the impact of noise-producing activities to minimize the noise impact on populated areas. This must be done without jeopardizing safety or operational effectiveness

The Army's Environmental Noise Management Program, as described in Army Regulation 200-1, requires installations to implement environmental noise policies to identify and control the effects of noise. Among these policies is the requirement to predict noise levels for long-range planning, including preparation of noise contour maps. Noise reduction measures consistent with the guidance from the Environmental Noise Management Program and ICUZ program, along with ongoing coordination with planners from communities located near the training lands, would continue and would result in noise impacts that are less than significant.

4.4 RECREATION

The impact on recreation would be considered significant if an Army action were to result in the following:

- Substantial loss of recreation resource access, availability of opportunity, or resource quality in the withdrawn lands

Under either alternative, a federal agency would be the long-term manager and administrator of the lands for recreation purposes. In either case, the scope and scale of recreation activities allowed on the lands would be similar, though some differences may arise as discussed in the following sections.

This discussion of effects focuses on general recreation. For discussion of effects on subsistence activities and related socioeconomic implications, see Sections 4.16 and 4.17.

4.4.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, military use of the withdrawn lands would cease by November 6, 2026, and non-contaminated lands that were determined to be suitable and returned to the public domain would be managed by BLM in accordance with

PLO 5187 and federal public land laws. Thus, for the purpose of this evaluation, management of lands returned to the public domain would reflect general BLM management as federal public land, with specific closure areas where decontamination was incomplete or on lands not deemed suitable for return to the public domain.

Under the No Action Alternative, adverse impacts on recreation may include the following:

- A reduction in the resources available for maintenance of existing access infrastructure (roads, trails, etc.), which would be subject to BLM discretion and resource availability under the No Action Alternative. This may result in deterioration of roads that had been installed for military use, which would reduce the accessibility of the lands.
- Potential changes in type and location of public communication channels or recreation user reservation information systems (iSportsman), subject to BLM management discretion and resource availability, which may result in minor inconveniences to users.

Under the No Action Alternative, beneficial impacts on recreation may include the following:

- Temporary closures for public safety due to military training actions would cease.
- Existing closure areas (ranges, impact areas, etc.) would become available for public use if the Army confirms that the lands are not contaminated and they are accepted back into the public domain under BLM management.
- Improvements to the quality of the recreation experience due to a reduction in personnel and equipment on the lands, which may contribute to noise, dust, and other nuisances to recreation. Decontamination efforts would require continued military presence on affected lands until such areas were suitably restored.

4.4.2 ACTION ALTERNATIVE 1

Under Action Alternative 1, there would be no change in management of the withdrawn lands compared to existing conditions. Military maneuvering, training, equipment development and testing, and other defense-related purposes would continue. The Army would continue to manage the lands subject to conditions and restrictions, including closure of impact areas and other facilities as necessary to ensure public safety, military operations, or national security. No changes in recreational access or use would occur under Action Alternative 1.

Compared to the No Action Alternative, Action Alternative 1 may result in moderate adverse impacts on recreation as follows:

- Possible reductions in the types of activities allowed on the withdrawn lands due to additional public safety regulations on military training lands over the proposed withdrawal period
- Closure areas (ranges, impact areas, etc.) remaining closed, with no opportunity for decontamination and subsequent return to BLM to be made available to the public
- Potential for ongoing adverse impacts on recreation experience quality due to adjacent military uses that result in noise and visual impacts

Action Alternative 1 may result in the following beneficial impacts on recreation users compared to the No Action Alternative:

- Continued ability for recreation users to safely access lands using road and trail infrastructure maintained by the Army on the withdrawn lands
- Ongoing maintenance of existing facilities with primary military purposes would continue to be the responsibility of the Army
- Continued use of existing recreation reservation and reporting systems (iSportsman) which are familiar to local users

4.5 UTILITIES

Utilities potentially affected by Army action include electrical infrastructure, water supply to FWA and the Fairbanks region, and wastewater and solid waste management facilities. A significant impact on utilities could result if the Army action were to result in either of the following:

- Demand for energy, water, or waste management services that would exceed the capacity of existing infrastructure
- Impaired provision of utility services to communities near the withdrawn lands

4.5.1 NO ACTION ALTERNATIVE

At BLM's discretion, utility projects could be allowed in lands determined suitable and accepted back into the public domain under the No Action Alternative. Preference would be given to projects in areas designated in relevant BLM RMPs as energy zones or where existing rights of way already allow for utility projects. It is anticipated that, in keeping with the undeveloped nature of most BLM-managed lands, few utility projects would be proposed or completed. The exception to this may be installation of utility infrastructure that would be needed if lands were leased for energy or minerals development. BLM would consider the context of the prior use of the lands and other safety and environmental considerations through a NEPA evaluation of an application for a new utility on former range lands. It is assumed that BLM would continue to offer rights of way for the Trans-Alaska Oil Pipeline System.

4.5.2 ACTION ALTERNATIVE 1

Electrical supply and distribution infrastructure at both YTA and DTA is sufficient to meet existing demand, and electrical use during training on the withdrawn lands typically places no strain upon the public power grid that serves communities in the vicinity of the withdrawn lands. Substantial increases in electrical demand are not anticipated during the extended withdrawal period and there would be no impact on electrical service to the withdrawn lands or the surrounding communities.

Due to the absence of cantonment areas, housing, or waste-generating facilities in the withdrawn lands, waste management is primarily associated with training activities that are addressed by federal, state, and DoD regulations identified in Section 3.9.2. Solid wastes generated in the withdrawn lands would continue to be handled in accordance with applicable OSHA regulations and Governmental Safety Regulations. The Class I solid waste landfills at FWA and Fort Greely have sufficient capacity to accept the amount of waste currently generated at the withdrawn lands, and substantial increases in solid waste production are not anticipated. Impacts associated with solid waste management and disposal would be minor.

Current stormwater management practices in the withdrawn lands are considered adequate and would be continued. There are no active Municipal Separate Storm Sewer System or Multi Sector General Permit stormwater permits in the withdrawn lands, but construction projects with greater than one acre of ground disturbance would continue to be required to obtain Alaska Construction General Permit coverage.

4.6 TRANSPORTATION AND TRAFFIC

Impacts associated with transportation and traffic would be considered significant if they result in any of the following:

- Conflict with any plan, ordinance, or policy that establishes measures of effectiveness for the performance of the ground, rail, or air transportation system
- Inadequate or obstructed emergency access to local communities and the region
- Changes to vehicular, public transit, or non-motorized traffic intensity or patterns that create or cause users to be subject to an unsafe or hazardous situation
- Substantially degraded roadways within the ROI
- Unacceptable delays in rail delivery

- Changes to vehicular traffic patterns that result in deleterious effects on mission readiness

4.6.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, the areas would no longer be used for military training and lands that are determined to be suitable and returned to the public domain will be managed by BLM. Incidence and size of training convoys would be substantially reduced along the Alaska and Richardson Highways from Fort Greely and FWA to the training areas. Deployment miles and troop movements would be greatly reduced between Fairbanks and Delta Junction. Cessation of most military actions in the withdrawn lands would reduce demand for rail for movement of troops and equipment. Troop billeting would decline for the main base and surrounding communities, reducing personal vehicle use of local roadways. These changes would result in beneficial effects on traffic and transportation in the region.

Trail maintenance would no longer be conducted by the Army. Ongoing maintenance of trails needed for access to future uses in lands determined suitable and returned to the public domain would become the responsibility of BLM. Recreational vehicle use of existing roadways and trails within the withdrawn lands would likely increase above current levels but would not likely exceed current levels of use by military vehicles. Vehicular use in the lands determined suitable and returned to the public domain would be managed according to the relevant BLM RMPs, which typically include measures to ensure safety, maintain emergency access, and minimize transportation-related impacts on other resources.

4.6.2 ACTION ALTERNATIVE 1

Action Alternative 1 would not change road use, traffic patterns, or public travel restrictions within withdrawn lands. Extension of the withdrawal would result in the continued use of transportation infrastructure for U.S. Army mission readiness training and testing exercises and operations through 2051. Transportation corridors from Fairbanks to Delta Junction would continue to be used by convoys for training, deployment, and troop movements. The types of vehicles using these roadways

would not change and would continue to be guided by USARAK Regulation 55-2. Their use of state transportation corridors would continue to be permitted by AKDOT&PF.

AKDOT&PF's 2021 Statewide Transportation Improvement Program (AKDOT&PF 2021a) does not identify any proposed projects intended to increase capacity on state highways in the ROI, but the transportation infrastructure external to the withdrawn lands adequately supports current traffic demand. Therefore, extending the withdrawal would have only minor potential adverse effects, such as occasional congestion due to military convoys entering or exiting the military facilities en route to the training areas. Effects on transportation infrastructure, including additional wear from military convoys, would result from regular use of roadways over time. Current use and maintenance agreements between the Army and AKDOT&PF would remain in place and would ensure that any effects of military use of the transportation system would be minor.

The extension of the withdrawal would preclude nearly all future development of any public or private transportation systems for non-military purposes within YTA or DTA. Possible exceptions would be improvements to transportation infrastructure within an existing easement. Such actions would be subject to NEPA analysis prior to implementation. Roadways within training areas would remain undeveloped for the purposes of training and equipment testing, although additional military access roads might need to be developed for future training exercises. These roads would be within training areas and would have no effect on traffic circulation in the region.

4.7 AIRSPACE

This section discusses how the No Action Alternative and Action Alternative 1 would affect airspace and associated air traffic over the withdrawn lands. The analysis focuses on changes that would result from changing airspace classifications. Impacts on air traffic were assessed with respect to the potential for disrupting air traffic patterns and systems. Impacts are qualified as minimal where there would be little or no adverse effects on other airspace uses; moderate where there may be a potential

for adverse but not significant adverse impacts, such as some measurable flight delays or diversions; and significant where there is a high probability of limiting or restricting other airspace uses during key periods when greater measures would be needed to mitigate such impacts.

A significant impact on airspace could result if the Army action were to result in either of the following:

- Flight operations that could not be accommodated within established operational procedures and flight patterns for military or civilian (i.e., private or commercial) aircraft
- Violation of FAA aviation safety regulations by obstructing or infringing on military or civilian (private or commercial) flight activity

4.7.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, the SUA over the withdrawn lands would change. The lands determined suitable and returned to the public domain would be managed by BLM in accordance with applicable federal laws and current BLM RMPs. The airspace above the lands would likely be available for use by civilian and military aircraft conducting non-hazardous activity 24 hours per day (currently, the SUAs include RAs where hazardous activities are performed).

4.7.1.1 Airspace

Airspace located directly over the withdrawn lands would be managed by the appropriate Controlling FAA Agency (Anchorage Center and Fairbanks Approach Control Centers). These airspaces include RAs R-2201, R-2202, R-2205, and portions of the Buffalo, Delta 1, Delta 3, Delta 4, Eielson, Fox 2, and Viper B MOAs. Per 14 CFR Part 71 the airspace would be designated as one of the following:

- **Class D** – Starting at the ground and going up to 3,000 feet MSL at BIG and 3,800 feet MSL at EIL

- **Class G** – Uncontrolled airspace starting at the surface and going up to the bottom of Class E airspace
- **Class E** – In the withdrawn lands, Class E airspace is found at three altitudes:
    - Next to Class D airspace, Class E airspace starts at 700 feet AGL and extends up to the base of the adjoining Class D airspace at BIG, EIL, FAI, and FBK.
    - Outside the vicinity of an airport, Class E airspace starts at the surface or 1,200 feet AGL.
    - Starting at 14,500 feet AGL and extending up to 18,000 feet MSL.
- **Class A** – Starting at 18,000 feet MSL and extending up to FL600

Table 4.7-1 shows the anticipated airspace classifications that would be assigned to the former SUAs by the FAA. Typically, Class D airspace is a cylinder; at BIG, the southwest portion of the cylinder contains airspace dedicated for R-2202 A. R-2202 C overlies R-2202 A and BIG's existing Class D. It is assumed the FAA would resolve the airspace by either maintaining the current extents of R-2202 A or adjusting BIG's Class D to be a traditional cylinder.

Table 4.7-1. Airspace Change Classifications for Former SUA

Special Use Airspace	New Airspace Classification	Controlling FAA Facility	Current and Forecast Operational Hours (in local time)
Yukon Training Area			
R-2205 A & F and Viper B MOA (within the existing EIL Class D airspace)	Class D—Ground to 3,000 feet MSL Class E—3,001 feet MSL to 17,999 feet AGL Class A—18,000 feet AGL to FL600	Fairbanks Approach	Class D—8:00 am – 12:00 am Class E—12:01 am – 7:59 am Class A—24 hours per day

Special Use Airspace	New Airspace Classification	Controlling FAA Facility	Current and Forecast Operational Hours (in local time)
R-2205 A, B, D, F, J, G and VIPER B MOA (outside of the existing EIL Class D airspace)	Class G—Ground to 700 feet AGL in the vicinity of airports, and from the ground to 14,500 feet AGL outside of airport vicinity Class E—700 feet AGL to 17,999 feet MSL in the vicinity of an airport. Beyond the airport vicinity, 1,200 feet AGL to 17,999 feet MSL, or from the top of Class G, which is 14,500 feet AGL Class A—18,000 feet MSL to FL 600	Fairbanks Approach	Class A, E & G—24 hours per day.
R-2205 C, E, H, K	Class G—Ground to 1,200 feet AGL Class E—1,200 feet AGL to 17,999 feet MSL Class A—18,000 feet MSL to FL 600	Fairbanks Approach	Class A, E & G—24 hours per day.
Delta 1 MOA	Class G—Ground to 1,200 feet AGL Class E—1,200 feet AGL to 17,999 feet MSL Class A—18,000 feet MSL to FL 600	Anchorage Center	Class A, E & G—24 hours per day.
Donnelly Training Area East			
R-2201 A & C	Class D—Ground to 3,800 feet MSL Class E—3,800 feet MSL to 18,000 feet AGL Class A—18,000 feet AGL to FL 600	Anchorage Center	Class D—9:15 am – 5:15 pm Class E—5:16 pm – 9:14 am
R-2201 B & D (within the existing BIG Class D airspace)	Class D—Portion within existing BIG Class D airspace—Ground to 3,800 feet MSL Class E—3,801 feet MSL to 17,999 feet AGL Class A—18,000 feet AGL to FL 600	Anchorage Center	Class D—9:15 am – 5:15 pm Class E—5:16 pm – 9:14 am
R-2201 B & D (outside of the existing BIG Class D airspace)	Class G—Ground to 700 feet AGL in the vicinity of airports. Beyond the airport vicinity, from the ground to 14,500 feet AGL Class E—700 feet AGL to 17,999 feet MSL in the vicinity of airports. Beyond the airport vicinity, 1,200 feet AGL to 18,000 feet MSL, or from the top of Class G, which is 14,500 feet AGL Class A—18,000 feet MSL to FL 600	Anchorage Center	Class A, E & G—24 hours per day

Special Use Airspace	New Airspace Classification	Controlling FAA Facility	Current and Forecast Operational Hours (in local time)
Delta 3 MOA	Class G—Ground to 1,200 feet AGL Class E—1,200 feet AGL to 17,999 feet MSL Class A—18,000 feet MSL to FL 600	Anchorage Center	Class A, E & G—24 hours per day
Delta 4 MOA	Class G—Ground to 1,200 feet AGL Class E—1,200 feet AGL to 17,999 feet MSL Class A—18,000 feet MSL to FL 600	Anchorage Center	Class A, E & G—24 hours per day
Buffalo MOA	Class G—Ground to 1,200 feet AGL Class E—1,200 feet AGL to 18,000 feet MSL Class A—18,000 feet MSL to FL 600	Anchorage Center	Class A, E & G—24 hours per day
Donnelly Training Area West			
R-2202 A*	Class G—Ground to 1,200 feet AGL Class E—1,200 feet AGL to 18,000 feet MSL Class A—18,000 feet MSL to FL 600	Anchorage Center	Class A, E & G—24 hours per day
R-2202 B	Class G—Ground to 1,200 feet AGL Class E—1,200 feet AGL to 18,000 feet MSL Class A—18,000 feet MSL to FL 600	Anchorage Center	Class A, E & G—24 hours per day
R-2202 C* & D	Class G—Ground to 1,200 feet AGL Class E—1,200 feet AGL to 18,000 feet MSL Class A—18,000 feet MSL to FL 600	Anchorage Center	Class A, E & G—24 hours per day
Fox 2 MOA	Class G—Ground to 1,200 feet AGL Class E—1,200 feet AGL to 18,000 feet MSL Class A—18,000 feet MSL to FL 600	Anchorage Center	Class A, E & G—24 hours per day
Eielson MOA	Class G—Ground to 1,200 feet AGL Class E—1,200 feet AGL to 18,000 feet MSL Class A—18,000 feet MSL to FL 600	Anchorage Center	Class A, E & G—24 hours per day

Source: ForeFlight, accessed November 1, 2021

The MOAs located adjacent to the lands, including Birch, Buffalo, Delta 2, Eielson, Fox 1 and 2, and Yukon 1, would remain in place.

4.7.1.2 Military Operations

The removal of MOAs and RAs associated with the withdrawn lands would result in a serious adverse change in military operations in central Alaska. Military flight

operations, which are very important to Joint Pacific Alaskan Range Complex training objectives and for Unmanned Aerial Systems training, could not be accommodated within currently established operational procedures and flight patterns due to the elimination of the SUAs. The No Action Alternative assumes that military aviation activity in central Alaska would continue, but would be relocated beyond the PL 106-65 training lands. The operations that utilize the SUAs over the lands would be assigned by the Army to alternative training airspace (MOAs and RAs), although the details of such an arrangement cannot be predicted at this time. Because the majority of the RAs in central Alaska are located within the withdrawn lands, the loss of this airspace – in which hazardous activities are permitted – would adversely impact the military's training capacity and military readiness.

4.7.1.3 SUA Use

The lands would continue to be surrounded by MOAs and controlled airspace on all sides. For example, R-2202 is bordered by the Fox 1, Fox 2 and Buffalo MOAs to the south, Eielson MOA to the west, Birch & Delta 2 MOAs to the north, Delta 3 MOA to the northeast, Eielson Army Airfield and associated Class D to the northeast, and the Buffalo and Delta 4 MOAs to the east. While the airspace designation may change, in all cases, FAA and military coordination procedures must ensure that priority is given to any wildland fire, Medevac, emergency, or other critical service flights requiring access through any airspace environment.

Table 3.7-2 shows the existing use of the SUAs; for the SUAs over the withdrawn lands, the total annual sorties and day use would be zero under the No Action Alternative. All SUAs over the withdrawn lands are wholly within the project boundary except for the Viper B MOA. The northern portion of the Viper B MOA is outside of the project boundary. This analysis assumes the northern portion would continue to exist and operate as it does today. As shown in Table 3.7-2, annual use for the entire Viper B MOA is 8,034 operations, or 163 per day.

Military aircraft would still be able to operate non-hazardous activity over the withdrawn lands within Class A, D, E or G airspace. Examples of non-hazardous

military activity that could take place in this airspace include flying between the other SUAs or enroute flights transitioning to destinations beyond central Alaska.

4.7.1.4 Military Training Routes

Military Training Routes (IR and VR Routes) would remain in place. These training routes are located over the withdrawn lands; these airways are used for military training in excess of 250 knots. These routes may still be used by the military once the airspace has been reclassified. Use of these airways in the No Action Alternative is not anticipated to have significant impacts on airway traffic and/or the airspace used by Anchorage and or Fairbanks air traffic control to transition arriving/departing air traffic between any of these airways and an airport environment.

With the reduction of military training over the withdrawn lands, no significant adverse impacts on flight operations or violation of FAA regulations are anticipated.

4.7.1.5 Civilian Operations

The extent to which the No Action Alternative may affect civil aviation airspace would vary with the locations, altitudes, and times of day of both military and civilian aviation activities that would occur within this airspace. Civilian aircraft, including private and commercial flights, would be able to transition within the airspace over the withdrawn lands 24 hours per day. As shown in Table 3.7-2, the total number of military sorties in the SUA over the withdrawn lands is 19,834, not including sorties in R-2201, which were not available at the time of publication. Based on the existing general aviation activity in central Alaska, it is anticipated that the civilian air traffic transitioning this area would not exceed the total yearly military sorties.

Civilian aircraft operating using VFR would adhere to the weather minimums for the applicable airspace, as well as distance from other aircraft. If they are operating in controlled airspace, they may request flight following from the appropriate FAA Controlling Agency, which would be either Anchorage or Fairbanks Center. Aircraft that either have not filed a flight plan or filed a flight plan for a VFR flight may request to be monitored by ATC where there is radar; this is called flight following. Civilian

aircraft operating under IFR would file a flight plan with the FAA, be in contact with the appropriate ATC facility throughout the flight, and follow the route on its filed flight plan.

There are federal airways available for aircraft flying within central Alaska, but there are no federal airways over the withdrawn lands. Since the closest federal airways are located between the withdrawn lands, no significant adverse impacts on civil and commercial aviation activities are anticipated to occur in the airspace over the withdrawn lands with regard to federal airways.

Information regarding the scheduled and real-time use of SUAs that surround the withdrawn lands would continue to be available through the SUAIS, ERC, ATC, Notices to Ari Missions (NOTAMS), and Flight Service Stations to increase pilot awareness of military activity in the vicinity. Historically, military and civilian operations in this region have been reasonably compatible due to an effective air traffic control system, close coordination between military airspace scheduling agencies and the FAA, availability of the SUA information, and use of NOTAMS.

With the continued adherence to FAA regulations and air traffic management of the airspace, no significant adverse impacts would occur from civilian and/or military aircraft operating over the withdrawn lands in Class A, D, E or G airspace.

4.7.2 ACTION ALTERNATIVE 1

Under Action Alternative 1, there would be no change to the existing airspace structure or baseline training operations. Management and use of the SUAs over the withdrawn lands would continue as presented in Table 3.7-2 to support training and major force activities. The Action Alternative 1 would have no effect on the airspace and altitudes authorized for supersonic flight within these SUAs, and pilots would continue to adhere to all flight restrictions, limitations, and seasonal adjustments codified in the 11th Air Force Alaska Airspace Handbook. No impacts would result from implementation of Action Alternative 1 in the withdrawn lands airspace operations and management relative to existing conditions.

4.8 PUBLIC HEALTH AND SAFETY

A significant impact on public health and safety would result if the Army action were to result in either of the following:

- Violation of applicable regulations and policies designed to protect human health and safety
- A substantial risk of causing imminent or chronic human health and safety problems

4.8.1 NO ACTION ALTERNATIVE

Military hazards to public health and safety would be reduced under the No Action Alternative because military training and testing operations that require a surface use would cease, resulting in a beneficial effect on public health and safety.

Several training ranges have been severely contaminated by ammunition and explosives from decades of military use and equipment testing. Under the No Action Alternative, lands that are determined to be suitable and returned to the public domain will be managed by BLM. If the lands are no longer under military management, access control via USARTRAK would no longer occur, and the potential for civilian interaction with contaminated areas would increase. Contaminated lands would be identified, defined, remediated, and returned to the public domain under BLM management if determined to be suitable. The feasibility of decontamination at sites throughout the withdrawn lands is unknown. These areas would remain under the Explosives Safety Management Plan (ESMP), which regulates all commands, staff offices, activities and tenants that have operations and activities involving the handling, storage, testing, research and development, renovation, shipping, receiving, and/or disposal of ammunition and explosives. The ESMP would continue to ensure compliance with the U.S. Army's U.S. Nuclear Regulatory Commission for the possession of depleted uranium. Upon acceptance of the withdrawn lands, BLM would identify public health and safety-related procedures through a planning process, in which decisions would be made for allowable future

use. If decontaminated lands are not determined suitable for return to the public domain, they would be referred to the General Services Administration for disposal.

Under this alternative, the reduction in training operations would have a beneficial effect on the health and safety of the surrounding communities. There would be fewer troop movements, convoys, and deployments in the region, reducing potential mishaps on public transportation corridors and reducing any movement related congestion.

The Army would no longer respond to wildfires or provide other wildfire management support in the withdrawn lands. Assuming that BLM AFS would maintain its current wildland fire response capacity, this would increase the potential for large and destructive fires in the withdrawn lands and surrounding areas, and reduce the degree to which controlled burns could be implemented, resulting in a moderate adverse impact. This impact would be offset by reduced instances of training-related fire starts.

Airspace classifications that have been designated to guide safe usage of withdrawn land airspace would be reclassified based on revised usage of the area. Uses of airspace over YTA and DTAW would be redefined or removed from the airspace classifications, potentially becoming declassified and available for public use. No changes would be made that increase incompatible or conflicting uses with ongoing military aviation practices in the region and there would be no effect.

Military airfield use and overflights would still be regular occurrences in the region. Access to Clear Zones and APZs would remain restricted and subject to DoD Instruction 4165.57, which provides guidance for land use compatibility in APZs.

Protection of public health and safety would require measures to ensure that users of lands deemed suitable for return to BLM management do not enter nearby contaminated lands remaining under Army management. Such measures would be identified and implemented under the ESMP. These measures would reduce accidental ingress to contaminated areas by civilian visitors to the region by identifying explosive, toxic, or other hazardous materials in the area.

4.8.2 ACTION ALTERNATIVE 1

Under Action Alternative 1, the Army would continue to adhere to transportation and travel safety guidance and procedures outlined in USARAK Regulation 55-2. Extension of the land withdrawal for YTA and DTA training areas would result in continued introduction of hazardous materials into the environment. There would continue to be ordnance contaminations in impact areas, which would continue to be excluded from civilian access, and the Army would maintain response and cleanup programs to remediate contaminated sites. Continued regulation of civilian access through iSportsman would allow for minimization of trespass into contaminated areas. Health and safety impacts from contaminated sites would remain less than significant.

Ongoing munitions training would continue under Action Alternative 1. Given that 3.5 percent of munitions completely fail to detonate and 0.3 percent only partially detonate (USARAK 2004), munitions training would continue to result in UXO risks. It is anticipated that the same level of flight operations, training missions and other military activities that may pose a risk to public health and safety would continue in the same general location, frequency, and capacity for the foreseeable future. Impacts of training on health and safety are moderated by BMPs and SOPs identified in USARAK Regulation 350-2.

No changes are expected in regard to wildfire response and management, airfield APZs, aircraft strike hazards, emergency response rates or routes, medical facility availability, or recreational use safety. The Army has implemented a comprehensive program to eliminate, avoid, or reduce health and safety risks to its workers, visitors, and the public and would continue to do so through the life of the withdrawal extension. The Army's health and safety program would continue to comply with the laws, regulations, and guidance documents that currently guide their approach to health and safety.

4.9 HAZARDOUS MATERIALS, SOLID AND HAZARDOUS WASTES

A significant impact on or from hazardous materials and wastes would occur if an Army action were to do any of the following:

- Substantially increase the amounts of hazardous materials or wastes used, generated, or procured beyond current management procedures, permits, and capacities
- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- Create a significant hazard to the public or the environment through reasonably foreseeable accident conditions involving the release of hazardous materials into the environment
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation
- Disturb or create contaminated sites resulting in substantial negative impacts on human health or the environment

4.9.1 NO ACTION ALTERNATIVE

Under PL 106-65, the Army would provide BLM with a report characterizing the environmental condition of the land, air, and water resources affected by Army activities on and over the withdrawn lands. The Army would take all actions necessary to address any release or substantial threat of a release, regardless of its source, occurring on or emanating from the withdrawn lands during the period of withdrawal. The Army would be responsible for, and would conduct, the necessary remediation whether it was known at the time of transfer or discovered after transfer if it resulted from military activities. There is no timeline for full remediation of contaminated areas within the withdrawn lands, but it is assumed that these efforts would take several decades. This impact would be moderate and adverse.

The Army would no longer use or store hazardous materials and wastes on the withdrawn lands but would continue to manage hazardous materials through the

range deactivation process. This would include being responsible for underground and aboveground storage tanks, clean-up of potential hazardous materials, and closure of any RCRA-permitted facilities in withdrawn lands. The removal of hazardous materials and wastes would eliminate possible future leaks or mishaps, resulting in a beneficial impact.

4.9.2 ACTION ALTERNATIVE 1

Action Alternative 1 would result in continued introduction of hazardous materials into the environment. Use and generation of hazardous materials associated with training actions in the withdrawn lands would continue at current levels.

4.9.2.1 Hazardous Materials Use and Storage

Hazardous materials used for training purposes would continue to be transported, handled, and stored in accordance with the Army requirements. Requirements identified in the Army's Hazardous Material and Waste Management Plan and the FWA Installation Spill Contingency Plan would remain in effect to manage hazardous materials during training and to minimize the potential for release of hazardous materials. The FWA SPCCP would remain in effect to guide response procedures and reporting in case of release of hazardous materials. USARAK Regulation 55-2 would continue to provide guidance for transporting hazardous materials on and off base. These plans are considered sufficient to prevent substantial release of hazardous materials into the environment under most circumstances and to provide adequate response in case of accidental release. The continued withdrawal of the training lands would have minor impacts associated with hazardous materials use and storage.

4.9.2.2 Munitions and Munition Constituents

Use of munitions would continue as part of military training on the withdrawn lands. The Army would continue to monitor impacts of military munition uses on operational ranges in accordance with the ORAP and to track potential migration of MCOC off of the withdrawn lands. The most recent ORAP assessments did not identify releases of

MCOC from the withdrawn lands, and future releases to adjacent areas are considered unlikely. Regular explosive-ordnance disposal actions would continue each summer to clear impact areas. Army Range Control staff would continue to clear training areas of other military debris that is generated during training actions. The impacts associated with the ongoing use, recovery, and disposal of hazardous materials associated with training are considered to be moderate and adverse.

4.9.2.3 Storage Tanks

Use of storage tanks to support training actions would continue. Permanent storage tanks are primarily used for home heating oil and diesel. Temporary storage tanks are used for fueling vehicles during training. Existing tanks may be removed or replaced, or new tanks may be installed based on future military operational needs. Tanks would continue to be managed in accordance with applicable regulations and in compliance with the SPCCP. Impacts associated with releases from storage tanks are less than significant.

4.9.2.4 Resource Conservation and Recovery Act Permitted Facilities

RCRA-permitted facilities include satellite accumulation areas, hazardous waste accumulation areas, and possibly universal waste storage areas. Under the direction of FWA's Public Works Environmental Office and in compliance with RCRA and the Federal Facilities Compliance Act, RCRA-permitted facilities would continue to operate as long as the military has a need for them. Under the Military Munitions Rule, only military munitions that are used or fired off-range and are not immediately recovered would be regulated under RCRA. Assuming compliance with federal regulations and Army policies, no impacts would occur with the continued withdrawal of the training lands.

4.10 AIR QUALITY

Significance criteria for air quality correspond to the types of emissions sources (e.g., stationary, nonroad, and mobile sources) and the location of the emissions sources (e.g., attainment versus non-attainment for criteria pollutants).

The impact on air quality would be considered significant if an Army action were to result in any of the following:

- A violation of any federal, state, or local air quality regulation;
- A violation of any state or federal ambient air quality standard;
- Activities that would be incompatible with the Alaska State Implementation Plan ;
- Activities that would contravene Regulation 350-2; or
- Activities that would result in increased emissions that would impact visibility in Denali National Park.

In addition to the impact of criteria pollutant emissions from each alternative, impacts on climate change, pollution from wildland fires, and ice fog are evaluated for each alternative. Impacts for climate change are evaluated based on increases or decreases in GHG emissions. For wildland fires and ice fog, any increase in the frequency of occurrence as a result of an alternative is considered significant.

4.10.1 No Action Alternative

Under this alternative, lands that are determined to be suitable and returned to the public domain will be managed by BLM and would be subject to the same federal and state regulations that the lands are currently subject to. Overall, impacts from this alternative would be negligible. Anthropogenic emissions in the ROI include criteria air pollutant emissions (SO_2, NO_X, PM_{10}, $PM_{2.5}$, VOC, CO, lead), GHGs, and hazardous air pollutants (HAPs).

Based on air quality impacts documented in earlier NEPA documents (USARAK 1999, USAF 2016), emissions are associated with activities on the training lands. Previous NEPA documents determined that impacts from each alternative evaluated were not significant. Similar to prior NEPA reviews, this evaluation is based on the incremental change resulting from the evaluated alternatives.

Under the No Action Alternative, emissions would decrease with the cessation of training and testing activities. The impacts on air quality from this alternative cannot be determined as future land uses are not defined. BLM will manage the land in

accordance with all federal regulations. Additionally, under this alternative, it is assumed that the stationary boilers and generators would be removed from the training areas. These emission sources are small and do not have a measurable impact on air quality in the ROI.

4.10.1.1 Climate Change

The 2018 National Defense Authorization Act Section 335 (PL 115-91) requires the DoD to conduct an analysis of the threat posed by climate change to military installations. The Army has directed installations to plan for energy and climate resilience efforts by identifying the installation's vulnerability to climate-related risks and threats (ASA IE&E 2021). Potential climate change impacts of concern at YTA and DTA training lands include temperature extremes, riverine flooding, drought, wildfire, land degradation, and energy demand.

Using the Army Climate Assessment Tool, commanders of Army installations are required to assess, plan for, and adapt to the projected impacts of changing climate and extreme weather. Adding the results of climate change prediction analysis tools into facility and infrastructure plans, policies, and procedures enhances Army facility standard designs beyond the current minimum requirements (Secretary of the Army 2020). For YTA and DTA, this includes planning for potential future changes threatening access to maneuver spaces and training ranges.

If the No Action Alternative is implemented, the Army would no longer create and implement climate resilience plans for these lands, which could pose a minor to moderate impact on the training areas due to the lack of management. GHG emissions reductions from on-road and off-road mobile sources could occur under this alternative.

4.10.1.2 Class I Areas

Denali National Park (Denali) is the closest Class I area to the training lands. Denali has some of the cleanest measured air quality in the country based on ambient air

monitoring (NPS 2021). The primary sources of pollution affecting Denali are wildfires and international emissions.

Due to the distance from each training area and the low release height of current emissions sources in the training areas, any changes to impacts at Denali are expected to be negligible.

4.10.1.3 Wildland Fires

Wildland fires include wildfires, prescribed burns, and controlled burns for land clearing. Smoke from combustion of natural biomass is a complex mixture of particulate matter, carbon dioxide, water vapor, carbon monoxide, hydrocarbons and other organic chemicals, nitrogen oxides, and trace minerals. Smoke also impairs local visibility and can contribute to unsafe driving conditions, impaired health, and haze that obscures vistas. Particulate matter is the principal public health threat from short- and long-term exposure to wildland fire. Smoke particles from wildfire smoke can vary in size, but approximately 90 percent of total particle mass emitted from wildfires consists of fine particles (i.e., $PM_{2.5}$) (EPA 2019).

ADEC's Air Quality Division tracks wildfires and regulates prescribed and controlled fires from an air quality perspective and provides emissions data from the fires to EPA on a triennial basis. Historically, the majority of wildfires in Alaska result from lightning strikes. In 2019 and 2020, lightning ignited 99.5 percent of wildfires (ADEC 2021c, ADEC 2021d). Fires ignited by lightning often start in remote areas, which commonly results in a limited suppression response and limited ability to monitor. In 2019, 99 percent of fire-generated $PM_{2.5}$ emissions resulted from fires ignited by lightning (ADEC 2021c); the remaining one percent was the result of prescribed burning. In 2020, 82.5 percent of fire-generated $PM_{2.5}$ emissions resulted from fires ignited by lightning; the remaining 17.5 percent were the result of prescribed burning.

In 2020 wildland fires were relatively low compared to other years. Wildfires overwhelmingly dominated both acres burned and tons of $PM_{2.5}$ emitted for the State of Alaska in 2020. Total fire-related $PM_{2.5}$ emitted in Alaska during the 2020 fire year was 37,242 tons, with the majority (greater than 80 percent) coming from wildfires

(ADEC 2021d). In 2020, wildfires burned 178,907 acres throughout Alaska, producing 30,753 tons of $PM_{2.5}$. Prescribed burns affected 81,508 acres, resulting in 6,489 tons of $PM_{2.5}$ (ADEC 2021d). The largest prescribed fires occurring in the training lands were in the Oklahoma (DTA) and Stuart Creek (YTA) Impact Areas (ADEC 2021e). Statewide emissions from wild and prescribed fires in Alaska are summarized in Table 4.10-1.

Table 4.10-1. Statewide Emissions from Wild and Prescribed Fires in Alaska in 2020

Pollutant	Emissions (tons)
$PM_{2.5}$	37,242
PM_{10}	42,539
Elemental Carbon	2,386
Organic Carbon	1,825
SO_2	3,383
NO_X	12,340
VOC	22,206
CH_4	23,138
Ammonia	2,055
CO	432,191

Source: 2020 Alaska Fire Emissions Inventory (ADEC 2021d)

Because the Army would no longer provide wildfire suppression support, the No Action Alternative may increase the risk of wildland fire, which would result in a corresponding increase in emissions of particulate matter. Army training, maneuvering, and testing activities would no longer occur in the withdrawn lands, so the risk of military-caused wildfire originating in the withdrawn lands would no longer exist. Use of the lands by the public for recreation could result in discarded cigarettes, matches, or other burning materials that may still pose a risk for accidental wildfires. Discarding these materials is prohibited under Army Regulation 350-2 (USARAK 2020a). Under the No Action Alternative, citizens using the training lands for other activities would not be subject to Regulation 350-2 restrictions, but BLM would implement similar restrictions for fire risk reduction in accordance with existing or updated RMPs (BLM 2002a, 2002b).

Under the No Action Alternative, the frequency of lightning-induced wildfires is not expected to change and would still create episodes of poor air quality. The military

firefighting capabilities in the training areas would be curtailed, and prescribed burns in support of military training would no longer occur. Elimination of prescribed burns by the military may reduce short-term impacts associated with such fires, but may also allow for buildup of fuels, resulting in larger and more intense fires which typically generate greater emissions.

4.10.1.4 Ice Fog

Ice fog can contribute to air pollution and visibility problems. Ice fog forms when vapor is exposed to completely saturated air with ambient temperatures below -20 ºF (Weatherly et al. 2018). Ice fog forms in low-lying areas where strong inversions occur. The ADEC regulates ice fog from stationary sources through the air permitting program.

The Fairbanks area is known for ice fog conditions. Previous studies have shown ice fog events to be associated with moisture released from power generation. In a study conducted by USACE (USACE 2021), preliminary data collected from December 2019 to March 2020 suggested that up to 74 percent of the ice fog events in the FWA area originated from the FWA power plant (USAG Alaska 2020d). These events are very unlikely to reach the training lands.

In the presence of condensation nuclei, ice fog can form in the training areas under the right meteorological conditions. Emissions in the training areas that could contribute to the formation of ice fog come from stationary combustion sources (boilers and generators) and mobile sources. In the training areas, military exercises can cause localized ice fog when vehicles are kept idling in the field when used as warm-up shelters for personnel. Ice fog formation is less frequent in the training areas than at FWA because of higher terrain and wind speeds. The geographic extent of ice fog from the idling vehicles also covers a smaller area when compared to ice fog occurrence in Fairbanks. For DTA some naturally occurring ice fog forms over the Delta River if open water is present.

Under the No Action Alternative, the frequency of ice fog generation in the training areas would likely decrease due to the elimination of military vehicles in the withdrawn lands.

4.10.2 ACTION ALTERNATIVE 1

Under Action Alternative 1, current uses and training activities would continue in the withdrawn lands. Management of the withdrawn lands would continue to be subject to the same federal and state regulations that the lands are currently subject to. Any future changes to uses of the training lands would be evaluated under separate NEPA analyses. No changes are anticipated to the emissions sources at FWA, Fort Greely, or Eielson AFB cantonment areas for this analysis. Air quality impacts because of this alternative would be none to negligible since no emissions increases are expected.

4.10.2.1 Anthropogenic Emissions

Military training exercises have occurred within the training areas, and within FWA, Fort Greely, and Eielson AFB since the late 1940s. Activities conducted on withdrawn lands under Action Alternative 1 would be consistent with the current maneuvering, training, and testing conducted under the existing withdrawal. Emissions from YTA and DTA have historically resulted in minor adverse impacts on air quality and GHG emissions, and future activities would likely continue to have minor impacts on air quality in the ROI.

High measured ambient $PM_{2.5}$ in Fairbanks occurs during periods of very cold surface temperatures, shallow temperature inversions, and calm winds creating stagnant conditions. As noted in the 2016 amendment to the FNSB $PM_{2.5}$ State Implementation Plan (ADEC 2014), the distances between the military ranges and the populated areas of Fairbanks, combined with an absence of southerly winds during $PM_{2.5}$ episodes in Fairbanks, demonstrate that the limited emissions from the withdrawn lands do not contribute to $PM_{2.5}$ exceedances recorded in Fairbanks. This is further supported by data collected at Fairbanks International Airport which demonstrates that the dominant air flow prior to and during high $PM_{2.5}$ episodes is

from the northeast. Though both YTA and DTA are located to the southeast of Fairbanks, troop transport from FWA to the training areas may traverse the FNSB $PM_{2.5}$ nonattainment area and CO maintenance areas.

In the 2016 F-35A Beddown Final EIS (USAF 2016), emissions from operation of the beddown were compared to the total emissions of the FNSB. The comparison showed the incremental increase to be 0.096 percent for CO, 1.26 percent for NO_X, 0.030 percent for VOCs, 0.246 percent for SO_X, 0.050 percent for PM_{10}, and 0.064 percent for $PM_{2.5}$. These small incremental increases were determined to not have an adverse impact on regional air quality (USAF 2016).

The 2016 EIS also determined that F-35A aircraft would traverse small portions of the FNSB $PM_{2.5}$ nonattainment and CO maintenance areas while arriving and departing on some flight tracks below 3,000 feet above ground level (i.e., below the mixing height). It was determined that these annual emissions would equate to less than one ton of $PM_{2.5}$ and about 1.1 tons of CO. $PM_{2.5}$ precursor emissions were not provided in the 2016 Final EIS for these aircraft operations, but are expected to be the same order of magnitude. Therefore, no adverse impacts on the maintenance and nonattainment areas were anticipated from the F-35A Beddown.

Renewal of the land withdrawal under Action Alternative 1 represents the current and historical emissions in the ROI. Renewal of the withdrawal would not result in emission increases compared to existing emissions, so the renewal itself would not cause emissions increases that exceed the significance thresholds. Action Alternative 1 is not expected to worsen the existing air quality in the ROI, cause new violations to the air quality standards, or delay the timely attainment of the air quality standards in the FNSB $PM_{2.5}$ nonattainment area. As such, it would result in negligible impacts.

4.10.2.2 Climate Change

Climate change operational impacts specific to the training lands include increased number of black flag (suspended outdoor training) or fire hazard days, increased dust generation during training activities, increased maintenance/repair requirements for training/testing lands and associated infrastructure and equipment (e.g., training

roads, targets), riverine flooding, and damage from thawing permafrost. Additionally, high latitudes may experience a temperature increase of five to eight degrees Fahrenheit over the next century, with the projected climate change impact of increased aridity, as documented in Global Climate Change Impacts in the U.S. (U.S. Global Change 2014). This report predicts that permafrost temperatures in Alaska are rising, producing a thawing trend that is expected to continue, causing multiple vulnerabilities through drier landscapes, more wildfire, altered wildlife habitat, increased cost of maintaining infrastructure, and the release of heat-trapping gases that increase climate warming.

Land-based training is likely to be affected mostly by changes in access to training areas. YTA and DTA are utilized for winter training when wetland areas and permafrost soils are frozen, and snow covered. Access to some of these training lands is by ice bridges constructed in the winter over the Delta River. Increases in temperature and changes to permafrost would result in shorter durations of training access, with some training areas becoming unusable.

GHG emissions from the training areas primarily result from the combustion of fossil fuels in small stationary sources (e.g., boilers, heaters, and generators) and on- and off-road mobile sources. These emissions would continue under Action Alternative 1.

Carbon dioxide equivalent (CO_2e) emissions from UAV operations on the withdrawn lands have been estimated to be 1,562 metric tons per year (USAG Alaska 2015). These emissions would continue under Action Alternative 1.

In 2016, the increase in CO_2e emissions due to the F-35A Beddown was evaluated (USAF 2016). The calculated annual CO_2e emissions after beddown of both F-35A squadrons was 31,704 metric tons, or 0.937 percent of the existing CO_2e emissions for the FNSB region. Accordingly, no adverse impacts from GHG emissions due to Action Alternative 1 are anticipated (USAF 2016). These emissions would continue under Action Alternative 1.

The combined GHGs from the F-35A Beddown and UAVs would be 33,266 metric tons per year, which less than two percent of regional GHG emissions. It was therefore determined that there would be no adverse impacts from increased

cumulative GHG emissions from the F-35A Beddown and the proposed UAVs beddown.

4.10.2.3 Class I Areas

Denali National Park is the closest Class I area to the training lands. As previously noted, the primary sources of pollution in Denali are wildfires and international emissions, although some local and regional emissions have also been measured in the park in small quantities.

The F-35A Beddown Final EIS (USAF 2016) concluded that visibility impairment to Denali would not be affected by the beddown due to the distance to the park from the Fox 3 MOA in the northern Joint Pacific Alaskan Range Complex airspace. While the Fox 3 MOA is not located in the ROI, the conclusions drawn about dispersion and its distance to Denali are relevant to the distance over which dispersion occurs between YTA / DTA and Denali. The analysis stated that due to the transport distance (i.e., 15 miles for the 2016 analysis) emissions would be dispersed by the time they arrived at the park. In the cases of YTA and DTA, the transport distance to Denali is greater than 50 miles. The 2016 Final EIS notes that because the F-35As would primarily fly above the 3,000-foot mixing height, there would be no adverse effects on regional air quality.

Because of the large distance from the training lands to Denali, the low release height of current emissions sources operating in the training areas are likely to disperse before having an impact at Denali National Park. In addition, no additional emissions would be generated above those currently occurring in the training areas. Therefore, Action Alternative 1 would have a negligible effect on visibility degradation in Denali National Park.

4.10.2.4 Wildland Fire

According to the INRMP, USAG Alaska averages over 100 reported wildfires each year, of which an average of 10 are over one acre (USAG Alaska 2020a). Wildfire emissions impact air quality in the training areas and the ROI. Action Alternative 1

would have none to negligible impacts on wildland fire and wildfire emissions. Wildfire and wildland management would continue under the guidance of the USAG Alaska Natural Resources Program's current INRMP (USAG Alaska 2020a), AOP, and subsequent updates for the duration of the withdrawal period.

The extent to which military activities contribute to emissions from wildland fire would have a negligible difference from the current condition. The use of incendiary munitions would continue to be restricted when fire hazards are present and controlled burns would be used to clear vegetation. Under Action Alternative 1, the military firefighting capabilities in the training areas would continue, and the requirements of Regulation 350-2 would be enforced, continuing existing fire management policies. Occurrences of natural wildfire (e.g., ignitions from lightning) would continue to result in wildfire smoke and emissions for both alternatives. Therefore, impacts from this alternative would be negligible.

4.10.2.5 Ice Fog

The Fairbanks area is known for ice fog conditions. Under Action Alternative 1, localized ice fog would continue to form in low-lying portions of the training areas due to boilers, generators, and military vehicles idling as warming stations during cold-weather training. The conditions for ice fog formation in the training areas occur infrequently, but ice fog can occur under the right meteorological conditions, particularly when sources of additional moisture (such as those associated with combustion sources) are available (Weatherly et al. 2018). Because of the infrequent nature of ice fog in the training areas, negligible impacts on ice fog frequency and intensity would occur if the withdrawal were extended.

4.11 EARTH RESOURCES

A significant impact on earth resources could result if an Army action were to result in any of the following:

- A violation of best engineering practices and policies designed to maintain soils and permafrost and prevent erosion

- Substantial problems for soils as a stable foundation for training activities
- Substantial problems for soils as a resource for plant growth, habitat, or aesthetics
- Unacceptable risk of soil loss to the air (wind) or water, subsidence, or failure
- Increased dust that would violate air quality standards
- Increased turbidity over natural levels in water bodies as a result of erosion and runoff that would violate water quality standards

4.11.1 NO ACTION ALTERNATIVE

4.11.1.1 Terrain, Geology, and Seismic Hazards

Most of the withdrawn lands remain undeveloped and the natural topography and geology of the region still exists. Under the No Action Alternative, lands that are determined to be suitable and returned to the public domain will be managed by BLM under the existing RMPs for the region (BLM 2002a, 2002b). Any changes in BLM's management of the lands with regards to mining, logging, or recreational access may require RMP updates and revoking or amending PLO 5187, which would be subject to additional NEPA analysis. Increased public access or opening lands to leasing may lead to impacts on terrain or geology, but measures identified in the existing RMPs would minimize effects from such developments.

4.11.1.2 Mineral Resources

Under the No Action Alternative, no immediate impacts on mineral resources are anticipated. The Army would no longer use any common mineral materials from the withdrawn lands for construction or maintenance projects. Though the PL 106-65 land withdrawal would expire, the lands would continue to be withdrawn by PLO 5187 from all forms of appropriation under the public land laws, including location and entry under mining laws and leasing under the Mineral Leasing Act. In accordance with its existing RMPs, BLM would periodically reevaluate the lands to determine what areas, if any, may be suitable for opening to mining or mineral leasing (BLM 2002a, 2002b).

Any proposed changes in BLM's management of the lands that would result in opening the lands to exploration, mining, or leasing may require RMP updates and would require revoking or amending PLO 5187, and prompt further analysis under NEPA.

Limited analysis into mineral potential on the training lands has occurred since the 1999 withdrawal. Though the Nenana Basin along the southern boundary of DTAE contains minable coal, interest for exploration related to oil and coal in that area is likely highest west of DTAW, closer to existing infrastructure in Nenana, Alaska (BLM 2018). DTAE and DTAW also have low potential for coalbed natural gas and geothermal resources (BLM 2018). Previous surveys conducted for the 1999 LEIS identified similar results at both YTA and DTA (USARAK 1999). No areas of high potential for oil, gas, or other minerals are known within YTA.

4.11.1.3 Soils and Permafrost

If military use of the withdrawn lands is discontinued, impacts on soils and permafrost may be minor to moderate. Under the No Action Alternative, training and testing activities would cease, likely resulting in some benefits to the soil resources. Army land restoration programs and conservation measures would also cease, which may lead to moderate adverse impacts related to increased access or potential new development authorized under BLM's management in accordance with its existing or updated RMPs (BLM 2002a, 2002b). The lands would no longer be monitored and surveyed regularly for soil health and vegetative cover by the Army. Monitoring and land restoration practices would be fulfilled by the BLM in accordance with the applicable RMPs.

Soil compaction and topsoil degradation in impact areas and heavily trafficked maneuver sites would decrease following the end of military use. The Army would be responsible for restoring any soils contaminated from training or testing activities. Soil degradation and damage to permafrost may occur from excavation required for removal of ordnance or munitions contamination. These lands would not be managed for public access under BLM management until decontamination was deemed

complete and the lands were determined suitable to be returned to the public domain.

Lands that are determined to be suitable and returned to the public domain will be managed by BLM under existing or updated RMPs. BLM RMPs contain measures to protect soils from erosion, including weight limitations and seasonal restrictions on the use of ORVs in identified sensitive areas. Any impacts on soil stability or erosion control from the opening of the lands to additional recreational uses or development would be evaluated by BLM in future RMP updates and associated NEPA documents. Activities that could impact soil quality and permafrost include increased recreational ORV use, logging activities, development of new roads or trails, and mineral location and extraction, if authorized.

Changes in permafrost on the withdrawn lands would likely continue, regardless of military use, as a result of climate change in interior Alaska, where long-term measurements have identified accelerated permafrost degradation in coming decades (Douglas et al. 2021). Increased damage to permafrost could occur from the loss of Army efforts to monitor permafrost on the withdrawn lands and implement specific actions for its management, including the prevention of ORVs in most areas during summer months when the ground is thawed (USAG Alaska 2020a).

4.11.1.4 Glaciers

There are no glaciers on the withdrawn lands. There are no anticipated impacts on glaciers originating in the nearby Alaska Range under the No Action Alternative.

4.11.2 Action Alternative 1

4.11.2.1 Terrain, Geology, Seismic Hazards

Action Alternative 1 would have minor impacts on the landforms or general topographic features of the withdrawn lands. Minor impacts would occur because of grading for construction of roads, landing areas, and staging areas. No impacts are anticipated on geologic resources underlying the withdrawn lands. Training activities would have no impact on bedrock or geologic structures, including existing faults in

and around the withdrawn lands. The Army would continue to steward the land in partnership with BLM and in accordance with all applicable natural RMPs and regulations.

4.11.2.2 Mineral Resources

Under Action Alternative 1, the withdrawn lands would remain removed from all forms of appropriation under mining and leasing laws. There would be no changes in the availability or general use of mineral resources. BLM would retain authority for minerals management and not issue permits or leases for mineral disposition without the concurrence of the Army. BLM would continue to periodically evaluate the potential of any areas for opening to exploration or leasing in accordance with existing RMPs. Proposals to open any lands to mining would necessitate revoking or amending PLO 5187 and permitting under applicable federal regulations.

There is no formal estimate of the economic impacts of the withdrawn lands remaining closed to mining and leasing, as there has been limited analysis of mineral potential on the withdrawn lands since the 1999 withdrawal. Since the lands would remain withdrawn under PLO 5187 under either alternative, there would be no difference in economic impact. The withdrawn lands are known to have low potential for leasable minerals, including natural gas, oil, coal, and geothermal resources (BLM 2018, USARAK 1999).

The Army may continue to utilize sand, gravel, or similar mineral materials from the area for localized construction needs on the withdrawn lands in accordance with the existing management agreement with BLM (BLM & USAG Alaska 2016). Use of these materials is limited, and impacts on their availability in the region are considered minor.

4.11.2.3 Soils and Permafrost

Training and testing activities that may impact soil quality and permafrost include maneuver training, overland vehicle travel, and munitions use. Disturbances to soil cover and permafrost from these activities can result in changes to vegetation, soil

stability, and water quality. Soil compaction from heavy vehicles, rutting and topsoil degradation from off road travel, loss of vegetation, construction of facilities, and contamination from munitions can all result in degradation of soils and permafrost.

Permafrost requires an insulating layer of peat and vegetation between the frozen material and warm air at the ground surface. Removal or degradation of this vegetative layer can result in the melting of permafrost soils. Thermokarst is the term given to the process and range of features formed from irregular subsidence caused by melting permafrost. Melting permafrost can cause hummocks and mounding, water collection in depressions, breakdown of soil structure, and mudflows on sloping ground. The thawing process is difficult to control once it begins, and thermokarst is likely to persist or enhance further permafrost degradation or total loss (USARAK 2004). Changes in permafrost cover, coupled with increased temperatures from climate change, may lead to landscape-scale shifts in ecosystems, as shrub-scrub vegetation that once could not grow in frozen material trends northward.

Military training and testing activities would continue on the withdrawn lands for an additional 25 years or more. Impacts on soils from the same suite of activities can be expected over this period of time.

Though YTA, DTAE, and DTAW are utilized year-round, access is limited to the road system in the summer months due to the rugged terrain and the increased potential for heavy equipment to damage soil cover and the permafrost layer in the absence of snow and ice. Frozen, snow-covered ground can withstand more weight before similar damage from overland travel occurs. The Army has developed a network of winter trails and roads to limit the acreage of land cover that is trafficked by heavy vehicles, even when conditions are more favorable for overland travel. Soil compaction can still occur under snow, and damage to soils and permafrost can occur if the insulating frozen layer is too thin.

Soils consisting of easily transportable silty loam, found on steep slopes, or lacking vegetation are more susceptible to erosional impacts from overland maneuvering or munitions impacts. Heavy or frequent use of impact areas, ranges, or drop zones may result loss of vegetation and soil cover. Transport of eroded sediments,

especially from impact areas or firing ranges, can affect water and habitat quality downhill or downstream.

The Range and Training Land Assessment and Land Rehabilitation and Maintenance components of the ITAM program enable the Army to track, assess, and act upon impacts on the landscape from training and testing activities. The Army would continue to monitor, conserve, and rehabilitate the training lands in accordance with the INRMP and applicable regulatory guidelines. Existing conservation measures would continue under Action Alternative 1, including limiting the use of maneuver areas during the spring melting season, regularly surveying training areas for damage, and requiring project-specific soil suitability studies prior to any new training or testing activities (USAG Alaska 2020a, USARAK 2020c). With the incorporation of such measures, impacts on soils and permafrost are considered to be moderate.

4.11.2.4 Glaciers

No effects on glaciers are anticipated under Action Alternative 1. Training actions would not directly affect any glaciers, as there are none that extend onto the withdrawn lands. Although emissions of greenhouse gases from vehicles, aircraft, and support facilities used for training and testing may contribute to climate change, causing an indirect adverse effect on glaciers, such emissions are considered minor on a regional scale.

4.12 WATER RESOURCES

The impact on water resources would be considered significant if an Army action were to do any of the following:

- Alter the existing pattern of a surface water or groundwater flow or drainage in a manner that would substantially inhibit the currently viable uses of the water within or outside the region
- Degrade the quality of surface water and/or groundwater in a manner that would substantially reduce the existing or potential beneficial uses of the water

- Violate any water quality standard, safe drinking water standard, or waste discharge requirement

4.12.1 No Action Alternative

Under the No Action Alternative, impacts to water resources are anticipated to be net beneficial.

When military operations exercises cease, no additional MCOC would be deposited from training activities. It is assumed that unneeded roads and any developed training areas would be decommissioned and restored before being accepted and returned to the public domain, decreasing runoff and turbidity impacts. This cessation of military activity and subsequent restoration and decontamination would result in a beneficial long-term impacts on surface and ground water quality.

Lands that are determined to be suitable and returned to the public domain would be available for other public uses, such as recreation and subsistence use, subject to existing RMPs and PLO 5187. No to negligible impacts are anticipated from recreation and subsistence use. Recreational vehicle use of existing roadways and trails within the withdrawn lands would likely increase above current levels but would not likely exceed current levels of use by military vehicles. Vehicular use in the lands determined suitable and returned to the public domain would be managed according to the relevant BLM RMPs, which typically include measures avoid or minimize impacts on surface waters. Specific actions such as the development of new ORV trails would require project-level NEPA review as well as compliance with conditions of permits issued under relevant federal regulations, including the CWA, ESA, and CAA. Compliance with BLM RMPs, applicable federal regulations, and federal permit conditions would avoid or minimize adverse impacts to water resources under the No Action Alternative.

4.12.2 Action Alternative 1

Under Action Alternative 1, impacts on water resources from Army training and operations would range from minor to moderate in the withdrawn lands.

Military training exercises would continue, resulting in ongoing deposition of MCOC on the training lands that could impact water quality. Based on several studies as discussed in Section 3.12, these MCOC do not appear to be migrating to contaminate surface water or groundwater in ways that are distinguishable from background levels. Exceedances of water quality standards have mostly been attributable to high background levels of naturally occurring metals. No violations of water quality standards resulting from military activities are anticipated due to continued implementation of established BMPs, including not firing munitions directly into water resources and management of soils and vegetation on active ranges to prevent migration of MCOC into surface and ground water.

Established monitoring programs would remain in place to ensure early detection of any potential water quality issues resulting from military and training activities. These programs include those started in 2001 during the Alaska Army Lands Withdrawal Renewal process following the 1999 LEIS, in 2006 near the BAX due to the Settlement Agreement with the City of Delta Junction, in 2016 in accordance with the Site-Specific Environmental Radiation Monitoring Plan for Donnelly Training Area, and in 2012 after the ORAP Phase II sampling was completed. The risk of spills or other contamination would remain, but BMPs and SOPs outlined in the SPCCP and Installation Spill Contingency Plan would reduce the potential impact of these events. Overall, impacts on water quality may range from negligible to moderate.

Military training and operations may also result in changes to hydrology or aquifer recharge, especially where active ranges overlap with surface water features or floodplains. Adverse impacts may include decreased overland flow and floodplain infiltration due to aufeis ripping, decreased storage potential of disconnected wetlands due to military infrastructure, or decreased aquifer recharge from changes in overland flow or soil permeability. These impacts are minimized through the implementation of BMPs and other conservation measures. Training actions occurring during the winter when the lands are covered with ice and snow have less impact to soils and hydrology than those occurring under thawed conditions. In some locations, winter construction of ice bridges is used to avoid installing permanent features in or near water bodies. The impacts of missiles, bombs, and airborne

munitions may also vary seasonally depending on ice and snow cover. Through the incorporation of avoidance and minimization measures, these impacts may be minor to moderate.

Use of roads in the withdrawn lands would continue at levels similar to those that occur under existing conditions, which would cause minor impacts on surface water quality, especially in the vicinity of road crossings over surface water features.

Structures and roads would remain in place, so no construction-associated soil disturbance leading to sediment in runoff would be anticipated. If construction of additional structures or roads were planned in the future, they would be addressed by environmental reviews at that time, and are not covered under this document.

Extractive uses and land management that could cause impacts on water quality, such as firewood sales, firewood salvage operations, timber management, and prescribed burns, would continue at existing rates. These activities are addressed in the 2020 INRMP, which includes mitigation measures to ensure sustainable management of these resources. As a result, impacts on surface water quality would be minor.

4.13 BIOLOGICAL RESOURCES

This section evaluates the reasonably foreseeable effects on biological resources resulting from the No Action Alternative and Action Alternative 1. A significant adverse impact on biological resources would result if an action were to do any of the following:

- Substantially reduce the function, value, or overall quality or quantity of a biological resource
- Have a substantial adverse effect on federal ESA-listed or protected species and/or state protected species
- Conflict with federal or state programs aimed at conservation of fish or wildlife species

- Violate federal, state, or Army laws and regulations relating to the protection and conservation of biological resources

4.13.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, biological resources on lands that are determined to be suitable and returned to the public domain will be managed by BLM under applicable federal regulations and existing RMPs for the region. RMP updates or amendments would incorporate the additional property and resources found therein. BLM would manage biological resources according to the same federal laws and regulations applicable under Army management, as well as BLM-specific regulations. Regulations specific to military environmental protection would remain in effect only for lands undergoing cleanup prior to return to the public domain under BLM management, after which they would no longer apply.

4.13.1.1 Vegetative Resources

The No Action Alternative would have a beneficial effect on vegetative resources. Damage to vegetation due to military training, maneuvering, and testing in withdrawn areas would mostly cease. Army programs to actively manage vegetation as described in the INRMP would remain in effect only for lands undergoing cleanup prior to return to the public domain under BLM management, after which they would no longer apply. Temporary removal or damage to vegetation communities could result from future land uses authorized under BLM's management, but it is assumed that BLM would implement institutional controls to limit impacts to temporary and minor levels in accordance with existing or updated RMPs (2002a, 2002b).

The Army would continue current vegetation management programs in lands undergoing cleanup until such time as lands were determined suitable and returned to the public domain under BLM management. Decontamination actions would include invasive measures such as subsurface removal of ordnance or removal of contaminated soils, which would adversely affect plant communities and encourage colonization by invasive plant species.

4.13.1.2 Forest Management

The No Action Alternative would have no effect to a negligible adverse effect on forest management in the withdrawn lands. The Army would no longer conduct timber harvest for wildfire fuel reduction or to meet maneuvering, training, and testing requirements. Forest stand maps for forest management and planning would no longer be maintained, and Christmas tree sales and issuance of firewood permits by the Army for these areas would cease. BLM would manage forest and timber resources on lands determined suitable and returned to the public domain consistent with BLM policy and applicable authorities.

Timber harvests and forest management and planning would occur according to BLM policies, programs, and plans. FIA plots, a nationwide U.S. Forest Service initiative, would likely continue to be monitored where accessible.

4.13.1.3 Wildlife

The No Action Alternative would have a beneficial effect on wildlife species. Impacts on wildlife species from military training, maneuvering, and testing in withdrawn areas would cease across most areas within the withdrawn lands away from other military operations and installations. Wildlife monitoring and habitat improvements conducted by the Army would not continue. The Army actively manages wildlife habitat and monitors game species populations within the withdrawn lands in cooperation with ADFG. Since ADFG is the responsible state agency, cooperative management, including hunting and trapping opportunities, would likely remain the same for the lands determined to be suitable and returned to the public domain under BLM management.

4.13.1.4 Fish

The No Action Alternative would have a beneficial effect on fish. Direct effects on fish species and/or their habitats from military actions within the withdrawn lands, as summarized below for Action Alternative 1, would no longer occur. Management of wild and stocked fisheries is the responsibility of ADFG and would continue. Any

proposed changes to land use or development of the withdrawn lands under BLM management would be assessed for compliance with applicable laws and regulations to protect aquatic habitats and species. BLM would amend applicable RMPs and protective measures to encompass the lands determined suitable and returned to the public domain and avoid and minimize potential adverse effects on fish species and/or aquatic habitats found within them.

4.13.1.5 Invasive and Nuisance Species

The No Action Alternative would have negligible to minor adverse effects on invasive and problematic species. Surface disturbing activities from which most invasive plant infestations originate would cease. Accidental introduction of invasive and nuisance species into unaffected areas of withdrawn lands from training and maneuvering would no longer occur. The Army would no longer document, remove and control, monitor, and inspect for invasive and nuisance plant and animal species in the withdrawn lands. This includes intentional take of migratory birds as allowed by USFWS and ADFG permits for nuisance species control. Herbicide applications by the Army to control invasive and nuisance vegetation would cease. BLM would manage invasive species on lands determined to be suitable and returned to the public domain according to the relevant RMPs, BLM regulations, and EO 13112 and subsequent amendments.

4.13.1.6 Special Status Species

The Army's special status species program is described in Section 3.13.8. No fauna or flora known to occur within the withdrawn lands or the immediate vicinity are listed as threatened or endangered under the federal ESA.

The No Action Alternative would have no effect to a negligible beneficial effect on special status species. Direct and indirect effects on special status wildlife from military disturbances described in the wildlife section (3.13.8) would no longer occur. Army management of special status species occurring in or utilizing available habitats in the withdrawn lands would not continue. Management includes proactively conducting surveys and monitoring to prevent new listings and mapping potential and

known habitats and occurrences of special status species. BLM would manage sensitive species on lands determined suitable and returned to the public domain according to existing RMPs and Alaska's BLM Special Status Species List. The ADFG *Wildlife Action Plan* and list of fish stocks of yield, management, or conservation concern would continue to be applicable to the withdrawn lands as these are statewide management tools for the State of Alaska's special status species.

4.13.1.7 Wetland and Aquatic Habitats

The No Action Alternative would have no effects on wetland and aquatic habitats. In lands determined to be suitable and returned to the public domain, wetlands and aquatic habitats would be opened for public use and managed in accordance with public land laws and applicable federal regulations. Just as the Army complies with Sections 404 and 401 of the CWA, Section 10 of the Rivers and Harbors Act, and other environmental regulations related to protections of wetlands and aquatic resources through permitting processes, BLM land uses would also adhere to these laws and regulations. BLM would obtain permits and comply with permit conditions and mitigation requirements applicable to the proposed land use to ensure compliance with local, state, and federal laws and regulations.

4.13.2 Action Alternative 1

Under Action Alternative 1, the withdrawn lands would continue to be managed subject to the conditions and restrictions required of lands used for defense-related purposes. Since it is assumed that activities conducted on withdrawn lands would principally be consistent with the maneuvering, training, and testing conducted under existing conditions, biological resources would continue to be managed under the Army's current INRMP and subsequent updates for the duration of the withdrawal period. It is assumed that the Army would continue to fully fund and implement its various plans, programs, and BMPs aimed at minimizing and avoiding potential impacts on biological resources.

4.13.2.1 Vegetative Resources

Action Alternative 1 would have minor to moderate effects, both adverse and beneficial, on vegetative resources. Effects would be short- and long-term. Ongoing training within the withdrawn lands would result in some amount of vegetation disturbance or damage. Army activities including construction, weapons training, and vehicle maneuvers may reduce the functions, values, or overall quality or quantity of vegetative resources. During winter, vehicular impacts on vegetation may be lessened by snowpack.

Direct effects include the destruction of plant biomass, permanent and/or temporary reduction of overall plant cover, introduction of nonnative plant species, and alteration of vegetation community composition and structure. Indirect effects on vegetation arise from increased soil compaction and erosion, altered plant structure and relationships, and vegetation changes resulting from wildfire ignited by training activities. Vegetation management may be beneficial by improving habitats for certain wildlife species. The Army would continue to manage vegetative resources in accordance with applicable laws and regulations and according to its most current INRMP, with substantial changes to management policies and programs subject to the NEPA process.

4.13.2.2 Forest Management

Action Alternative 1 would have a beneficial effect on forest management. Current forest management practices would continue under Action Alternative 1, as described in the Army's current INRMP, in accordance with forest management plans and applicable laws and regulations, and in cooperation with BLM and ADNR.

4.13.2.3 Wildlife

Action Alternative 1 would have moderate adverse effects and beneficial effects on wildlife. Ongoing training activities may affect many wildlife species, populations, and their available habitats in the withdrawn lands. Potential human disturbances include

training and testing activities and construction. Direct adverse effects range from animal mortality, especially in smaller and less mobile animals, to disturbance.

Disturbance associated with training and operations may elicit behavioral responses which temporarily displace or affect the distribution of wildlife across various habitats, permanently displace a wildlife population from an affected area, lead to stress-induced lower reproductivity rates, or in rare instances cause mortality. For example, a nesting bird experiencing noise disturbance from overhead aircraft or tracked vehicle operations may flee its nest temporarily until the noise subsides, permanently cease nesting activity in the affected area if the noise disturbance is frequent enough during the nesting season, or completely abandon an incubating nest, leading to inevitable loss. Wildlife, most commonly migrating waterfowl, are adversely affected by direct strikes during aircraft operations.

Indirect effects on wildlife may result from training effects on habitats, such as damaged vegetation or the introduction of contaminants. Adverse effects may result when habitat is lost or converted to another type of habitat. Army activities may create additional habitats for edge species or species that require open habitats which may serve as refugia. Beneficial impacts such as these may occur when the Army develops improvements in the withdrawn lands or fire frequency increases. Increased fire frequency may improve habitat conditions for some species by decreasing forest density, helping to restore grasslands, and stimulating new growth.

Management actions included in the INRMP, range control plans, and other environmental programs would continue under Action Alternative 1. Implementation of specific habitat management plans and improvement projects, population monitoring studies in partnership with ADFG, and localized and seasonal restrictions on military activities that may disturb breeding and/or migrating bird and game species would avoid or minimize potential adverse effects on wildlife and their habitats. Opportunities for recreation and subsistence use would also continue under Action Alternative 1.

4.13.2.4 Fish

Action Alternative 1 would have moderate effects on fish species through direct modifications and indirect impacts on aquatic habitats, which may reduce the function, value, quality or quantity of those resources. Adverse impacts on fish and/or their habitats may occur when aquatic habitats or adjacent lands are disturbed. Disturbances from military activity or construction impacts—such as increased impervious surfaces, culvert installation, and vegetation removal—may temporarily alter water quality through increased sedimentation and erosion, introduction of contaminants, or result in the permanent loss of streambeds or streambanks. Human-caused fires from incendiary devices may increase sedimentation and erosion and reduce surface water quality.

The Army would continue to consult with NOAA Fisheries to avoid and minimize environmental impacts on essential fish habitat. The Army would continue to monitor fish presence and aquatic habitat through instream fish surveys within YTA and DTA, coordinate with ADFG when actions require a Fish Habitat Permit, and support ADFG's fish stocking programs.

Impacts on aquatic habitat are reduced through implementation of measures included in the INRMP, water quality protection requirements included in Stormwater Pollution Prevention Plans and SPCCPs, and other environmental programs and damage control measures. These measures help to ensure that Army training, maneuvering, and testing avoids or has minimal impact on fish and/or their habitats in the withdrawn lands. Where permits are required for Army activities or constructed features such as ice bridges, permit conditions and conservation measures would require that these activities avoid adverse effects on fish by implementing erosion control measures and minimize potential effects on stream flow, channel morphology, and surface water quality.

4.13.2.5 Invasive and Nuisance Species

Action Alternative 1 would have minor to moderate adverse effects on invasive and problematic species. The Army's IPM approach to invasive and problematic species

management would continue in accordance with the INRMP. The Army would continue to control invasive vegetation and remove nuisance animals to the extent necessary to conserve, protect, and restore natural resources on the withdrawn lands, maintain mission readiness, and enhance the military mission. In addition, the Army would continue its extensive efforts to assess and map invasive species and prioritize monitoring and control according to the level of threat.

Adverse impacts from continued use of the withdrawn lands would include the introduction and spread of invasive species into unaffected areas by military training exercises and maneuvers and the permitted intentional take of nuisance migratory birds to prevent wildlife aircraft strike hazard incidents. IPM can be beneficial for improving or expanding wildlife habitat used by big game species such as bison herds in DTA.

Mitigation is incorporated into the Army's IPM plan and INRMP. This includes documenting and monitoring invasive species by incorporating survey efforts into fisheries management, avian surveys, small mammal inventories, and planning level plant and animal surveys. The Army also selects the least toxic and most site-appropriate pesticides when chemical control is necessary and uses alternative tools and methods such as mowing and blading to control invasive and problematic species. Protocols such as vehicle wash down procedures and designated wash down stations are in place to inhibit the spread of invasive species by military convoys and training exercises (USAG Alaska 2018).

4.13.2.6 Special Status Species

Action Alternative 1 would have moderate adverse effects and beneficial effects on special status wildlife species, populations, and their habitats in the withdrawn lands. Direct and indirect effects on special status wildlife from military disturbances would continue to be consistent with those discussed in the wildlife section (4.13.2.3).

The Army would work to protect special status species and species at risk to prevent additional listings through implementing the INRMP, other environmental programs,

and damage control measures. Actions include continuing to monitor information from USFWS and ADFG regarding additional species and/or habitats at risk.

Ongoing mitigation measures include incorporating surveys for plant and animal species at risk into other surveys, wildlife aircraft strike hazard programs at Ladd AAF and Allen AAF, and developing species-specific management guidelines if additional species are found on withdrawn lands. Protective measures specific to rusty blackbirds, the only Army Species at Risk, and other neotropical migrants would continue where areas with a high percentage of transitional habitats with standing freshwater occur, such as those with high shrub/scrub and herb cover and less forest cover and/or recently burned areas.

4.13.2.7 Wetland and Aquatic Habitats

Under Action Alternative 1, minor to moderate adverse impacts to wetland and aquatic habitats would continue from military use of the training lands. Unavoidable adverse impacts on wetlands from military operations most often occur when weapons use and maneuvers damage wetland or wetland-adjacent soils and vegetation, introduce contaminants such as fuels and oils, or introduce invasive species. Vehicle maneuvers and range operations during frozen winter conditions when soils and vegetation are afforded protection by snowpack may lessen the adverse impact compared to thawed conditions. In some cases, these impacts may reduce wetland function.

Mitigation is accomplished through implementation of the INRMP, environmental programs, and damage control measures. If training area improvement actions such as road and trail construction, stream crossings, or utility improvements are needed and would result in unavoidable impacts on wetlands and/or water bodies, then the Army would obtain a permit from the USACE and comply with the applicable terms and conditions specific to Alaska, including mitigation for lost wetland functions and values. Permits issued for training actions in wetland areas would continue to provide information on the extent of wetlands and water bodies. These data help range operations personnel plan and avoid potential impacts on these sensitive habitats. The Army would continue to implement the Wetland and Waterbody Management

Program to ensure compliance with environmental laws and regulations protecting aquatic resources. Conservation measures and best management practices BMPs to avoid and minimize impacts on wetland and/or water bodies would continue to be implemented.

4.14 WILDLAND FIRE

This section describes potential environmental impacts associated with wildland fire, including wildland fire management, in the withdrawn lands. Wildland fire management is performed on both a preparatory basis, including use of measures to prevent or control future wildfires, and on a reactive basis, such as actions needed to fight fires or control their spread to occupied areas. Impacts associated with wildland fire and wildland fire management would be considered significant if they result in any of the following:

- Elevation of the risk to human lives, private property and infrastructure, or military installation infrastructure to an unacceptable level
- Increase in the frequency and/or intensity of wildland fire
- Violation of the wildland fire management regulations in Army Regulation 200-1

4.14.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, the risk of wildfire resulting directly from the military use of the withdrawn lands would no longer exist since military training, maneuvering, and testing activities would no longer occur in the withdrawn lands. The risks of wildland fire from recreational users, natural causes (lightning), and other non-military sources of ignition would continue. Lightning is unpredictable, can occur anywhere, and would remain a substantial, potential ignition source. Since military activities would no longer occur and the military would no longer control access except where needed for lands being decontaminated, recreational use may increase as well as the associated fire risk.

Assuming the Memorandum of Agreement between BLM AFS and USAG Alaska is renewed in October 2024 or prior to the current land withdrawal expiration in 2026

with like terms requiring reimbursement, BLM AFS would no longer receive funds from USAG Alaska for fire suppression, preparedness, and fuels management on lands determined suitable and returned to the public domain under BLM management. Buildings, equipment, and training areas supplied by USAG Alaska would no longer be available to BLM AFS for fire suppression or wildland fire management. This would result in reduced capacity to manage fuels and respond to wildfires and likely reduce wildfire response levels from full to modified or modified to limited, increasing risks to life and property from wildfire.

Wildland fire may have beneficial impacts on the natural environment in interior Alaska but must still be managed. Fire protection and suppression are needed when fires burn near settlements or critical training areas and threaten human lives and infrastructure. Forest fuels management, especially near settlements and critical infrastructure, is needed to reduce the probability of wildfires exceeding the control capacity of suppression efforts. Despite decreased ignition risk from cessation of military activities, loss of resources related to wildland fire management within the expanded ROI the No Action Alternative would result in moderate adverse impacts to wildland fire management within the expanded ROI.

4.14.2 Action Alternative 1

Alternative 1 would have a minor adverse effect on wildland fire and wildland fire management. Wildland fire management would continue under the guidance of the USAG Alaska Natural Resources Program's current INRMP, AOP, and subsequent updates for the duration of the withdrawal period. The extent to which military activities contribute to wildfire risk would not differ from the current condition, which results in ongoing risk of wildfire associated with training actions. Joint management with BLM AFS would continue, with the FWA fire chief as the designated wildland fire program manager. Fire management programs, including risk assessments and management option assignments, would continue and would receive updates based on the best available science. Routine training of wildland fire management personnel would continue. USAG Alaska's Memorandum of Agreement with the City

of Delta Junction, including implementation of specific actions to address potential threats from wildfire originating from DTA to the Deltana Region, would remain valid.

Prescribed or controlled burns may occur on up to approximately 45,000 acres in any given year in the withdrawn lands and would continue to be implemented as an important tool for managing forest and grassland fuels as well as wildlife habitat. Use of live munitions in training and testing is essential to the Army's mission in Alaska and would continue in designated areas. Prohibition of or restrictions on training activities during extreme fire hazard conditions would still be enforced. Occurrences of natural wildfire or ignitions from lightning and other unknown sources would persist with characteristic unpredictability.

The July 2020 FWA Wildfire Risk Assessment concluded that the average number of annual fire ignitions was low to moderate for a military installation. High localized risks were associated with relatively small areas where wildfires have potential to burn across the boundary of Army installations or close to certain high value military assets. Of note were positive fire outcomes. Wildland fires benefit fire management by reducing fuel loads. The only value considered a natural resource was game management areas (i.e., wildlife habitat), and all risk was positive for these areas (The Wildland Fire Support Center 2020).

When wildfire in withdrawn lands does not pose threats to human health, private property, and military infrastructure, it would be monitored but allowed to burn according to the INRMP and AOP. With this management policy, the Army recognizes the important ecological role of wildfire in interior Alaska. Moreover, since wildland fire is naturally unpredictable, the Army would continue to model wildfire behavior and risk using the best available science and respond with appropriate wildfire management policies and procedures consistent with the current strategy. Areas within the expanded ROI beyond the withdrawn land boundaries fall under the wildland fire protection jurisdiction of the ADNR Division of Forestry. The State uses the same fire management options (Full or Limited) for these areas and managed accordingly, so those areas are characterized by similar wildland fire risks and receive the same level of wildland fire detection and suppression as the withdrawn

training lands. Ongoing management would be consistent with current wildland fire management policies and procedures, as described in current versions of or revisions to the USAG Alaska and BLM AFS Memorandum of Agreement, Deltana Region Memorandum of Agreement, and AOP. USAG Alaska's Memorandum of Agreement with the City of Delta Junction, including implementation of specific actions to address potential threats for wildfire originating from DTA to the Deltana Region, remains in place.

Wildland fire management measures include, but are not necessarily limited to, monitoring and detection, fire danger restrictions/prevention, updating risk maps, forest fuels management (clearing and thinning), constructing wildfire fuel breaks (dozer lines, gravel roads, etc.), prescribed fires, and smoke management. Operations are detailed in the AOP and fuel management plans are updated every five years. Prescribed burns are carried out in and around impact areas and live firing ranges during approved burn windows annually to reduce the spread of fire, manage fuel loads, and allow cover for training exercises (USAG Alaska 2020a). The Army follows technical expertise provided by federal and state agencies to ensure prescribed fires do not substantially affect air quality in the region.

4.15 CULTURAL AND PALEONTOLOGICAL RESOURCES

An action would result in significant adverse impacts on cultural resources in the case of any of the following:

- The action affected the integrity of any historic property eligible for the National Register of Historic Places, and the action was not mitigated through an agreement with the State Historic Preservation Officer or Advisory Council on Historic Preservation
- The action impeded, directly or indirectly, the traditional use of sacred or ceremonial sites or resources
- The action violated Native American Graves Protection and Repatriation Act (NAGPRA) or resulted in damage to burials

- The action resulted in damage to, or destruction of, substantial paleontological resources

The federal requirements to conserve cultural resources in YTA and DTA are comparable under both alternatives. As both the Army and BLM are federal agencies, they are subject to the same federal regulations that require them to consider the impact of their activities on cultural resources located on lands they manage.

The identified precontact archaeological sites in YTA and DTA include a variety of intact, buried cultural deposits, including temporary camps, tool production and maintenance sites, game lookouts and other hunting-related sites, rock shelters, and isolated, non-diagnostic lithic debitage. Historic archaeological sites in DTA include a collapsed building, an abandoned vehicle, and sites associated with the historic Fairbanks-Valdez Trail. Adverse impacts on archaeological sites are expected to be minor under either alternative.

Despite consultation with its Native tribal partners, the Army has not yet identified any traditional cultural properties, sacred sites, or other significant cultural places in YTA or DTA. No adverse impacts on such properties are expected under either alternative.

4.15.1 NO ACTION ALTERNATIVE

4.15.1.1 Archaeological Sites

Under the No Action Alternative, military uses that had the potential to endanger both identified and unidentified cultural resources including range training, testing, and maneuver exercises, would cease. Lands determined to be suitable and returned to the public domain could be opened to increased public use, which could result in other risks to cultural resources. BLM would manage archaeological resources on lands determined to be suitable and returned to the public domain according to the requirements of all applicable federal laws, regulations, and executive memorandums and orders, as well as BLM-specific management guidelines. Following established protocols, BLM would also be responsible for conducting government-to-government

consultation with affiliated Native tribal partners. BLM would consider tribal access to areas of cultural importance and concerns about sensitive natural and cultural resources in BLM project planning.

4.15.1.2 Properties of Traditional Religious and Cultural Significance

Under the No Action Alternative, on lands determined to be suitable and returned to the public domain, BLM would be responsible for consulting with Native tribal partners to comply with state and federal laws and regulations, and there would be no impact to this resource.

4.15.1.3 Paleontological Resources

Since there are no known paleontological resources in the withdrawn lands and the area is not considered to have a high likelihood containing such resources, impacts are unlikely to occur under this alternative.

4.15.2 ACTION ALTERNATIVE 1

4.15.2.1 Archaeological Sites

Under Action Alternative 1, the existing management of cultural resources would remain unchanged. The Army would continue to comply with legislation codified in the numerous federal laws, EOs, regulations, standards, and guidelines specific to the protection of cultural resources, as well as Army Regulation 200-1: Environmental Protection and Enhancement, which led to the development of the active ICRMP. Under Action Alternative 1, the Army would continue efforts to identify and evaluate cultural resources. The Army would continue to implement survey priorities identified in the ICRMP and follow established guidelines for the treatment and management of newly identified resources.

The established government-to-government consultation with affiliated Native tribal partners would not change. The Army would continue to consult with affiliated tribal governments about undertakings that could affect cultural resources and would continue to maintain and strengthen established tribal relationships.

Under Action Alternative 1, military activities would continue to result in ongoing and potential impacts on cultural resources. Such activities have likely resulted in direct impacts on cultural resources, particularly where military surface use predates most current regulatory protections. While military activities could continue to adversely affect cultural resources, most operations areas have been surveyed, and areas of concern are priorities in the ICRMP planning process. The active ICRMP is formulated to mitigate impacts on cultural resources and minimize future effects. In particular, Chapter 5 of the ICRMP is the management plan for these resources. This includes procedures for avoidance, minimization, and mitigation of impacts on cultural resources, as well as procedures to follow in the event of unanticipated discoveries. Any future updates to the ICRMP within the 25-year timeframe of the proposed land withdrawal extension would include similar procedures.

4.15.2.2 Properties of Traditional Religious and Cultural Significance

Consultation to identify cultural properties in YTA and DTA would continue between the Army and Native tribal partners.

4.15.2.3 Paleontological Resources

Since there are no known paleontological resources in the withdrawn lands and the area is not considered to have a high likelihood containing such resources, impacts are unlikely to occur under this alternative.

4.16 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

An impact on socioeconomics and environmental justice would be considered significant if the Army action were to result in any of the following:

- Substantial impacts on socioeconomic conditions within the region due to changes in use of the withdrawn lands in terms of population, employment levels, income, cost of living, or business sales, or due to major changes in economic opportunity and quality of life for regional residents

- Disproportionately high and adverse economic, social, human health, or environmental effects on minority or low-income citizens, or substantially disproportionate environmental health and safety risks to children

4.16.1 NO ACTION ALTERNATIVE

4.16.1.1 Socioeconomics

Reduced military activity in the FNSB due to cessation of training on YTA and DTA would result in proportional reduction in necessary personnel in the ROI. A reduction in military presence would result in a commensurate reduction in military expenditure on labor, equipment, and materials in the region. Such changes would impact the regional economy, the regional population, and the character of regional communities. From the perspective of regional gross economic output, this would represent an adverse impact. An explicit estimate of the reduction in personnel and regional expenditures under the No Action Alternative is not available. It can be reasonably assumed that due to the heavy use of YTA and DTA for training purposes (over 150,000 soldier-days per year), cessation of these activities would constitute a significant reduction in personnel, equipment, and materials needed to support the military mission within the ROI. As such, there would be a significant adverse socioeconomic effect within the ROI under the No Action Alternative.

4.16.1.2 Environmental Justice

Under the No Action Alternative, cessation of military training activities on the withdrawn lands would result in significant and adverse socioeconomic impacts in terms of total economic activity attributable to the training lands. Changes to the local and regional economy, as well as changes to the size and character or local communities, would likely be most apparent in the communities nearest FWA, though the impact would affect the entire region through indirect and induced changes in spending and economic activity.

Based on identification of minority and low-income communities in Section 3.16, impacts from the No Action Alternative are not expected to have any disproportionate

adverse effects on these communities, as indirect and induced economic effects would be distributed regionally.

With regard to environmental impacts on local residents such as noise, traffic, or air pollution, the No Action Alternative may result in beneficial impacts on residents or communities nearest the withdrawn lands. Given that there would continue to be military activity on other installations outside of the withdrawn lands, such as Eielson AFB and Fort Greely, the extent to which the No Action Alternative would alleviate these nuisance impacts on local residents was judged to be minor.

4.16.2 Action Alternative 1

4.16.2.1 Socioeconomics

Action Alternative 1 would maintain at least the same level of military activity on the withdrawn lands over the planning period. Training on YTA and DTA would continue to contribute to the size and character of the local and regional economy through military expenditure on labor, equipment, and materials in the region. Relative to the No Action Alternative, Action Alternative 1 would yield a beneficial effect on regional economic output from continued expenditures on labor, equipment, and materials needed to support the military mission within the ROI. As such, there would be a beneficial socioeconomic effect within the ROI under Action Alternative 1.

Continued military use of the withdrawn lands may result in adverse impacts on federal subsistence opportunities, as discussed in Section 4.17. However, under the proposed action, the related military training presence would continue to support economic activity within the cash economy.

4.16.2.2 Environmental Justice

Under Action Alternative 1, the military use of the withdrawn lands would continue. Continuation of military training activities on the withdrawn lands would result in beneficial socioeconomic impacts in terms of total economic activity attributable to the training lands. Action Alternative 1 would continue to support growth of the local and regional economy and contribute to the size and character of local communities.

Benefits would likely be most apparent in the communities nearest FWA, though the impact would affect the entire region through indirect and induced changes in spending and economic activity.

Based on identification of minority and low-income communities in Section 3.16, impacts from Action Alternative 1 are not expected to have any disproportionate adverse effects on these communities. There may be minor disproportionate environmental effects on residents of communities that are impacted by noise, traffic, or other nuisance impacts of adjacent military activities. Such impacts are unlikely to occur in the identified minority or low-income communities, and these impacts would only be incrementally more adverse than what would occur under the No Action Alternative for residents living near active military facilities outside of the withdrawn lands which are being considered in this study, such as Eielson AFB or Fort Greely. As such, environmental impacts were judged to be less than significant for the actions being considered in Alternative 1.

Under Action Alternative 1, the withdrawn lands would continue to be unavailable for federal subsistence activities under ANILCA (see Section 4.17). This effect would only apply to residents living outside of the FNSB, and only in cases where subsistence opportunities under ANILCA were greater than those available to the same residents under state regulations. Due to availability of other lands for subsistence participation under ANILCA or under state regulations, this impact was judged to be minor and not indicative of a disproportionate adverse effect on any minority or low-income community in the ROI.

4.17 SUBSISTENCE

An impact on subsistence would be considered significant if the Army action were to substantially affect subsistence uses and needs, including impacts on resource abundance, availability, or access. This analysis of impacts on subsistence activities under NEPA reflects a broad definition of subsistence which may be more inclusive than the specifically regulated federal subsistence activity on federal lands pursuant to ANILCA. It compares conditions under the proposed action to existing conditions,

under which federal subsistence regulations do not apply. BLM's Section 810 analysis (Appendix 7) specifically considers the potential for the proposed action to significantly restrict subsistence uses within federal lands on which federal subsistence regulations apply and qualified rural residents are allowed to engage in subsistence activities, including hunting and fishing.

4.17.1 No Action Alternative

Under the No Action Alternative, lands determined to be suitable would be returned to the public domain for management by BLM. It is assumed that the areas within the withdrawn lands that are currently open to recreation would be immediately available for public use. Existing closure areas (e.g., impact areas) would become available for public use only after completion of any necessary cleanup and decontamination.

GMU 20B contains approximately 4.95 million acres of government-managed land—98 percent managed by the state and 2 percent managed by BLM. YTA's acreage is equivalent to about 4 to 5 percent of the public land area of GMU 20B. Therefore, access and management changes in YTA would affect a relatively small proportion of the GMU subunit's total area. However, the withdrawn lands have a well-developed internal road system, are located near population centers, and are along the highway system, indicating these lands would be more attractive hunting areas than more remote and undeveloped lands. Were YTA returned to the public domain under BLM management, it would be a large and accessible area of federal public land within the FNSB. As such, federal subsistence opportunities would be available to federally qualified rural residents (those living outside the FNSB, such as those in Delta Junction).

Considering DTAE and DTAW together, the training area represents about 10 percent of the total of 5.95 million acres of state- and BLM-managed lands in these GMU subunits. Return to the public domain and BLM management would provide a new opportunity for highly accessible federal subsistence areas within GMUs 20A and 20D.

4.17.1.1 Sensitivity of Subsistence Use of the Withdrawn Lands to Increases in Subsistence Opportunity

The purpose of this subsection is to support the Section 810 analysis (Appendix 7.0) by considering the range of potential effects on use of the withdrawn lands by federally qualified subsistence hunters that could arise from return of the withdrawn lands to the public domain under BLM management and the subsequent availability of the lands for federal subsistence harvest under ANILCA.

The withdrawn lands offer high quality hunting opportunities due to the presence of key game species and the accessibility of the lands. In such areas, there is potential for more crowded hunting conditions and competition between hunters for hunting areas and harvest opportunities. Under existing conditions and regulations, all hunting on the withdrawn lands is managed per state regulations, and there is no federal subsistence opportunity. Were the withdrawn lands returned to the public domain under BLM management, and assuming the lands were managed similarly to GMU 13 and other similar lands across the state, federally qualifying rural residents would benefit from a subsistence harvest priority in the area. These changes would likely be extended bag limits or season dates that would offer a period of reduced competition for subsistence harvest under ANILCA. This additional opportunity is observed on federal public lands, where management for federally qualified subsistence is intended to ensure a minimum level of opportunity for those hunters. Federal subsistence hunts in GMU 13 have long allowed extended harvest seasons to all residents of communities (with positive determinations of customary and traditional use) relative to state hunts. In rare cases, the Federal Subsistence Board may close federal public lands in GMU 13 to the hunting of moose and caribou by non-federally qualified users due to high hunting pressure and associated resource management concerns, such as public safety (FSB 2020).

Because there is currently no federal subsistence harvest on the withdrawn lands, this discussion attempts to make informed judgements about potential effects based on knowledge of participation in the GMU 13 federal subsistence harvest. Due to its proximity to GMU 13, and because the community is a federally qualified rural area,

this analysis uses Delta Junction as a representative community for considering these potential effects in the ROI. A key assumption in this discussion is that the GMU 13 federal subsistence priority affects hunter preference for use of GMU 13 rather than GMU 20, due to preferable opportunities for subsistence harvest when participating in federal subsistence hunts. While there are many factors that may affect the quality of a subsistence hunting opportunity, it is reasonable to assume that the consideration of competition for resources (including crowding, probability of success, safety concerns, and other factors) is a key contributor to the observed preference for GMU 13, and that federal subsistence management regulations play a role in establishing that opportunity. It is acknowledged, however, that hunting location preferences may also be substantially affected by other variables, such as resource availability (i.e., where animals are located), hunting area accessibility, and other subjective preferences of the hunter.

Table 4.17-1 summarizes Delta Junction's harvest of moose and caribou by GMU subunit. As shown in the table, about 71 percent of the community's moose harvest occurs in GMUs 20A, 20B, and 20D. This indicates that residents generally find opportunities to hunt moose in GMUs 20A, 20B, 20D to be more attractive, despite the available subsistence priority in GMU 13. In contrast, just 6 percent of Delta Junction's caribou harvest occurs in GMUs 20A, 20B, and 20D, with GMU 13B attracting over 90 percent of Delta Junction's caribou hunters. The disparity in attractiveness of moose and caribou opportunities in GMU 13B indicates that while the federal subsistence priority in GMU 13B contributes to the attractiveness of opportunity, there are likely multiple explanatory factors.

Table 4.17-1. Delta Junction Moose and Caribou Harvest Location

	% of Count per GMU Subunit									
Species	**12Z**	**13A**	**13B**	**13C**	**20A**	**20B**	**20C**	**20D**	**20E**	**20F**
Moose	0.7	-	26.5	0.3	25.4	3.8	0.7	41.8	0.8	0.1
Caribou	0.2	0.1	91.6	-	0.6	0.3	-	5.5	1.7	-

Based on these considerations, Table 4.17-2 presents several scenarios for potential changes in use of the GMU subunits by Delta Junction hunters. These scenarios are hypothetical and are presented to consider effects of management changes in GMUs 20A, 20B, and 20D on trends in subsistence harvest by qualifying residents. These scenarios assume that harvest conditions for moose or caribou on the withdrawn lands would be similar to conditions that currently attract hunters to GMU 13.

Table 4.17-2. Delta Junction Potential Scenario Comparison

Scenario	Proportion of Moose Harvest in GMU 20A, 20B, and 20D	Proportion of Caribou Harvest in GMU 20A, 20B, and 20D	Description
Existing Conditions and Action Alternative 1	71%	6%	Reflects available harvest data.
No Action Alternative, 50% shift	Moderate Increase (up to 14.5% of current harvest, or 14 moose annually)	Substantial Increase (up to 47% of harvest, or 80 caribou annually)	Federal subsistence management would likely result in a shift in hunting activities to GMUs 20A, 20B, and 20D as hunters opt for locations closer to home.
No Action Alternative, 100% shift	Moderate Increase (up to 29% of harvest, or 28 moose annually)	Substantial Increase (up to 94% of harvest, or 160 caribou annually)	

Available data suggests that GMUs 20A, 20B, and 20D would likely remain key moose harvest areas for ROI communities, both rural and urban. These areas are anticipated to be preferred hunting areas for regional residents, regardless of whether the withdrawn lands remain managed as under existing conditions or are returned to the public domain for BLM's management. Under the No Action Alternative, Delta Junction hunters may shift up to 29 percent of their moose harvest to GMUs 20A, 20B, and 20D, which would constitute an approximate 5 percent increase in moose harvested in those subunits by the ROI communities. If Delta Junction shifted all of its caribou hunting to GMUs 20A, 20B, and 20D, an increase of 160 harvested animals would be a 77 percent increase in harvest in these GMU subunits by the ROI communities.

Given available harvest data and geographic resolution of that data, quantification of the extent to which moose and caribou populations could sustain this pressure is beyond the scope of this assessment. However, in general terms, moose populations may experience relatively minor additional pressure based on the level of harvest already supported in GMUs 20A, 20B, and 20D. For caribou, however, ADFG management plans note that the smaller Delta and Macomb caribou herds are managed to encourage population growth, so increased hunting pressure on these populations may not be sustainable. In contrast, ADFG notes that the large Fortymile herd continues to experience growth and meets population size objectives, indicating the herd might be able to accommodate additional pressure. Considering Delta Junction, harvest may nearly double in GMUs 20A, 20B, and 20D, which may have a noticeable impact on competition, such that a transfer of all hunters to GMUs 20A, 20B, and 20D is unlikely. A more realistic scenario might be that half of hunters change locations, allowing pressure to be shared between GMU 13B and GMUs 20A, 20B, and 20D, as Delta Junction's harvest of caribou in GMU 13B represents about 50 percent of federal subsistence caribou harvest in that subunit.

From the perspective of a resident in a federally qualified rural community, the No Action Alternative would likely result in tangible beneficial effects with respect to caribou hunting, arising from increased opportunities with reduced competition closer to home. A similar interpretation may be made for moose, where effects may be beneficial for specific communities that benefit from federal subsistence opportunities. In the case of moose, most users already hunt in GMUs 20A, 20B, and 20D, and the benefits would be driven by increased subsistence priority. In general, the high importance and good accessibility of moose in these GMUs may result in hunters experiencing greater benefits in pursuit of moose as compared to caribou.

For non-federally qualified hunters (e.g., Fairbanks residents), net effects would likely be negligible, as any additional priority afforded to federally qualified hunters is unlikely to reduce opportunities for other hunters. In all cases, the ADFG would continue to manage moose and caribou populations in accordance with long term population goals.

Population growth of urban areas can increase competition between federally qualified subsistence users and non-federally qualified hunters. Information is not available to speculate on population changes resulting from the No Action Alternative, but it can be reasonably assumed that a decrease in urban population may reduce urban and rural competition on the lands.

4.17.1.2 Summary of Environmental Consequences

Despite the potential for total loss of public access immediately following withdrawal expiration, long-term effects on subsistence would be net beneficial. The alternative would likely have beneficial effects on resource abundance, availability, and access over the long term.

The following adverse impacts are identified:

- As noted in the recreation section, any road, trail, or other access infrastructure that was developed and maintained by the Army may not be similarly maintained under BLM management, which may adversely affect ease of access and movement on the lands.

The following beneficial impacts are identified:

- Because the withdrawn lands are largely open space, cessation of training activities and return to the public domain would not have a substantial effect on the subsistence resources produced on or supported by the withdrawn lands. Minor increases in resource production, and subsequently abundance, could occur following the restoration of previously developed training areas within the withdrawn lands.
- While some game species may avoid the immediate area near ongoing training activities, current management of the lands does not significantly restrict the distribution, migration, or location of resources on the withdrawn lands. In the No Action Alternative, there may be beneficial effects on availability through reduced wildlife interaction with training activities, though significant redistribution or migration changes is not anticipated.

- Subsistence user access to the withdrawn lands would change under the No Action Alternative. It is anticipated that lands currently open to recreation would be accepted into the public domain and become eligible for subsistence harvest under federal regulations per ANILCA, including 197,000 acres on YTA and 468,000 acres on DTA. Without any additional rule changes by the Federal Subsistence Board, this regulatory change would offer expanded seasons (but similar bag limits) for some small game and furbearers for hunters who are eligible to participate in subsistence under ANILCA. These hunters would experience relatively minor changes to regulations for large game that would be unlikely to substantially affect opportunities. Beneficiaries of these regulatory changes would only include residents of rural communities as defined by federal regulations, which includes only communities outside of the FNSB. The communities nearest the withdrawn lands that may benefit are Delta Junction, including Big Delta and Deltana. These users would also experience benefits in convenience of access, as there would be no requirement to obtain an access permit or check-in under BLM management, and there would not be temporary closures of any areas due to training activities (though contaminated impact areas would remain closed for public safety until decontaminated).
- Over the medium to long term, if the lands were managed similarly to other nearby federal public land (e.g., GMU 13), rule changes to federal subsistence regulations may establish additional priority for federal subsistence participants through changes in seasons or harvest limits. Such rule changes would benefit federally qualified subsistence users through extended seasons or limits and may contribute to increased resilience of subsistence communities regarding food security and sustainability of the subsistence lifestyle. Cumulative adverse effects from urban population growth (increased non-federal subsistence competition), climate change (e.g. declining salmon runs), and the potential for more restrictions on use of other lands such as lands owned by Alaskan Native regional corporations may increase the

importance of game harvest on federal public lands with a federal subsistence management priority.

- Over the long term, as decontamination is completed, lands currently closed to hunting and recreation would also be expected to be returned to the public domain and be eligible for federal subsistence harvest, including a potential additional 49,000 acres on YTA and 157,000 acres on DTA. These long-term changes may also benefit residents of the FNSB by expanding the lands available for harvest, though season dates and limits (for those residents) would remain subject to ADFG regulations for the Fairbanks Non-subsistence Use Area.
- Other potential benefits of the No Action Alternative on subsistence may be an improvement in experience arising from a reduction in military personnel and equipment on the lands that may contribute to noise, dust, and other nuisances.

4.17.2 Action Alternative 1

Action Alternative 1 would continue the withdrawal of the subject lands on YTA and DTA from the public domain. In doing so, access to the lands for subsistence purposes would continue to be subject to applicable Army and ADFG regulations governing open/closed areas and seasons. The lands would continue to be excluded from federal subsistence regulations since such regulations do not apply to military training lands, as specified in 50 CFR § 100.3(d).

Action Alternative 1 would have negligible to minor adverse effects on resource abundance and availability, and moderate adverse effects on resource access, for the following reasons:

- Because the withdrawn lands are largely open space, continuation of training activities would not preclude the continued production of subsistence resources on the lands. Action Alternative 1 may result in minor adverse effects on production where facilities are developed and maintained for training purposes.

- Action Alternative 1 would continue current management of the lands. While some game species may avoid areas immediately around active training areas, management of the lands as open space does not significantly restrict the distribution, migration, or location of wildlife on the withdrawn lands.
- Under Action Alternative 1, there would not be any opportunity for the withdrawn lands to become eligible for federal subsistence under ANILCA. The lands would remain open to public use pursuant to existing Army regulations, and any harvest for subsistence purposes would continue to be managed by ADFG under state regulations. As such, there would be no changes to subsistence access for any residents of the ROI.
- Existing lands permanently closed to recreation (49,000 acres on YTA and 157,000 acres on DTA) would have no opportunity to be decontaminated and conveyed back to the public domain. Within the context of regional availability of public lands, this closure of approximately 206,000 acres does not constitute a substantial loss of opportunity for regional residents.

Other potential adverse impacts of Action Alternative 1 include the continued presence of military personnel and equipment on the lands which may contribute to noise, dust, and other nuisances affecting the subsistence experience on the withdrawn lands.

BLM's evaluation and findings required by ANILCA § 810 are described in Appendix 7. The BLM's Section 810 analysis found that the proposed action may significantly restrict subsistence uses when compared to the No Action Alternative. However, the LEIS impact analysis determined that overall subsistence impacts of Action Alternative 1 would be moderately adverse, a continuation of the existing conditions. The residents experiencing the greatest adverse impacts are limited to those who would have enjoyed expanded opportunity for federal subsistence under ANILCA under the No Action Alternative. For residents of the FNSB, impacts are likely to be minor.

4.18 CUMULATIVE EFFECTS

Cumulative impacts or effects are defined by the CEQ regulations as “effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR §1508.1(g)(3)). This section describes the criteria used to evaluate cumulative effects of the proposed action and presents those potential impacts for each resource area.

4.18.1 APPROACH FOR ASSESSING CUMULATIVE EFFECTS

The following guidance was consulted in the development of the cumulative effects analysis:

- CEQ’s NEPA implementing regulations (40 CFR §1500–1508)
- Considering Cumulative Effects under NEPA (CEQ 1997b)
- Memorandum: Guidance on the Consideration of Past Actions in Cumulative Effects Analysis (CEQ 2005)
- Environmental Analysis of Army Actions (32 CFR Part 651)

The cumulative effects analysis process outlined by CEQ includes identifying significant cumulative effects issues, establishing the relevant geographic and temporal (time frame) extent of the cumulative effects analysis, identifying other actions affecting the resources of concern, establishing the cause-and-effect relationship between the proposed action and the cumulative impacts, determining the magnitude and significance of the cumulative effects, and identifying ways in which the proposal of the federal agency might be modified to avoid, minimize, or mitigate significant cumulative impacts.

Issues to be addressed in this cumulative effects analysis were determined based on the identification of resources that would be directly or indirectly affected by the alternatives considered including the proposed action and the No Action Alternative.

These resources, discussed in Chapter 3.0, were identified based on information received during internal and public scoping or through the analysis of direct and indirect effects that have the potential to combine with other past, present, or reasonably foreseeable future actions to produce a larger impact. The No Action Alternative typically does not result in any cumulative effects, as it usually does not constitute any change in existing condition. Since the No Action Alternative considered in this LEIS constitutes a substantial change from the current use and management of the training lands, it was assessed along with the proposed action for cumulative effects.

4.18.2 Geographic and Temporal Scope

For all resources, the primary geographic scope of cumulative impacts included the withdrawn lands. For several resources, the potential for cumulative effects extends beyond these boundaries; these include air quality, biological resources, land use, recreation, noise, socioeconomics and environmental justice, transportation and traffic, water resources, and wildland fire. The geographic scope was therefore expanded as appropriate based on individual resource areas, as noted in resource-specific sections.

The temporal scope considered past actions with effects that are still being realized. These were generally limited to projects within the past 10 years, but in a few instances, older plans are still guiding current management actions and have been included. Although the impacts of the proposed action will continue for 25 years, most other identified reasonably foreseeable future actions fall within the next 10 to 15 years.

4.18.3 Identification of Past, Present, and Reasonably Foreseeable Future Actions

Past, present, and reasonably foreseeable actions that may contribute to cumulative impacts are summarized in Table 4.18-1. The contribution of some past actions to existing conditions has already been captured in the discussions of specific resource areas in Chapter 3.0. Past projects with impacts that could affect other resources in

ways not considered in Chapter 3.0, or that may not have been relevant to individual resources but are relevant to cumulative impacts, are included in Table 4.18-1.

Table 4.18-1. Past, Present, and Reasonably Foreseeable Future Actions Considered in Cumulative Impacts

Project Title	Proponent	Location	Timeframe	Project Description and Relevance
Actions Overlapping Withdrawn Lands				
Eastern Tanana Area Plan; Yukon Tanana Area Plan	ADNR	Tanana River Basin, Alaska (encompasses both YTA and DTA) and Yukon Tanana Area, Alaska	Past 2014-2015	This plan designates land use, management intent, and management guidelines for the Tanana River Basin and Yukon Tanana Area, a combined 15.5 million acre section of state land (ADNR 2014; ADNR 2015). These plans would likely have little to no impact on the withdrawn lands and mostly include restoration and conservation of natural resources and cultural resources while allowing sustained use of some resources such as timber and agriculture.
Chena River State Recreation Area Management Plan	ADNR	Chena River State Recreation Area, Alaska (encompasses YTA)	Past Future 2006	This plan provides management guidance of the Chena River State Recreation Area to the DNR Division of Parks and Outdoor Recreation (ADNR 2006). The recommendations from this plan resulted in trail development within the State Recreation Area by the Northern Area of Alaska State Parks in association with the National Park Service, and Alaska Region Rivers, Trails, and Conservation Assistance program. Impacts to the PL 106-65 withdrawn lands would be minimal and include recreation impacts, as well as minimal impacts to biological resources, water resources, and earth resources.

Project Title	Proponent	Location	Timeframe	Project Description and Relevance
Alaska Department of Fish and Game, Yukon River Comprehensive Salmon Plan	ADFG	Yukon River, Alaska	Past Future 2019	The salmon fishery enhancement program ensures that ADFG conduct comprehensive salmon planning which entails identifying fisheries restoration, rehabilitation, enhancement, research, and management priorities to benefit the public and native salmon (ADFG 2019). The proposed actions within this plan would have little to no impact on the PL 106-65 withdrawn lands. Potential impacts include fisheries restoration and aquatic habitat restoration within the Yukon River.
Proposed Regulations and State Implementation Plan (SIP): Fairbanks North Star Borough Fine Particulate Matter ($PM_{2.5}$)	Alaska Department of Environmental Conservation	FNSB	Present Future 2019	The proposed regulations and draft SIP were developed to achieve attainment for the portions of the FNSB that have been designated as Serious Nonattainment Areas. These were proposed in 2019, some updates were included in 2020, and it will take approximately 10 years to reach attainment under the regulations and plan.
Alaska Interagency Wildland Fire Management Plan	Department of the Interior and Department of Agriculture, with other coordinating agencies (tribal, federal, and state)	Alaska	Past Future 2021	This plan provides a reference for wildland fire operational information and provides a consistent, cost-effective, interagency approach to wildland fire management (AWFCG 2021). Forested areas within the withdrawn lands have the potential to be impacted in accordance with this plan if a wildfire were to occur. Wildfire preventative measures could also impact these areas and include mechanical and manual treatments as well as prescribed fire within the withdrawn lands.

Project Title	Proponent	Location	Timeframe	Project Description and Relevance
FWA Integrated Natural Resources Management Plan (INRMP)	USAG Alaska, partnerships with USFWS, ADFG, BLM and the 11th Airborne Division	U.S. Army training lands, Alaska	Past Present Future 2020 and beyond	This plan establishes policies, programs, projects, and procedures that allow the army to conserve natural resources within training lands in Alaska while simultaneously conserving the capability of military lands to support mission requirements (USAG Alaska 2020d). The actions resulting from this plan would be less than significant on the PL 106-65 withdrawn lands and may include monitoring and conservation efforts for wildlife, soils, wetlands, migratory birds, permafrost, fisheries, vegetation, forests, pest management and more.
BLM Resource Management Plan (Central Yukon)	BLM	BLM-managed land, Alaska	Present Future 2021 and beyond	This RMP and EIS provide management decisions to guide management of 13.1 million acres of BLM-managed land for short-term and long-term resource management (BLM 2021b). The EIS provides a no action alternative and five alternative actions of management with the preferred action being a blend of resource protection and resource use. This plan outlines management guidelines to conserve natural resources as well as allow sustained use of resources such as gravel mining. Gravel mining could have air quality, as well as public health and safety impacts on the PL 106-65 withdrawn lands.

Project Title	Proponent	Location	Timeframe	Project Description and Relevance
Actions Near Withdrawn Lands				
Regaining Arctic Dominance	Headquarters, Department of the Army	Army training facilities in Alaska	Past Present Future 2021 and beyond	This strategic plan indicates the value placed on operations in the Arctic by the U.S Army, and the importance of maintaining and improving those operations moving forward. It does not outline specific actions, but it does emphasize that FWA, Fort Greely, and JBER are the key training locations in this region. Adherence to this strategy would ensure that training activities will not decrease, and may incrementally increase over time for the foreseeable future (U.S. Army 2021). The use of the withdrawn lands with similar or increasing intensity has the potential to impact biological, water, and earth resources within these areas as well as public health and safety.
FWA Area Development Planning Projects (Chena District, North Post District, South Post District, Ladd Airfield District, and West Post District)	USAG Alaska	FWA, Alaska	Present Future 2017-2042	FWA Area Development Planning projects for Chena District, North Post District, South Post District, Ladd Airfield District, and West Post District comprised of 40 short-term projects that would result in the construction and renovation of facilities, implement roadway improvement projects, and demolish older facilities and infrastructure (USACE 2015, 2016a, 2016b, 2017). Long-term plans comprised of construction, demolition, and transportation improvements for up to 98 projects. By the completion of these projects (estimated by 2042), over 10 million square feet of developed area will be demolished, and approximately four million square feet of new facilities and roads will be installed. In May 2017, the FONSI was signed (USAG Alaska 2017b). These projects have the potential to impact resources in areas surrounding the withdrawn lands.

Project Title	Proponent	Location	Timeframe	Project Description and Relevance
Stationing the Gray Eagle Unmanned Aircraft System	USAG Alaska	FWA, Alaska	Past Present Future 2015 and beyond	This project expanded infrastructure and provided support facilities for the 25th Aviation Regiment Company D to operate the Gray Eagle Unmanned Aircraft System in Alaska (USAG FWA 2015). In 2015, a FONSI was signed. Construction began in 2017 and resulted in minimal impacts to the project area. This project also highlights a need for future development which has the potential for minimal adverse impacts to areas surrounding the PL 106-65 withdrawn lands.
New Mission Beddown and Construction at Clear Air Force Station	USAF, Clear Air Force Station	Clear Air Force Station, Alaska	Past 2013-2016	This project upgraded the Early Warning Radar and associated facilities within the Solid State Phased-Array Radar System at Clear Air Force Station (Missile Defense Agency 2012). The projects were implemented from 2013 to 2016 and included installing and upgrading a new radar facility, constructing an Enhanced Polar System gateway, the construction of a new diesel fuel storage facility, and upgrading the perimeter fence. These actions had biological impacts on vegetation and wildlife through construction activities but did not result in long-term impacts on biological resources, water resources and more. The impacts resulting from this project were minimal to the PL 106-65 withdrawn lands and surrounding areas.
Fairbanks International Airport (FAI) Master Plan	FAI	FAI	Present Future 2019 and beyond	The plan is a comprehensive study of the FAI that identifies the need for future development based on existing and forecasted aviation demand (AKDOT&PF 2019a). The recommendations from this plan such as runway resurfacing and rehabilitation, parking lot expansions, and runway maintenance could result in potential impacts to land outside of the PL 106-65 withdrawn lands. Such impacts could be environmental, socioeconomic, affect airspace resources and more.

Project Title	Proponent	Location	Timeframe	Project Description and Relevance
Fairbanks Area Rail Line Relocation Project	Alaska Railroad Corporation (ARRC)	ARRC Eielson Branch, North Pole, Alaska	Present Future Phase I: 2013-2015 Phases II and III to be determined	This project proposes the construction of rail crossings across the FNSB in order to decrease traffic times and reduce traffic issues. Phase I of the project comprised of the realignment of the Eielson Branch of the rail line along a southwest route between Moose Creek and Richardson Highway at milepost 9. Phases II and III would add rail lines from Richardson Highway Milepost 9 to 3-Mile Gate near FWA, and from 3-Mile Gate to beyond Chena, respectively. In 2012, an EA addressing the impacts from this project was completed and the FONSI was signed in 2013. In 2018, AKDOT&PF and the Fairbanks Metropolitan Area Transportation System identified additional rail alignment and relocation phases to be implemented (AKDOT&PF and FMATS 2019). These rail realignment and construction phases have the potential to impact various resources surrounding the withdrawn lands including but not limited to biological resources, water resources, transportation and traffic and noise.
FNSB Regional Growth Plan	FNSB	Fairbanks, Alaska	Past Present Future 2018 and beyond	This plan assists citizens and officials with decision making related to land use and development and serves as a resource to assist officials in the development of programs that guide land use and development. Goals, strategies, and actions are provided to guide FNSB through the future decades of change in the community. Short-term development is focused on expansions in housing and infrastructure and to accommodate the F-35 beddown at Eielson AFB (FNSB 2018). This plan has the potential to impact land near the withdrawn lands and specifically has the potential to impact biological resources, transportation and traffic, noise, air quality, and socioeconomics.

Project Title	Proponent	Location	Timeframe	Project Description and Relevance
Northern Region Transportation Improvement Projects	AKDOT&PF and FAST Planning (formerly Fairbanks Metropolitan Area Transportation System)	Fairbanks, Alaska	Present Future 2019-2030	Transportation improvement projects in and around Fairbanks that consist of upgrading signage, reconstruction of roads and culverts, repaving roadways, road construction, development of pedestrian and bicycle paths, bus stops, sidewalks, bridges, and improved security controls (AKDOT&PF 2019b). Of the projects identified, approximately 60 percent are in the construction phase, 25 percent are in the design phase, 10 percent are in planning, and five percent are in the pre-planning phase. These projects could have significant impacts on transportation and traffic, biological resources, water resources, earth resources, noise and more in areas surrounding the PL 106-65 withdrawn lands.
Richardson Highway Mile 359 Railroad Grade Separated Facility	AKDOT&PF	Fairbanks, Alaska	Future 2023	This major improvement project is designed to create a grade separated facility for railroad use that would improve safety through prevention of accidents, and contributes to the transition of Richardson Highway to a controlled-access freeway. Environmental review and preliminary design began in 2019, and construction is anticipated in 2023. Impacts of the project would include transportation and traffic improvements, and impacts to natural resources due to construction (AKDOT&PF 2021d).

Project Title	Proponent	Location	Timeframe	Project Description and Relevance
BLM Resource Management Plan, Eastern Interior	BLM	BLM-managed lands at Fortymile, Steese, Draanjik, and the White Mountains, Alaska	Present Future 2017 and beyond	This RMP, originally implemented in 2016, provided a framework for future management guidance and use of the Eastern Interior Planning Area, located in interior Alaska. The plan consists of land use planning and implementation decisions to guide BLM management of four subunits: Fortymile, Steese, Draanjik, and the White Mountains. In July 2016, an EIS was prepared and BLM approved the plans and issued RODs for the planning areas in January 2017 (BLM 2016, 2017). The management implementations resulting from the RMPs have the potential to impact biological resources surrounding the PL 106-65 withdrawn lands.
USAF F-35A Beddown at Eielson AFB	USAF	Eielson AFB, Alaska	Present Future 2019 and beyond	The USAF plans to bed down 54 F-35A aircraft within the Pacific Air Forces Area of Responsibility, specifically at Eielson AFB. The plan will bring in construction and modification to existing facilities, as well as more than 2,600 jobs and an additional 3,300 military and civilian personnel to the area. In 2016, an EIS was prepared and in April 2016, the ROD was signed. Construction in the Fairbanks area was projected to start in spring 2017 with the first aircraft arriving in 2019, and full operations taking place by 2021. A supplemental EIS and ROD was provided in 2017 (Federal Register 2018). This plan could have significant effects on areas directly surrounding the PL 106-65 withdrawn lands through the development of infrastructure, change in airspace, and influx of jobs.

Project Title	Proponent	Location	Timeframe	Project Description and Relevance
Chena River Flood Control Project	USACE D	Fairbanks and Chena River, Alaska	Past Present Future 1978 and beyond	This project was proposed in the wake of severe flooding in Fairbanks in 1969, and construction was finished in 1978. It prevents flooding downstream of the Chena River in Fairbanks when flows are extremely high. The 8-mile Moose Creek Dam is located outside YTA to the northwest and informs water resources and floodplain management in the vicinity of the withdrawn lands.
Tanana Lakes Recreation Area Improvements	FNSB, Department of Parks and Recreation	Tanana Lakes Recreation Area (TLRA), Alaska	Past Present Future 2007 and beyond	This plan provides an outline for future development and use of the TLRA, a 750-acre piece of land south of Fairbanks, Alaska and along the Tanana River. The plan proposes development of the TLRA as well as resource use such as gravel extraction while maintaining wildlife habitat and natural resource conservation (FNSB 2007). In 2011, construction of roads, picnic areas, boat ramps, picnic shelters and other amenities began (FNSB 2011). Additionally, in 2021 more funds were requested to create boat launch parking lots and plug-ins as part of a Congestion Mitigation and Air Quality award (FNSB 2020, 2021a). The improvements projects will continue and likely have impacts on areas surrounding the PL 106-65 withdrawn lands through development of infrastructure such as roads, trails, boat access points, public facilities and more.

4.18.4 CUMULATIVE EFFECTS

The potential cumulative effects determined for individual resource areas are described in the following sections.

4.18.4.1 Land Use and Visual Resources

Action Alternative 1 would result in long-term minor to moderate adverse impacts including access restrictions to area residents, disturbance of sensitive wildlife habitats, and noise impacts on developed areas under certain conditions. It would result in a long-term beneficial impact by ensuring that the withdrawn lands would be available to support cold-weather training actions over a long period, and would support decisions to invest in infrastructure, equipment, and resource management programs.

Adverse land use impacts to habitat may occur when training actions occur near sensitive habitats including migration corridors, calving grounds, or breeding areas. The Army, in coordination with ADFG and USFWS, has developed measures to avoid disturbing such areas when wildlife are present. These measures, included in the INRMP, offset potential impacts by prioritizing habitat values when planning for seasonal and long-term land uses. Furthermore, wildlife have access to large extents of undeveloped land found in adjacent lands managed by BLM and the State of Alaska, where additional suitable habitat is found. Cumulative impacts to habitat associated with land use practices are long-term and less than significant.

The Army limits access-related land use impacts by opening areas to recreational and subsistence uses subject to a permit system that allows for predictable access into safe areas. Although some of the withdrawn lands are under permanent access restrictions, interior Alaska offers millions of acres of undeveloped lands that are suitable for recreation and subsistence uses, and cumulative impacts are less than significant.

The Army's ICUZ Plan includes measures to ensure that training-related land uses are compatible with land uses in surrounding off-installation areas. Combined with measures included in the ACUB Plan to curtail encroachment from incompatible

development, support the Army's training mission, and remain consistent with the Army's Joint Land Use Study requirements, cumulative impacts arising from incompatible military and off-installation land uses will be minor.

Under Action Alternative 1, there would be no new impacts to visual resources. Although some of the training areas may be visible to local residents or drivers on the Richardson Highway, such areas are distant and landscape disturbance is visually minimal. In combination with temporary visual impacts associated with road construction projects and other local development projects, cumulative impacts to visual resources would be ongoing and minor.

The No Action Alternative would result in a change in land use by removing the withdrawn lands from military training uses. Lands determined suitable and returned to the public domain would be managed by the BLM in accordance with all applicable federal laws. There are no other proposed projects or land use proposals in the vicinity that would result in impacts, so cumulative impacts under the No Action Alternative would be less than significant.

Under the No Action Alternative, visual impacts may occur from construction of new roads or resource development projects on public domain lands managed by BLM. Such impacts would occur on a relatively small component of the viewshed and would have minimal cumulative impacts on the greater visual expanse.

4.18.4.2 Noise

The cumulative analysis area for noise includes the withdrawn lands and the surrounding communities within auditory range. Of the actions that geographically overlap with withdrawn lands, none of them are expected to create noise impacts distinct from those that would occur under Action Alternative 1. Other nearby actions that could contribute to cumulative noise impacts include transportation construction projects, urban growth as directed by the FNSB Regional Growth Plan, operations at the Eielson AFB including newer elements such as the F35A beddown, and ongoing traffic, railroad, and airport noise. Due to these short- and long-term activities, there is noticeable background noise in areas around the withdrawn lands. Some impacts,

such as resulting urban noise due to implementation of actions proposed in the Regional Growth Plan, are expected to slightly increase over time. While the proposed action does not present a change from existing conditions, the ongoing noise impacts of military training and operations do contribute with nearby actions to cumulative, minor to moderate, short- and long-term adverse impacts. Due to ongoing efforts to reduce noise impacts, including the ICUZ Program and the Environmental Noise Management Program, any additions to cumulative impacts under Action Alternative 1 are not expected to rise to a level of significance.

The No Action Alternative would have a beneficial permanent impact individually, and the reduction in military noise would help to ameliorate the cumulative noise impacts in the area resulting from other actions.

4.18.4.3 Recreation

The cumulative analysis area for recreational resources includes the withdrawn lands and the nearby surrounding areas that offer additional recreation opportunities. Actions overlapping the withdrawn lands include the Eastern Tanana Area Plan, the Yukon Tanana Area Plan, the Chena River State Recreation Area Management Plan, the Yukon River Comprehensive Salmon Plan, the INRMP, and BLM Central Yukon Draft RMP. Collectively, these all contribute to improving recreational opportunities in the area and the natural resources that support these opportunities. Nearby actions include the BLM Eastern Interior RMP and subunits, and the Tanana Lake Management Area, both of which are beneficial to recreation. Under Action Alternative 1, there would be beneficial and minor adverse impacts to recreation that are not a change from the current conditions, with some long-term minor adverse impacts. When considered in combination with the beneficial impacts of other overlapping and nearby actions, there are cumulative beneficial effects, and no cumulative adverse effects.

The No Action Alternative’s impacts to recreation are a combination of beneficial impacts and minor adverse impacts. When considered with other actions, cumulative beneficial effects are likely due to the additional areas available for recreation

purposes. No cumulative adverse effects are anticipated to recreational resources under the No Action Alternative.

4.18.4.4 Utilities

Impacts to utilities from the proposed action are expected to range from none to minor. Most other identified actions overlapping the withdrawn lands focus on natural resource management and would not impact utilities, but actions outside the withdrawn lands such as growth plans and transportation construction may impact utilities. If the timing of other utility construction or repair actions near the withdrawn lands overlaps with maintenance or repair actions of utilities resulting from the proposed action, cumulative, minor, short-term, adverse impacts to utilities through service disruptions may result.

The No Action Alternative is anticipated to have negligible to minor impacts. Significant impacts may arise from new uses BLM authorizes for the lands returned to the public domain, such as rights-of-way for existing utility corridors or activities that may be permitted if PLO 5187 were amended or revoked, but there are no reasonably foreseeable actions of this nature at this time. Any future changes in land use under the No Action Alternative that may result in significant impacts to utilities would be assessed in future NEPA documentation. In conjunction with other projects near the withdrawn lands that may cause service disruptions, cumulative, short-term, adverse impacts to utilities could result.

4.18.4.5 Transportation and Traffic

The cumulative analysis area for transportation and traffic includes the withdrawn lands and the surrounding transportation networks in the vicinity of Delta Junction, North Star, and Fairbanks. Under Action Alternative 1, no cumulative impacts are anticipated in the boundaries of the withdrawn lands. Several other actions outside the withdrawn lands could contribute to cumulative transportation impacts, including the FWA Area Development Plans, the FAI Master Plan, the Fairbanks Area Rail Line Relocation Project, the FNSB Regional Growth Plan, and the Northern Region Transportation Improvement Projects. Most of these projects focus on updates,

reconstruction, safety, or standardization of existing transportation resources, rather than insufficient capacity of the transportation system. The existing infrastructure adequately supports the current traffic demand. Ongoing traffic and construction disruptions under Action Alternative 1 could result in cumulative, minor, short-term adverse impacts.

Under the No Action Alternative, which individually would result in moderate impacts to transportation in the withdrawn lands that may be beneficial, cumulative impacts could occur through changes in travel patterns surrounding the withdrawn lands due to increased recreation or extractive uses, though the volume of traffic would likely not exceed that under current use by military vehicles. Overall, the No Action Alternative could result in cumulative, negligible to minor, short-term adverse impacts to transportation and traffic during periods of transportation construction. The No Action Alternative could also cumulatively contribute to beneficial impacts to transportation in neighboring communities through a reduction in troop movements and convoys, in combination with safety and traffic flow improvements implemented by other actions in the vicinity.

4.18.4.6 Airspace

Action Alternative 1 would have no impacts to airspace structure, management, or use in training operations, and therefore would not contribute to cumulative effects on airspace.

The No Action Alternative would likely result in reduced military use of airspace over the withdrawn lands and would not contribute to adverse cumulative impacts to civilian or commercial use of airspace over the withdrawn lands.

4.18.4.7 Public Health and Safety

The cumulative analysis area for public health and safety includes the withdrawn lands and nearby roadways. Due to the need for convoys to carry troops and equipment from bases to training lands, the proposed action would continue to cause occasional minor impacts associated with traffic, contributing to a minor cumulative

impact. Action Alternative 1 contributes to cumulative adverse impacts to public health and safety by depositing hazardous materials in the form of munitions into the training lands, but, with extensive procedures for the regulation of training activities, SOPs, range maintenance, clearance of UXO, fire management, communication with recreational users, and transportation practices, these are reduced to a level of less than significant on the withdrawn lands.

Under the No Action Alternative, deposition of hazardous materials would cease. If the lands were determined to be contaminated to an extent that would prevent their acceptance into the public domain, the Army would take appropriate steps to warn the public of risks associated with entry into contaminated areas, and decontaminate the lands to the applicable levels as required. The Army would no longer participate in fire management activities on lands determined to be suitable and returned to the public domain under BLM management, which would reduce the benefit of the AOP. Allowable future uses established by updated or new RMPs and PLOs, potentially including recreation, mineral extraction, and logging, could result in public health and safety impacts from user conflicts, but could presumably be mitigated to a level of less than significant by compliance with BLM policies and procedures governing these actions. Collectively the cessation of military use combined with the impacts of reasonably foreseeable management actions, the No Action Alternative would contribute to cumulative beneficial impacts to public health and safety.

4.18.4.8 Hazardous Materials, Solid and Hazardous Wastes

The cumulative analysis area for hazardous materials is limited to the withdrawn lands. Most activities overlapping the withdrawn lands are primarily focused on natural resources management and are not expected to contribute to hazardous materials. Any potential future additional military facilities on the withdrawn lands could cumulatively contribute to additional generation or disruption of hazardous materials, but any such actions will be assessed in future environmental reviews. Beyond the impact of the Action Alternative 1 as described in Section 3.9, no cumulative impacts to hazardous materials on the withdrawn lands are anticipated based on past, present, and reasonably foreseeable future actions.

Similarly, under the No Action Alternative, no cumulative impacts are anticipated beyond those described in Section 4.9, due to the lack of activities overlapping the withdrawn lands with hazardous materials considerations.

4.18.4.9 Air Quality

The cumulative analysis area for air quality includes the FNSB $PM_{2.5}$ serious non-attainment area and the Fairbanks and North Star CO maintenance area. Other ongoing and planned actions in the region, such as transportation projects (roads, railroads, and airports), military operations outside the withdrawn lands, and urban emissions contribute cumulatively to air pollution. While the proposed action impacts are not different from existing conditions, they do contribute to cumulative, long-term, adverse effects to air quality from anthropogenic emissions within the region. Because the proposed action will only have negligible adverse impacts to climate change, visibility in the Denali National Park Class I area, wildland fires, and ice fog, the cumulative effects of the proposed action and the other projects are not expected to be significant.

Individually, the No Action Alternative would result in beneficial impacts to anthropogenic air pollution, climate change, visibility in the Denali National Park Class I area, wildland fire, and ice fog. Cumulatively, these beneficial impacts would help to offset the adverse effects caused by other activities in the ROI.

4.18.4.10 Earth Resources

The cumulative analysis area for earth resources is limited to the withdrawn lands. Due to the long duration of Army management, the activities of other actions overlapping the withdrawn lands that could impact earth resources are minimal, and mostly include natural resource and wildland fire management. Permafrost soils can be vulnerable to physical disruption with a subsequent loss in function and risk of accelerated erosion. Under existing conditions that would be extended by the proposed action, the long-standing land withdrawal provides a soil conservation benefit for much of the training area by excluding or limiting activities such as extensive logging or intensive off-road vehicle recreation, that can cause extensive

damage to soils. Furthermore, most training actions occur in the winter when soils are at least partially protected from direct disturbance by a layer of snow and ice. Soil disturbance is likely to be most substantial during routine cleanup of impact areas, which is done during the summer months and which includes excavation of soils to remove debris or contamination resulting from training actions. Such disturbance is limited primarily to impact areas and includes BMPs and SOPs to avoid erosion and unnecessary soil disturbance. The Army's Range Control Manual, INRMP, and other programs designate procedures to manage the road network and reduce potential impacts to earth resources resulting from use and construction of roads in the withdrawn areas. Extending the land withdrawal together with the other large blocks of land that are managed at least partially for conservation purposes would continue to benefit earth resources because a substantial expanse of interior Alaska would be protected from other ground disturbing activities. Cumulative impacts under the Action Alternative 1 to soils would be less than significant.

Under the No Action Alternative, there is potential for future actions that could contribute to cumulative impacts on lands determined to be suitable and returned to the public domain under BLM management. The direct and indirect protections to soils and permafrost under the existing conditions would be removed, and allowable activities, such as increased recreational or ORV use, could have greater impacts on earth resources. BLM would continue to operate under federal guidelines and require restoration and other measures to reduce the impacts of new actions, so any cumulative effects of new management or land uses are anticipated to remain less than significant.

4.18.4.11 Water Resources

The cumulative analysis area for water resources includes the withdrawn lands, as well as surface and ground water that are downstream of and adjacent to the withdrawn lands. All of the other identified actions overlapping with the withdrawn lands pertain to water resources, and many of them are related to natural resource management. Those that are geared towards natural resource management and

conservation would collectively have beneficial impacts on water quality and hydrology.

Two actions may contribute to cumulative adverse impacts on water resources in combination with the proposed action. The Regaining Arctic Dominance strategy emphasizes continued military activities in the area, and the BLM Central Yukon Draft RMP could result in resource extraction in some areas outside the withdrawn lands. Cumulative, minor to moderate, adverse impacts to water quality and hydrology from runoff, sediment accumulation, long-term contaminant accretion, or changes to flow paths could result from the implementation of the proposed action in combination with these plans or other actions in the vicinity of the PL 106-65 lands including transportation projects, growth plans, and other military activities. Existing monitoring plans and best practices would reduce the potential impact of the proposed action's contribution to cumulative impacts on water resources. Other federal actions would require the same compliance with applicable laws and regulations related to water quality protection.

Under the No Action Alternative, there will likely be fewer impacts to water quality and hydrology than under Action Alternative 1; collectively with other natural resource management actions, this should result in cumulative beneficial impacts in the withdrawn lands. The exception to this would depend on any potential resource extraction activities that BLM chooses to pursue on lands returned to the public domain and in accordance with PLO 5187. Near the withdrawn lands, other actions pertaining to transportation projects and growth plans would continue to have a cumulative but less than significant impact, but with less contribution from activities on the PL 106-65 lands due to the lack of military training.

4.18.4.12 Biological Resources

Under Action Alternative 1, the Army would continue current management practices to avoid impacts to biological resources, as described in the INRMP. Most of the lands surrounding the withdrawn lands are managed according to comprehensive management plans, which typically include measures to protect biological resources. Management of federal and state lands typically also allows for land use practices

such as road construction, timber harvest, and ORV use that may adversely affect biological resources. v Lands in interior Alaska that are managed by other entities, including BLM and the State of Alaska, are subject to the same regulations and permitting processes, which limit impacts to wetlands, migratory birds, special status species, anadromous fish, and sensitive habitat types.

Although Action Alternative 1 may have moderate adverse impacts on wildlife due to training-related disturbance, such impacts typically occur during training actions and are primarily temporary. Wildlife likely avoid the impact areas and flight paths and may find refuge in adjacent lands. Since the areas that are actively disturbed during military training in the withdrawn lands are a relatively small component of the habitat available for wildlife in interior Alaska, this impact is considered cumulatively less than significant.

The No Action Alternative would have both beneficial and negligible to minor adverse long-term effects on vegetative resources, forest management, fish and wildlife, and wetlands and aquatic habitats, as discussed in section 4.13.1. Lands would be managed under the same regulations and permit requirements as under the proposed action, but land uses would likely result in less disturbance to biological resources. When considered with other past, present, and reasonably foreseeable actions, on adjacent properties managed by BLM and others, the cumulative impacts on biological resources would remain less than significant.

4.18.4.13 Wildland Fire

The cumulative analysis area for wildland fire includes the withdrawn lands and lands adjacent to their boundaries. Impacts of Action Alternative 1 alone on wildland fire and management could range from negligible to minor adverse effects. The primary overlapping actions that focus on wildland fire include the INRMP and the Interagency Wildland Fire Management Plan, which were discussed under existing conditions in section 3.14.4, and the BLM Central Yukon Draft RMP/EIS. Adjacent areas outside the boundaries are also managed under the BLM Eastern Interior RMP and associated subunits. Cumulative impacts of minor to moderate intensity could occur from the combined effects of fire starts from training activities and other

anthropogenic impacts in the area, but these would be minimized by implemented plans and interagency coordination in responding to fires.

Combined with other natural resource management activities in the area intended to prevent fires and reduce intensity, the No Action Alternative would likely have a cumulative, beneficial, minor effect in reducing the number of fires started in the region due to the cessation of training activities. Since the Army plays an important role in management of fires, the No Action Alternative may also have a cumulative, negligible to minor, short-term, adverse effect on interagency coordination, available equipment, and personnel available for fire management. BLM would need to make programmatic and personnel adjustments to fill this management gap.

4.18.4.14 Cultural Resources

The cumulative analysis area for cultural resources is limited to the withdrawn lands. Action Alternative 1 would result in minor adverse impacts to archaeological resources. The potential for impacts to these resources from most other actions overlapping the withdrawn lands, which are targeted at natural resource management and involve little to no ground disturbance, are minimal. Future military actions in addition to current training activities could be implemented during the extension period, similarly to how the BAX was constructed in 2006 following the previous withdrawal in 1999. No future projects such as this are reasonably foreseeable at this time. While additional environmental reviews will be conducted at that time, these could lead to cumulative, minor, short- and long-term, adverse impacts to archaeological resources. Although no Traditional Cultural Properties have been identified as a result of tribal consultations, if any are present, the potential exists for cumulative minor adverse impacts in conjunction with past and future military projects on the withdrawn lands. These effects will be minimized and mitigated by compliance with the ICRMP.

The potential for direct impacts resulting from military training exercises and any military facilities construction would be reduced under the No Action Alternative. BLM activities that replace military usage could have a wide range of impact intensities, which cannot be known with certainty at this time. The ICRMP would no longer be

applied to the withdrawn lands. Instead, BLM would manage cultural resources under existing RMPs such as the Central Yukon Draft RMP, until updated or new RMPs or cultural resources management plans can be implemented. Due to funding constraints and the large areas that BLM is responsible for managing, it is possible that some resource management activities may occur at a reduced scale, threatening long-term conservation of the resources. The cumulative impacts of the No Action Alternative on cultural resources are expected to be minor, and both beneficial (due to fewer direct impacts) and adverse (due to less focused management) in nature.

4.18.4.15 Socioeconomics, Subsistence, and Environmental Justice

The cumulative analysis area for socioeconomics includes the FNSB Borough and Southeast Fairbanks Census Area, while the analysis area for environmental justice also includes the three game management units identified by the subsistence analysis. Other actions overlapping the withdrawn lands are anticipated to have minimal cumulative impacts to these resources through improvement of natural resources and economic opportunities associated with recreation and other environmental services. Nearby actions such as transportation projects and the regional growth plan are expected to have generally beneficial impacts to these socioeconomic resources and environmental justice considerations.

Action Alternative 1 would result in no change from existing conditions to socioeconomic resources, and will continue to provide long-term significant benefits to the economy of the region that cumulatively add to the beneficial socioeconomic impacts of other actions. No disproportionate environmental justice impacts have been identified to low-income or minority communities under Action Alternative 1, and therefore would not contribute to cumulative environmental justice impacts.

Cumulative adverse effects on subsistence use may result under Action Alternative 1. Urban population growth could lead to increased non-federal subsistence competition, and there would continue to be no federal subsistence opportunities on the withdrawn lands. There is also the potential for more restrictions on use of other lands such as lands owned by Alaskan Native regional corporations, which may increase the importance of game harvest on federal public lands with a federal

subsistence management priority. Climate change may lead to decreases in resource quality and abundance, such as declining salmon size (Oke et. al. 2020), which may lead to increased pressure on other resources to support communities that typically rely on subsistence harvest for food security.

The No Action Alternative's predicted significant adverse socioeconomic effects, resulting from reduced military operations and personnel expenditures, would substantially detract from the cumulative benefit of other actions in the region described above. No disproportionate environmental justice impacts have been identified to low-income or minority communities under the No Action Alternative, and therefore would not contribute to cumulative environmental justice impacts. Though climate change and urban population growth may put additional pressure on resource availability and abundance, under the No Action Alternative there may be increased opportunities for Federally qualifying subsistence users to access resources on the lands that are currently withdrawn. Any cumulative effects on subsistence are anticipated to be beneficial to qualifying rural residents.

4.19 SUMMARY OF ENVIRONMENTAL IMPACTS AND AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

A summary of potential impacts that may result from the analyzed alternatives is presented in Table 4.19-1. The full impact analysis is presented in the individual resource and cumulative impacts analyses in Chapter 4.0.

4.19.1 UNAVOIDABLE ADVERSE IMPACTS

Although the environmental impacts identified in this section are offset to the degree possible by management measures and BMPs, all adverse impacts may not be completely avoided and/or mitigated.

Unavoidable adverse impacts would result from implementation of Action Alternative 1 and the No Action Alternative. Unavoidable adverse impacts include noise from training actions, particularly overflights; socioeconomic impacts; disturbance of sediments; habitat disturbance; disturbance of sensitive soil types; erosion; and

temporary loss of recreational access. Please refer to Table 4.19-1 for a summary of potential impacts.

Table 4.19-1. Summary of Environmental Impacts

Section	No Action Alternative	Action Alternative 1—Extend Withdrawal for 25 Years or More
Land Use and Visual Resources	Permanent beneficial impacts on local visual resources after cessation of training activities allows natural vegetative succession.	No change from existing conditions. Land use would continue to be managed by the Army and BLM to ensure compatibility and public safety. Moderate adverse impacts on land use from continued restrictions on public access while the lands are reserved for military use. Long-term minor adverse impacts on visual resources would continue in localized areas within withdrawn lands. No impacts on long-range viewsheds or scenic areas.
Noise	Beneficial impacts resulting from reduced aircraft and helicopter flights over withdrawn lands and associated reduction in noise generation.	No change from existing conditions. Ongoing long-term moderate adverse impacts from continued noise generated via aviation activities. Minor adverse impacts associated with live fire exercises, weapons deployment, and other training activities.
Recreation	Beneficial impacts as new types of recreation are allowed with reduced closure areas and increased quality of recreational land. Minor adverse impacts resulting from reduced trail maintenance and public communication channels currently provided by the Army.	No change to recreational land uses. Ongoing long-term moderate adverse impacts resulting from continued closure of ranges and impact areas, noise, and visual impacts to recreationists.
Utilities	Utility improvements or development may occur if approved by BLM. Any proposed utility projects would be subject to separate NEPA evaluation, ensuring avoidance or minimization of significant adverse impacts.	No change from existing conditions. No anticipated long- or short-term impacts.
Traffic and Transportation	Beneficial impacts resulting from reduction in traffic from troop movements and personal vehicles.	No change to current levels or types of roadway use in the region. Ongoing long-term minor adverse impacts from continued use of transportation infrastructure over time and temporary increased congestion due to military conveys.

Section	No Action Alternative	Action Alternative 1—Extend Withdrawal for 25 Years or More
Airspace	Beneficial impacts to civilian airspace use resulting from changes in airspace management, though military use for non-hazardous activities would continue.	No change from existing conditions. Ongoing long-term minor adverse impacts resulting from civilian airspace use restrictions.
Public Health and Safety	Beneficial impacts on public health and safety resulting from absence of all military training maneuvers including weaponry testing.	No change from existing conditions. Long-term minor adverse impacts on public health and safety would continue into the future under existing safety programs.
Hazardous Materials, Solid and Hazardous Wastes	Moderate long-term adverse impacts, as remediation would likely take several decades. Hazardous materials would remain onsite and access to contaminated areas would be restricted, pending remediation, posing moderate adverse impacts on visitors and wildlife.	No change from existing conditions. Existing hazardous materials use and storage management would continue to address leaks, storage, and exposure of materials. Ongoing long-term moderate adverse impacts would result from continued use and disposal of hazardous materials during training activities.
Air Quality	Beneficial impacts would result from reduced vehicle use in training areas, incrementally reducing emissions and the formation of ice fog.	No change from existing conditions. Ongoing minor adverse impacts on air quality would continue into the long term due to emissions of nitrogen dioxide, carbon monoxide, and volatile organic compounds. No impacts on climate change. Negligible effect on visibility degradation in Denali National Park.
Earth Resources	Beneficial impacts on soils and permafrost resulting from cessation of training exercises.	No change from existing conditions. Conservation measures in place to protect soils ensure that adverse impacts on soils and permafrost are less than significant.
Water Resources	Beneficial impacts on water quality would result from cessation of military activities, which would reduce deposition of pollutants into withdrawn lands, reduce erosional concerns, and limit alteration of floodplains.	No change from existing conditions. Pollutants would continue to be introduced into water bodies and floodplains would be altered during training activities. Continued water quality monitoring, remediation of affected areas, and spill response plans would ensure that long-term adverse impacts remain minor to moderate.
Biological Resources	Beneficial impacts on fish, wildlife, and habitats in the region after cessation of training activities.	No change from existing conditions. Ongoing long-term moderate adverse impacts on birds, wildlife, and habitats resulting from training activities. Moderate adverse impacts on aquatic habitat and fish. Minor to moderate adverse impacts on invasive and problematic species.

Section	No Action Alternative	Action Alternative 1—Extend Withdrawal for 25 Years or More
Wildland Fire	Beneficial impacts from reduced use of the area and cessation of fire starts due to military training. Moderate adverse impact from loss of support from USAG Alaska to BLM for fire suppression, preparedness, and fuels reduction.	No change from existing conditions. Existing wildland fire management provisions would continue into the long term, and impacts would be minor.
Cultural Resources	Potential minor adverse impacts on archeological sites with reopening of withdrawn lands to public uses. No impacts to properties of traditional religious and cultural significance.	No change to existing cultural resources management or consultation with affiliated Native tribal partners. Ongoing potential minor adverse impacts on archeological sites resulting from training activities with continued application of Integrated Cultural Resources Management Plan. No impacts to properties of traditional religious and cultural significance.
Socioeconomics, and Environmental Justice	Significant adverse impacts from loss of military operations and personnel expenditures in the region. No disproportionate impacts on environmental justice populations.	No change from existing conditions. Ongoing long-term beneficial impact to the economy of the region. No disproportionate impacts on environmental justice populations.
Subsistence	Long-term net beneficial effects on resource abundance, availability, and access for subsistence users and opening of lands to federal subsistence opportunities under Alaska National Interest Lands Conservation Act (ANILCA).	No change from existing conditions. Negligible to minor adverse effects on resource abundance and availability, and moderate adverse effects on resource access expected from continued military operations on the lands. No opportunity for the withdrawn lands to become eligible for federal subsistence under ANILCA.

4.20 COMPATIBILITY WITH THE OBJECTIVES OF FEDERAL, REGIONAL, STATE, AND LOCAL LAND USE PLANS, POLICIES, AND CONTROLS

Action Alternative 1 would continue land use practices that have been in place for several decades. Such land uses are consistent with Army land use regulations and are coordinated with surrounding landowners, including local and state governments, to ensure that land uses are compatible. Under the proposed action, the Army will

remain in compliance with local, state, and federal regulations that protect natural, cultural, and physical resources. The military's presence in the FWA area and its use of the withdrawn lands is widely accepted by the community, and the continued use of the withdrawn lands for cold-weather training offers benefits to the community while allowing the Army to achieve its mission.

4.21 RELATIONSHIP BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

In accordance with NEPA (42 USC § 4321 Section 102[2][C][iv]), this section identifies the relationship between local short-term uses of the human environment and the maintenance and enhancement of long-term productivity. Short-term uses are uses of the human environment that occur immediately and, in general, up to five years after an alternative is implemented. Balancing those short-term uses with the future long-term productivity of the project area or region is an essential part of determining feasibility of a proposed project. The following paragraphs provide an evaluation of the overall short- and long-term effects, including benefits and losses, that could be expected under the No Action Alternative and Action Alternative 1. The detailed potential short-term and long-term impacts that would result from each alternative are discussed for specific resource areas in Chapter 4.0.

Short-term uses typically refer to construction activities associated with proposed development. Under Action Alternative 1, the decision to extend the period of withdrawal would not result in any immediate changes to current practices and conditions. Instead, current and ongoing uses of the withdrawn land would continue without interruption, including the use of the area for cold-weather training exercises. Therefore, short-term uses are indistinguishable from long-term uses, and long-term uses lead to long-term productivity in terms of facilitating the cold-weather training opportunities that are critical to fulfilling the military mission. Potential for long-term, but not significant, adverse impacts under Action Alternative 1 include disturbance of fish and wildlife habitat, impacts to permafrost and other sensitive soil types, and possible exposure to hazardous materials. Long-term beneficial impacts include

providing a continued economic input to the region and ensuring Army mission readiness.

Typically, determining the trade-off between short-term use and long-term productivity requires an assessment of the potential long-term productivity of the withdrawn lands. Evaluation of the No Action Alternative is based on BLM land management practices in locations with similar types of resources as those found in the withdrawn lands. It is presumed likely that the lands determined suitable and returned to the public domain under BLM management would be opened up to casual uses such as subsistence use, ORV use, and recreation, which are considered long-term productivity opportunities. Under PLO 5187, suitable lands returned to the public domain would continue to be withdrawn from mining, mineral leasing, and geothermal leasing until such time as the PLO is revoked or amended.

Long-term productivity in the form of a highly trained fighting force that continues to use the withdrawn lands for cold-weather training is compared to the potential long-term productivity of the withdrawn lands under BLM management. While there are numerous expanses of public lands in Alaska that offer casual use opportunities aside from the withdrawn training lands, a replacement for the training opportunities found within the withdrawn lands is unlikely to exist.

4.22 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Impact analysis includes assessment of the irreversible and irretrievable commitments of resources needed for each alternative. Although the alternatives analysis is intended to identify measures that allow for the avoidance or minimization of adverse effects on natural, cultural, and socioeconomic resources, there are always resources that must be committed to the selected project that are irretrievably lost, or changes to resources that are irreversible.

Irreversible commitments apply primarily to nonrenewable resources, such as minerals or cultural resources, and to those resources that are renewable only over long timespans, such as soil productivity. An irretrievable commitment of resources

refers to the loss of a resource for the period of time that resource cannot be used. For example, the development of a vegetated area is an irretrievable action. The natural area is lost to development, but the action is not irreversible.

This section describes the irreversible and irretrievable commitments of resources for the No Action Alternative and Action Alternative 1. The No Action Alternative typically does not result in resource commitments, as it usually does not constitute any change in existing condition. Since the No Action Alternative considered in this LEIS constitutes a substantial change from the current use and management of the training lands, this assessment considers the irreversible and irretrievable commitments that may result from its implementation, including past irreversible and irretrievable commitments of resources that have long occurred over the course of the previous withdrawals of the Alaska training lands.

4.22.1 No Action Alternative

Under the No Action Alternative, lands determined to be suitable and returned to the public domain would be managed by BLM. The area would no longer be used for ground-based military training activities. There are three steps in evaluating the resource commitments for this alternative; 1) identify the commitments resulting directly from the act of ending military use of YTA, DTAE and DTAW, and returning suitable lands to the public domain under BLM management, 2) assess those commitments resulting from decontamination and remediation of YTA, DTAE, and DTAW, and 3) identify the future impacts of the return of suitable lands to the public domain.

Ending military use of the withdrawn lands would require the removal of infrastructure no longer needed for military use and the remediation of contaminated areas. These activities would require the irreversible commitment of labor hours, energy, and landfill space. Some military personnel labor hours would be needed to prepare lands for transfer and vehicles used for that effort would irretrievably commit the use of fossil fuels, but most such work would likely be contracted to private companies. Labor hour commitment of military personnel is therefore not a significant commitment. Similarly, since the overall use of vehicles for withdrawal activities

would be substantially reduced from typical training exercises, the use of energy would be less than normal.

There would also be an irreversible commitment of labor hours for Army and BLM management responsible for determining if the lands are suitable for return to the public domain. Although the Army and BLM already collaborate on the management of the area, the process of decontamination and suitability determination for return to the public domain under BLM management could take many years, during which BLM managers would have less capacity for other land management activities.

Materials removed from the withdrawn lands would be minimal, including small structures and fencing. Although this would result in an irreversible loss of landfill capacity to accommodate the discarded materials, much of the material can be salvaged, repurposed, or recycled. Landfills in the region have ample capacity for the materials that cannot be reused.

Once the military removed materials from withdrawn lands, a suitability determination would be completed to determine if the lands are acceptable for return to the public domain under BLM management. Contaminated lands must be remediated before they can be returned to the public domain. This process is certain to require years or decades to fully complete, requiring the ongoing use of labor hours, energy, and hazardous waste disposal. This process represents a significant adverse impact in terms of the irreversible loss of time and energy needed to remediate these lands, at a time when military personnel would be substantially reduced at FWA.

Conversely, the process of decontamination would reverse the actions taken by the Army within the withdrawn lands over the past eight decades. This would represent the reversal of irretrievable commitments made over the course of establishment and use of the training areas. As impact areas, firing ranges, and dudded areas were decontaminated, those areas would be returned to public access.

The future management of lands would require an irreversible commitment of labor hours and energy by BLM. Once the lands were determined suitable and returned to the public domain under BLM management, they may be eligible for various uses. It may be possible to predict future uses of these lands on a general basis, but it is not

possible to predict with enough specificity to evaluate the significance of this change to irretrievable and irreversible commitments. In the event of development of these lands for extractive uses following the revocation or modification of PLO 5187 or new recreational uses aside from those already permitted on the lands, BLM would prepare NEPA documentation and analysis of the potential environmental impacts.

Transferring cold-weather training units away from FWA, and the subsequent loss of military spending on labor, equipment, and materials from the region, would result in an irretrievable loss to the economy of the region.

4.22.2 Alternative 1: Extend Withdrawal for 25 Years or More

Should Congress extend the land withdrawal, there would be no change in the current level of resource commitments. On November 7, 2026, the Army would continue their use and management of YTA, DTAW, and DTAE without interruption, and according to the associated legislation.

Military use of withdrawn lands results in both irretrievable and irreversible commitments of labor, energy, natural resources, cultural resources, and infrastructure. These uses have been in place at their current level for several decades, and the extension of the withdrawal would not result in any immediate increases in these commitments. The following paragraphs describe the commitments that are in place and would remain in place over the life of the withdrawal extension.

4.22.2.1 Labor

Military personnel stationed at FWA or who visit FWA, and who train within YTA, DTAW, or DTAE are irretrievably committed to this pursuit. Personnel would continue to be cycled through FWA for the purposes of training over the next 25 years or more.

4.22.2.2 Energy

Non-renewable resources, such as fossil fuels and natural gases, would continue to be used throughout withdrawn lands for training exercises to ensure military readiness. Ground- and air-based training exercises would continue to expend fossil fuels used to power vehicles and aircraft, representing an irreversible loss of a non-renewable resource.

4.22.2.3 Natural Resources

Pieces of the Alaskan wilderness, including natural terrestrial and aquatic habitats, have been irretrievably converted to training grounds throughout the withdrawn lands. These areas would continue to be committed to military use over the next 25 years or more, and additional natural areas may be cleared or developed for training exercises.

4.22.2.4 Cultural Resources

Historically, cultural resources received less protection than they do today. As a result, cultural resources in the withdrawn lands have been irreversibly lost to military use. Today, protocols are in place to ensure that newly discovered archeological sites or properties of traditional religious and cultural significance are fully protected. Extending the withdrawal of training lands for 25 years or more would not result in an intentional irretrievable or irreversible loss of cultural resources. Although the possibility of unintentional harm to cultural resources will always remain, this is not expected to result in a significant loss of cultural resources.

4.22.2.5 Infrastructure

Transport and deployment of troops into training areas via regional nodes of transportation would cause irretrievable commitment of infrastructure resources, including the use of and incremental wear and tear on local highways, airports, and railroads.

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Bart LeBon	State Representative - Fairbanks	State Capitol Room 418 Juneau, AK 99801
Steve Thompson	State Representative - Fairbanks	State Capitol Room 204 Juneau, AK 99801
Adam Wool	State Representative - Fairbanks	State Capitol Room 501 Juneau, AK 99801
Andi Story	State Representative - Juneau	State Capitol Room 403 Juneau, AK 99801
Mike Prax	State Representative - North Pole	State Capitol Room 114 Juneau, AK 99801
George Rauscher	State Representative - Sutton	State Capitol Room 412 Juneau, AK 99801
Darren Bruning	Fairbanks Regional Supervisor, Wildlife Conservation Division, Alaska Department of Fish and Game	1300 College Road Fairbanks, AK 99701-1599
Audra Brase	Fairbanks Regional Supervisor, Habitat Division of Alaska, Department of Fish and Game	1300 College Road Fairbanks, AK 99701-1599
Erik Anderson	Public Outreach Specialist, Alaska Department of Fish and Game	1300 College Road Fairbanks, AK 99701-1599

Name	Title	Address
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Fairbanks Public Information Center	Alaska Department of Natural Resources	3700 Airport Way Fairbanks, AK 99709-4699
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Judy Chapman	Northern Region Planning Chief, Alaska Department of Transportation and Public Facilities	2301 Peger Road MS-2550 Fairbanks, AK 99709
Andy Mills	Communications Director, Alaska Department of Transportation and Public Facilities	3132 Channel Drive P.O. Box 112500 Juneau, AK 99811-2500

Name	Title	Address
Local Agencies and Officials		
Dave Bronson	Mayor of Anchorage	632 W 6th Avenue, Suite 840 Anchorage, AK
JW Musgrove	Mayor of Delta Junction	PO Box 803 Delta Junction, AK 99737
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Bryce Ward	Mayor of Fairbanks North Star Borough	P.O. Box 71267 Fairbanks, AK 99707-1267
Michael Welch	Mayor of North Pole	125 Snowman Lane North Pole, AK 99705
Pete Hallgren	Delta Junction City Council Representative, At-Large	P.O. Box 1625 Delta Junction, AK 99737
Mary Leith	Delta Junction City Administrator	P.O. Box 229 Delta Junction, AK 99737
Michael Prestegard	Deputy Mayor of Delta Junction	P.O. Box 690 Delta Junction, AK 99737
Teal Soden	Communications Director for the City of Fairbanks	800 Cushman Street Fairbanks, AK 99701
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Jinnel Choiniere	President/CEO, Greater Fairbanks Chamber of Commerce	100 Cushman Steet, Suite 102 Fairbanks, AK 99701
Scott Raygor	Fire Chief, Fairbanks Fire Department	1101 Cushman Street Fairbanks, AK 99701

Name	Title	Address
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Tribal Representatives		
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Tammy Straughn	President, Native Village of Cantwell	P.O. Box 94 Cantwell, AK 99729
Stephanie Herbert	First Chief, Chalkyitsik Village	P.O. Box 57 Chalkyitsik, AK 99788
Larry Sinyon	President, Cheesh-Na Tribe	P.O. Box 241 Chistochina, AK 99586
Jessica Fields	First Chief, Circle Native Community	P.O. Box 89 Circle, AK 99733
Tracy Charles-Smith	President, Village of Dot Lake	P.O. Box 70494 Fairbanks, AK 99701
Benjamin Juneby	First Chief, Native Village of Eagle	P.O. Box 19 Eagle, AK 99738
Darin Gene	President, Native Village of Gakona	P.O. Box 102 Gakona, AK 99586
Roy S. Ewan	President, Gulkana Village	P.O. Box 254 Gulkana, AK 99586
Nancy James	First Chief, Gwitchyaa Gwichin Tribal Government Native Village of Fort Yukon	P.O. Box 126 Fort Yukon, AK 99740
Patricia MacDonald	President, Healy Lake Village	600 University Avenue Fairbanks, AK 99701
Karl Pete	President, Native Village of Kluti-Kaah	P.O. Box 68 Copper Center, AK 99573-0068
Raymond Woods	Chief, Manley Hot Springs Village	P.O. Box 105 Manley Hot Springs, AK 99756

Name	Title	Address
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Joseph Alexander	First Chief, Native Village of Minto	P.O. Box 26 Minto, AK 99758-0026
Tim McManus	First Chief, Nenana Native Association	P.O. Box 369 Nenana, AK 99760
Chaaiy Albert	President, Northway Village	P.O. Box 516 Northway, AK 99764
Milton Moses	President, Rampart Village	P.O. Box 67029 Rampart, AK 99767
Michael Simon	Chief, Native Village of Stevens	P.O. Box 16 Stevens Village, AK 99774
Herbert Demit	President, Native Village of Tanacross	P.O. Box 76009 Tanacross, AK 99776
Curtis Sommer	Chairman, Native Village of Tanana	P.O. Box 130 Tanana, AK 99777
Johnny Goodtaw	President, Native Village of Tazlina	P.O. Box 87 Glenallen, AK 99588-0087
Michael Sam	President, Native Village of Tetlin	P.O. Box 797 Tok, AK 99780
Julian Roberts	Tribal Chief, Native Village of Venetie Tribal Government	P.O. Box 81080 Venetie, AK 99781
Timothy Roberts	First Chief, Venetie Village	P.O. Box 81119 Venetie, AK 99781

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APPENDIX 1.0: AGENCY AND TRIBAL SCOPING LETTERS

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DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, U.S. ARMY GARRISON ALASKA
1046 MARKS ROAD #6000
FORT WAINWRIGHT, ALASKA 99703-6000

September 24, 2021

Mr. Ryan Anderson
Regional Director
Alaska Department of Transportation and Public Facilities
2301 Peger Road. MS-2550
Fairbanks, AK 99709

Dear Mr. Anderson,

The Department of the Army (Army) invites you to participate in an agency scoping meeting to discuss a Legislative Environmental Impact Statement (LEIS) being prepared to evaluate the potential environmental impacts on land currently withdrawn from the public under Public Law 106-65 for military use in interior Alaska. The Army is preparing a legislative proposal to extend the current withdrawal of 869,862 acres of land from public use for 25 years or more, or assign control of the land to the Secretary of the Army until such time as the Army determines it no longer needs the land for military purposes.

The current withdrawal expires in November 2026, and Congressional approval of the legislative proposal is required to extend it. The Army has determined that there is a continuing military need for this land and is requesting to extend its use of three training areas (Yukon Training Area, Donnelly Training Area East, and Donnelly Training Area West). The purpose of the withdrawal is to ensure that the Army will retain full and continued use of the training areas to successfully execute and fulfill its mission in Alaska.

After the Notice of Intent to prepare an LEIS is published in the Federal Register, there will be a 30-day scoping period for the public to learn about the proposed action and provide comments. The Army will host a virtual public scoping meeting during the scoping period and will advertise it in area newspapers. Comments received during the scoping period will help inform and develop the LEIS analysis.

The agency scoping meeting will be held as a virtual presentation on MS Teams on Thursday, October 14, 2021 from 9:00 a.m. to 11:00 a.m. ADT. To attend the meeting online, please email usarmy.wainwright.id-pacific.mbx.lwe-leis@mail.mil to receive the access link. Alternatively, you may participate by phone by calling (213) 357-2812 and entering the meeting code 996 549 538#. Phone participants may download the visual meeting presentation in advance at the project website listed below.

The virtual public scoping meeting will be a teleconference call, on Wednesday, October 13, 2021 from 5:00 p.m. to 7:00 p.m. ADT. To attend the virtual public scoping meeting, please call (855) 756-7520 and enter the meeting code 74422#. For more information, please visit https://home.army.mil/alaska/index.php/fort-wainwright/NEPA.

In addition to oral comments received during the scoping meetings, written comments will be accepted for 30 days following the Federal Register's publication of the Notice of Intent to prepare the LEIS. Written comments may be submitted via mail to Ms. Laura Sample, NEPA Program Manager, Attn: AMIM-AKP-E (L. Sample), 1046 Marks Road #4500, Fort Wainwright, Alaska 99703-4500, or email to usarmy.wainwright.id-pacific.mbx.lwe-leis@mail.mil. Comments may also be submitted online through the project website at https://home.army.mil/alaska/index.php/fort-wainwright/NEPA.

A copy of the LEIS Notice of Intent published in the Federal Register, and other project information, is also accessible online at the project website.

The Army looks forward to your participation in the LEIS scoping process. If you would like any additional information, please contact Mr. Grant Sattler, Public Affairs Office, at (907) 353-6701 or Alan.G.Sattler.civ@mail.mil.

Sincerely,

Nathan S. Surrey
Colonel, U.S. Army
Commanding

DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, U.S. ARMY GARRISON ALASKA
1046 MARKS ROAD #6000
FORT WAINWRIGHT, ALASKA 99703-6000

September 24, 2021

Chief Rhonda Pitka
Beaver, Beaver Village
P.O. Box 24029
Beaver, AK 99724

Dear Chief Rhonda Pitka,

The Department of the Army (Army) Army invites you to participate in a public scoping meeting to discuss a Legislative Environmental Impact Statement (LEIS) being prepared to evaluate the potential environmental impacts on land currently withdrawn from the public under Public Law 106-65 for military use in interior Alaska. The Army is preparing a legislative proposal to extend the current withdrawal of 869,862 acres of land from public use for 25 years or more, or assign control of the land to the Secretary of the Army until such time as the Army determines it no longer needs the land for military purposes.

The current withdrawal expires in November 2026, and Congressional approval of the legislative proposal is required to extend it. The Army has determined that there is a continuing military need for this land and is requesting to extend its use of three training areas (Yukon Training Area, Donnelly Training Area East, and Donnelly Training Area West). The purpose of the withdrawal is to ensure that the Army will retain full and continued use of the training areas to execute and fulfill its mission in Alaska successfully. The withdrawn land provides the Army with the necessary space and unique environmental conditions to complete training and testing required by established training doctrine. Uninterrupted access to suitable training land is needed to ensure that the Army will continue to produce a force trained to mobilize, deploy, fight, and win anywhere in the world.

A virtual public scoping meeting will be held on Wednesday, October 13, 2021 from 5:00 p.m. to 7:00 p.m. ADT. In order to attend the meeting, please call 855-756-7520 and enter the meeting code 74422#. For information about joining the Tele-Town Hall, please visit https://home.army.mil/alaska/index.php/fort-wainwright/NEPA.

In addition to oral comments received during the scoping meetings, written comments will be accepted for 30 days from the Federal Register's publication of the Notice of Intent to prepare the LEIS. Written comments may be submitted vial mail or email to Ms. Laura Sample, NEPA Program Manager, Attn: AMIM-AKP-E (L. Sample), 1046 Marks Road #4500, Fort Wainwright, Alaska 99703-4500, or email to

usarmy.wainwright.id-pacific.mbx.lwe-leis@mail.mil. Comments may also be submitted online through the project website at https://home.army.mil/alaska/index.php/fort-wainwright/NEPA.

If you believe that a tribe-specific scoping meeting is warranted for this proposed action or if you wish to enter into government-to-government consultation please advise Ms. Elizabeth A. Cook in writing by 30 days from the Federal Register's publication of the Notice of Intent to prepare the LEIS. Please consider this letter our notification in accordance with the Department of Defense (DOD) Instruction Number 4710.02: *DoD Interactions with Federally Recognized Tribes* and the *DoD American Indian and Alaska Native Policy*.

Requests should be directed to Ms. Elizabeth Cook, USAG Alaska Native Liaison, at Attn: AMIM-AKP-E (Cook), 1046 Marks Road #4500, Fort Wainwright, Alaska 99703-4500 or Elizabeth.A.Cook80.civ@mail.mil

Sincerely,

Nathan S. Surrey
Colonel, U.S. Army
Commanding

APPENDIX 2.0: SCOPING TRANSCRIPTS AND COMMENTS

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Legislative Environmental Impact Statement For Land Withdrawal Extension at U.S. Army Garrison Alaska

Scoping Period Summary Report

December 2021

Contents

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2. Outreach..... 1

3. Comment Summary..... 2

Attachments

Attachment 1: Public Meeting Transcript

Attachment 2: Agency Meeting Transcript

Attachment 3: Scoping Letters

Attachment 4: Comments Received

Acronyms

ADFG	Alaska Department of Fish and Game
Army	U.S. Army
LEIS	Legislative Environmental Impact Statement
NEPA	National Environmental Policy Act
NOI	Notice of Intent
USAG	U.S. Army Garrison
USFWS	U.S. Fish and Wildlife Service

1. Introduction

Scoping is a formal process that assists the U.S. Army (Army) in determining the scope of analysis needed to fulfill its due diligence under the National Environmental Policy Act (NEPA). The Army published a Notice of Intent (NOI) to prepare a Legislative Environmental Impact Statement (LEIS) for a Land Withdrawal Extension at the U.S. Army Garrison (USAG) Alaska in the Federal Register on September 24, 2021. The publication of the NOI initiated a 30-day comment period that ran from September 24 through October 25, 2021, during which members of the public, government agencies, tribes, private organizations, and other interested parties were invited to comment on the proposed scope and content of the LEIS. Comments could be submitted through mail, email, or the project website (https://home.army.mil/alaska/index.php/fort-wainwright/NEPA). The project website contained background information on the proposed action, downloadable materials, contact information, and details on opportunities for public involvement.

2. Outreach

The Army conducted a public scoping meeting on the evening of October 13, 2021. The meeting was held virtually through a teleconference call in the interest of public health. The meeting details and comment period dates were published in the NOI and advertised locally in the Fairbanks Daily News-Miner and the Anchorage Daily News on September 24th and October 6th, and in the Delta Wind on September 30th and October 7th, 2021. A public service announcement (PSA) ran on KUAC radio station for three weeks, beginning on October 4th and ending on October 25th. PSAs were also provided to FBX Radio with a request to run them starting on September 25th, 2021. The Army posted flyers advertising the meetings and comment period in the Fort Wainwright Post Library, Fairbanks Noel Wien Library, Delta Community Library, Alaska Department of Fish and Game (ADFG) Fairbanks Office, Alaska Department of Natural Resources Anchorage office, and the U.S. Fish and Wildlife (USFWS) offices in both Fairbanks and Anchorage. Nineteen callers dialed in to the public meeting and two attendees provided oral comments. Both commenters were elected officials from towns in the surrounding area. Attachment 1 contains a transcript of the public meeting. Additional advertisements and announcements occurred after the public meeting to remind the public of the ongoing scoping comment period.

The Army held an additional scoping meeting for federal, state, and local agency representatives, elected officials, and tribal representatives on October 14, 2021. The agency meeting was held through an online video conferencing platform in the interest of public health. Scoping letters containing the meeting information were mailed to the contacts listed in Attachment 3. Thirty-four people attended the meeting, including members of the Army's project team. Attendees included representatives from the USFWS, ADFG, U.S. Army Corps of Engineers, Alaska Department of Transportation, Alaska Department of Environmental Conservation, the City of Delta Junction, and the Alaska State Senate. Three attendees provided verbal comments. A full transcript of the meeting is included in Attachment 2.

In addition to hosting the two scoping meetings, Army staff attended a Delta Junction City Council meeting on October 19, 2021. The Deputy to the Garrison Commander of USAG Alaska provided testimony about the Army's proposed action and encouraged Delta Junction residents to submit comments on the scope of the analysis for the LEIS by the end of the comment period.

3. Comment Summary

Five written comment letters or emails were received during the scoping period from two private citizens and three public agencies including the City of Delta Junction, USFWS, and Doyon Utilities. The Army also received written comments from the U.S. Environmental Protection Agency and the Alaska Department of Natural Resources Forestry Division after the close of the comment period, which they have accepted. In addition, five verbal comments were submitted during the public and agency scoping meetings. The seven written comment letters and emails and five verbal comments included a total of thirty-three distinct comments. All written comments and emails can be found in Attachment 4.

The primary topics expressed in the scoping comments included suggestions for the resource sections and appropriate level of analysis, general support of the Army's proposed action, the development of alternatives, the rationale for choosing the preferred alternative, impacts to land management under each alternative, and specific requests for content to be covered in the environmental analysis. Overall, most commenters expressed support for continued use of the withdrawn lands for Army training, with suggestions for changes to recreational access. Some commenters expressed concern about the continuation of existing agreements regarding wildland fire management on the withdrawn lands and at the interface between Army lands and adjacent towns. Staff from federal agencies commented on the level of analysis expected for the LEIS and specific resource areas to consider during its development, including habitat conservation and management, wildlife, water resources, air quality, subsistence resources, noise, public access, tribal coordination, and environmental justice.

Comments received during the scoping process will not receive individual responses, but will be addressed in the Draft LEIS.

Attachment 1: Public Meeting Transcript

Transcript from the Land Withdrawal Extension LEIS Public Scoping Meeting

Held October 13, 2021 from 5:00 PM to 7:00 PM

Maggie:

Good evening, everyone. My name is Maggie [inaudible 00:00:07]. I will be tonight's event moderator. Welcome to the public scoping meeting for the Land Withdrawal Extension Legislative Environmental Impact Statement, or LEIS. We'll get started in just a moment to allow for any additional interested parties to join the call. Representatives from the Army's project team will be giving a project overview and providing instruction on how the public can participate in the development of the LEIS. For those of you who are already on the line, if you would like to provide an oral comment this evening, please press zero on your phone keypad at any time and you will be placed in a queue to speak when we reach the comment portion of this meeting.

Maggie:

All right. I will now turn the meeting over to Ms. Laura Sample from the U.S. Army Garrison Alaska to get the meeting going. Laura?

Laura Sample:

Thank you, Maggie. Good evening, everyone. My name is Laura Sample and I am the project manager for this LEIS and one of your speakers for this virtual public meeting. My official title is NEPA Program Manager for the U.S. Army Garrison at Fort Wainwright. Thank you for joining our live virtual public scoping meeting for the Public Law 106-65 Land Withdrawal Extension LEIS at U.S. Army Garrison, Alaska. As health and safety continues to be a top priority, the project team has established this virtual public meeting, which is complimented by our project website in an effort to provide accessible options to the public. Both this meeting and the project website provide the public with opportunities to submit comments on the development of the LEIS. The link to our project website where project information can be found has been provided on our local advertisements for the notice of intent to prepare the LEIS.

Laura Sample:

In addition, the project website link can be easily found by searching for, Legislative Environmental Impact Statement for Land Withdrawal Extension at U.S. Army Garrison Alaska in your preferred search engine. Thank you again for your participation in this public scoping meeting for the LEIS. We will take as many comments from participants as possible during this live event until 7:00 PM. If there are still participants on the line at 7:00 PM, we may continue as needed. If you have a comment, please press zero on your phone keypad at any time, and you will be place in a queue to speak. When it is your turn, our meeting moderator will announce your name, unmute you, and inform you that you're live, and that you may make your comment. We respectfully ask that you please limit your comments to less than two minutes so that we can hear from as many participants as possible within the allotted time for this event.

Laura Sample:

If you have additional follow up statements after you make your initial comment, you can press zero at any time to get back into the queue to speak. The comments from this virtual public meeting will be recorded and transcribed for the project team. Comments received today and throughout the comment period until October 25th will be considered by the project team during the development of the LEIS. All

comments are part of the public record and today's call is being recorded for the project's administrative record. Before we begin taking comments, I will provide a few guidelines. But for now, I would like to invite our host to start the meeting with a brief introduction and welcome.

Laura Sample:

Thank you, Ms. Catherine Miller, Deputy to the Garrison Commander at U.S. Army Garrison Alaska for joining us today and introducing the members of the project team who are on the call to hear comments. Ms. Miller?

Catherine Miller:

Good evening, everyone. My name is Catherine Miller, and as Ms. Sample stated, I am the Deputy to the Garrison Commander at U.S. Army Garrison, Alaska. Thank you to those who are participating this evening in the virtual public scoping meeting for the Land Withdrawal Extension, LEIS. The Army recently announced its intent to prepare a Legislative Environmental Impact Statement, or LEIS to assess potential impacts of continued military use of withdrawn public land in Alaska. These lands are important to the Army's mission to man, train, equip, and organize in the Arctic to protect our nation and preserve the peace.

Catherine Miller:

The information presented in the LEIS will inform a legislative proposal submitted to Congress by the Army and support Congress's decision on granting an extension to the current land withdrawal. The U.S. Bureau of Land Management or BLM has jurisdiction by law over the land extension process, and is a cooperating agency for this LEIS. They are actively participating in its development and review. U.S. Army Garrison Alaska and U.S. Army Alaska acknowledges that the land the army manages and uses for the readiness of the force have provided for its first stewards for generations. Tanana Athabaskans of Alaska past, present, and future, and their dedication to this homeland will be honored by the Army's continually improving stewardship.

Catherine Miller:

The Army will work with Alaska's tribal governments to learn and work in participation and partnership towards sustainable management of those lands for as long as they are needed in support of our warriors. We want to hear from you as we prepare the draft at LEIS. All comments submitted during the scoping period will be reviewed and considered in the development of alternatives and identification of key issues of concern to be evaluated. Scoping comments will not receive individual responses, but will be included in a scoping report and considered during the development of the draft LEIS. Your feedback is important. Comments we receive here as well as those collected through the project website, email and regular mail will be recorded and reviewed by the project team.

Catherine Miller:

On the phone with us this evening, we have several representatives from U.S. Army Garrison Alaska to listen and participate in the telephone public meeting. First is Kate Siftar, Directorate of Public Works, Master Planning Division Chief. Next, we have Elizabeth Cook, Directorate of Public Works Environmental Division, Cultural Resource Manager, and Tribal Liaison. We also have Matthew Sprau, Directorate of Public Works Environmental Division, Planning Branch Chief, Grant Sattler, the Public Affairs Officer for the United States Army Garrison Alaska. And lastly, we have Daniel Reese, Directorate of Public Works Environmental Division, Natural Resources Program Manager.

Catherine Miller:

In addition to the Army's Garrison representatives, we are also joined by Chelsea Kreiner, Realty Specialist and Withdrawal Lead for the BLM's Alaska state office. Thank you for joining us and I look forward to receiving your comments.At this time, I invite you to listen to an overview of the BLM's involvement in the project as a cooperating agency, given by Ms. Chelsea Kreiner from their Realty team. Chelsea?

Chelsea Kreiner:

Thank you for the introduction, Ms. Miller. Good evening. My name is Chelsea Kreiner and I'm a realty specialist and the withdrawal lead for the Bureau of Land Management's Alaska state office. The Bureau of Land Management or BLM is responsible for processing the Army's application to renew the U.S. Army Garrison Alaska's land withdrawal. Together, the BLM's Alaska state office and Eastern Interior Field Office will facilitate the work that our agency is responsible for as well as what the Army has requested our assistance with for this proposed withdrawal renewal. As mentioned, we are a cooperating agency and we'll be providing our knowledge and expertise regarding public lands to assist the Army in developing, preparing, and reviewing the final LEIS.

Chelsea Kreiner:

We will also be completing a variety of other activities to meet our responsibilities under regulation and law, which include surveying the boundaries of the withdrawn lands, completing the subsistence analysis required by section 810 of the Alaska Interest Lands Conservation Act and preparing the case file, which will incorporate the application, the LEIS, and the findings and recommendations to be submitted to the secretary of the interior. While both the Bureau of Land Management and the Department of the Interior have a role in processing this application and developing the information to make a recommendation, the decision to extend the withdrawal can only be made by an act of Congress.

Chelsea Kreiner:

I will now turn the meeting over to Ms. Kate Siftar from the U.S. Army Garrison Alaska Directorate of Public Works, who will provide an overview of the project you were being asked to comment on tonight. Kate?

Kate Siftar:

Thank you, Ms. Kreiner. In 1999, through the Military Lands Withdrawal Act, Congress withdrew nearly 870,000 acres of public land, comprising Yukon Training Area, Donnelly Training Area East, and Donnelly Training Area West, and reserve them for use by the Army. The current withdrawal will expire on November 6th, 2026, unless Congress enacts legislation to extend it. The Army has determined there is ongoing military need for this land in order to one, produce a force train to mobilize, deploy, fight, and win anywhere in the world, including Arctic and Subarctic environments, two, coordinate and conduct operations with the U.S. Air Force, and three, execute and fulfill its mission in Alaska. The Yukon Training Area, Donnelly Training Areas East, and Donnelly Training Area West provide the army with the environmental conditions, space and facilities to meet its ongoing needs. The Army is proposing to extend the existing land withdrawal.

Kate Siftar:

To understand the environmental consequences of the decision to be made, the LEIS will evaluate the reasonably foreseeable effects resulting from the project alternatives. At this time, the alternatives to be

considered include the Army's proposed action to extend the land withdrawal for 25 years or more, or assign control of the lands to the secretary of the Army until such time as the Army determines it no longer needs the lands for military purposes and the no action alternative under which the withdrawal would not be extended and the lands would be returned to the management of the Department of the Interior in accordance with the guidelines presented in Public Law 106-65.

Kate Siftar:

The LEIS will analyze potential impacts to a number of resource areas, including but not limited to recreation, subsistence use, air quality, noise, soils, water quality, air space, archeological sites, traffic, and transportation, and hazardous materials. In addition to the BLM, the Army will also coordinate with appropriate federal state and local agencies, Alaska native tribes, and other members of the public during the LEIS process.

Kate Siftar:

Thank you for listening to this brief project overview. I will now turn it back over to Laura to review our expectations for this virtual public meeting and begin the comment process. Laura?

Laura Sample:

Thank you, Kate. Here are a few notes and expectations for this virtual public meeting. This meeting is part of the public outreach process as required by the National Environmental Policy Act for the Public Law 106-65, Land Withdrawal Extension, LEIS at the U.S. Army Garrison Alaska. The project is currently in the formal 30-day scoping comment period, which ends on October 25th, 2021.

Laura Sample:

In addition to this virtual public meeting, we have a project website that is available at any time during the 30-day comment period, where you can access project materials and submit your comments online. Updated project information and materials will be posted to the project website intermittently throughout the project, including announcements of the availability of the draft LEIS, dates of the future comment period, and responses to public comments. Substantive comments provided by the public and agencies during our ongoing scoping period from September 24th to October 25th will assist us in the development of the draft to LEIS. Once the draft to LEIS is complete, a notice of availability will be published in the federal register and the local newspapers. The public will have an opportunity to review and comment on the proposed action and its potential impacts after the publication of the draft to LEIS, which is anticipated for mid 2022.

Laura Sample:

In addition to this virtual public meeting, you can provide comments on the project through the project website, by email or by written mail. Details on how to submit comments have been provided in local advertisements and can also be easily found by searching for, Legislative Environmental Impact Statement for Land Withdrawal Extension at U.S. Army Garrison Alaska in your preferred search engine.

Laura Sample:

We will be taking as many comments from the public as possible until the virtual public meeting concludes at 7:00 PM. As a reminder, if you have a comment on potential alternatives, information sources, or analysis related to the proposed action, press zero on your phone keypad at any time and you'll be placed in a queue to submit a comment. All commenters who are in the queue by 6:45 PM will be

given the opportunity to provide comments to our project team members. We will let you know when you will be live on the call and can be heard by all participants on the call.

Laura Sample:

We ask that all commenters to use appropriate language and be respectful. Anyone using profanity or demonstrating behavior that would be unacceptable in a public setting will be muted and asked to provide their comments in writing. We respectfully ask that speakers limit comments to two minutes or less so we can hear from as many participants as possible within the allotted time for this event. If you have additional follow up statements after your initial comment, you can press zero to get back in line to speak.

Laura Sample:

As a friendly reminder, comments from this virtual public meeting will be recorded and transcribed for the project team. Comments received today and during the comment period will be considered by the project team during the development of the draft to LEIS. All comments are part of the public record and today's call is being recorded for the project's administrative record. At this time, I will now turn it over to Maggie who will be moderating the meeting. Maggie?

Maggie:

Thank you, Laura. As a reminder to all of those on the call, you may press zero at any time on your phone keypad to enter the queue to make a comment. At this time, I will welcome our first commenter to make his statement. Hello to Mr. Peter Hallgren. I'm going to unmute you. Wait one moment.

Peter Hallgren:

Hello.

Maggie:

Now, you are live and you may begin your comment.

Peter Hallgren:

Okay. Thank you. Can you hear me?

Maggie:

Yes.

Peter Hallgren:

Okay. My name's Peter Hallgren, H-A-L-L-G-R-E-N. I'm the Deputy Mayor for the City of Delta Junction. We just received notice of this public hearing within the last several hours. And I don't believe it's been in the local newspaper. So I don't know if it's anybody else from Delta Junction will even be interested or have heard of it. We didn't find it in the paper when we were looking a few minutes ago. And of course the City of Delta Junction directly joins the Donnelly Training Areas that you're discussing here. So we haven't seen it published. So we don't know if the local populace has received notice of it. We got a notice from the federal register a few days ago. Now, you sent the city a letter a while back, but you addressed it to the former mayor at her home address and she no longer lives there. So we didn't actually receive the letter to Mayor Freda Degnan until about 3:00 o'clock this afternoon.

Peter Hallgren:

Comment we want to make is we're generally very happy with the city having to do with our relationship with Fort Wainwright and the training areas. However, of great importance to us is the existence of a 2006 memorandum of agreement between USAREC and the City of Delta Junction. It was signed by General Jacoby at the time, USARAK Commander, May 13th, 2006. It's USARAK MOA 029. It covers concerns that we had about fire in the area and fire suppression and also potential flooding on Jarvis Creek coming into the town. We have dealt with USARAK and Fort Wainwright since 2006 and I think that what's going on with the fire provisions is really useful and very good, but we're concerned that the MOA may be ignored or somehow superseded by your actions. We don't want you to miss it.

Peter Hallgren:

Generally, we're very happy, particularly with the current fire provisions in the summer that has weekly meetings. They're conducted with the BLM [inaudible 00:19:34] fire service and Fort Wainwright. So just putting in a word, we will have our attorney ... The MOA was a settlement of a federal lawsuit that we brought several years earlier and we don't want to see it disappear. We'll have our attorney send a detailed response by the 25th, and we just don't know what to say. I'll also try to attend tomorrow's agency meeting. We're just not ready at the city right now. We just come across it. Sorry to be so vague.

Maggie:

Thank you Mr. Hallgren.

Peter Hallgren:

If you want a better address for the city, address it to Mary Leith, City Administrator. It's L-E-I-T-H, Mary Leith, L-E-I-T-H, City Administrator, City of Delta Junction, P.O. Box 229. Delta Junction, Alaska, 99737.

Maggie:

Thank you Mr. Hallgren. We appreciate that. At this time, we have no others in our comment queue. This is a reminder to all of those on the line that if you'd like to provide a comment, please press zero on your keypad and you will ... Briefly just give your names to one of our screeners and be placed in the queue to provide a comment.

Maggie:

At this time, I'm going to turn it over to Kate who will be providing a brief frequently asked question and answer. Kate.

Kate Siftar:

What is the army proposing to do? The Department of the Army through the Military Lands Withdrawal Act withdrew 869,862 acres of public land and water area from public use. The withdrawn areas are currently U.S. Army Garrison Alaska training ranges, Yukon Training Area, Donnelly Training Area East and Donnelly Training Area West. The Army has determined that there is a continuing military need for this land and is requesting to extend its use of the three training areas. A legislative proposal is required to withdraw the land.

Laura Sample:

Thank you, Kate. I'll go ahead and provide another frequently asked question. The question is, why does the Army need to prepare an LEIS for the proposed land withdrawal continuation? The National

Environmental Policy Act of 1969 or NEPA and the armies implementing NEPA regulations, 32 CFR Part 651, require the Army to provide an analysis of the environmental impacts that could result from implementing a proposed action or any reasonable alternative, solicit relevant input from all interested parties and make this information available to all stakeholders. Since the proposed action potentially results in significant impacts to the environment, an environmental impact statement, as opposed to an environmental assessment is the appropriate level of NEPA analysis to evaluate potential impacts and identify appropriate mitigation measures. The Army will present the analysis and findings of this LEIS to Congress.

Maggie:

Thank you, Laura. As a reminder to everyone on the call, this is the virtual public scoping meeting for the Land Withdrawal Extension LEIS at U.S. Army Garrison Alaska. The purpose of this meeting is to collect your comments. So to provide a comment, you may press zero on your phone keypad at any time to be placed into a queue to speak. When it is your turn to speak, I will announce your name, unmute you, and inform you that you're live. It can be heard by the rest of the participants. All comments will be considered by the project team during the development of the draft to LEIS. Additionally, you can all also contact the U.S. Garrison Alaska Public Affairs Office for additional information on the project and how to provide comments by email or mail. The phone number for the Public Affairs Office is 907-353-6700. I will now turn it back over to Laura to provide another FAQ and answer. Laura.

Laura Sample:

Thank you, Maggie. So what is a legislative EIS and how is it different than a standard EIS? An LEIS is a detailed NEPA document in an agency's recommendation or report on a legislative proposal to Congress. In this instance, the proposed land withdrawal extension would occur through the Military Lands Withdrawal Act, which requires that the Army submit a legislative proposal to Congress as part of its proposal. An LEIS will be prepared under the provisions of and accordance with NEPA, the CEQ regulations on implementing the procedural provisions of NEPA and the Army NEPA implementing regulations.

Laura Sample:

In more general terms, the LEIS is being prepared to inform Army decision makers, federal state, and local agencies, Alaska native tribes, and the public of potential environmental effects resulting from the proposed action. The primary difference between an LEIS and a standard EIS is that the decision to implement an action will be made by Congress, not the Army and the development of a final LEIS is not required. In addition, the Army will not a record of decision at the end of the NEPA process, but rather the land withdrawal extension process will culminate in drafted legislation, submitted to Congress for approval. Thank you, Maggie.

Maggie:

Thank you, Laura. Just as a general reminder, if you would like to provide comments on the proposed action for consideration within the draft to LEIS, you can press zero on your phone keypad at any time to be placed in the queue. At this time, I will ask Kate Siftar to read another FAQ and answer for us.

Kate Siftar:

Thank you, Maggie. Question, what is the Army's purpose and need for the proposed action? The purpose of the proposed action is to obtain an extension of the land withdrawal of the three training areas for 25

years or more, or have the land assigned to the control of the secretary of the Army until such time as the Army determines it no longer needs the land for military purposes.

Kate Siftar:

The proposed action is needed to ensure that the Army will retain the full and continued use of the training areas to successfully execute and fulfill its mission in Alaska. Access to the withdrawn land enables the Army to produce a force trained to mobilize, deploy, fight, and win anywhere in the world. Army training conditions must match or closely resemble all possible environments throughout the world, including Arctic and Subarctic conditions. In addition to army training needs, the U.S. Air Force plans, conducts, and coordinates air operations in the restricted air space over the withdrawn land. The ability to conduct air to air and air to ground operations in the same air space ensures the effectiveness of this training. Designated impact areas and associated air space within the Army land are the primary site in Alaska for military aircraft air to ground training.

Maggie:

Thank you, Kate. As a reminder, this is the virtual public meeting for the LEIS at U.S. Army Garrison Alaska. The purpose of the meeting is to collect your comments. To provide a comment, you may press zero on your phone keypad at any time and you'll be placed in a queue to speak. When it is your turn, I will announce your name, unmute you, and inform you that you may begin giving your comment. Additionally, you can also contact the U.S. Army Garrison Alaska Public Affairs Office for additional information on the project and how to provide comments by email or mail. The phone number for the Public Affairs Office is 907-353-6700. At this time, we will continue with a few more frequently asked questions and answers. Kate, I will turn it back over to you.

Kate Siftar:

Thank you, Maggie. Question, what is the current condition of the withdrawn land? The Army's need for the withdrawn land is that they present conditions similar to those that may encounter during actual war time situations in cold weather regions around the globe. Therefore, it is intentional that although parts of the withdrawn land are used intensively for military training, most of the area is undeveloped. The land is managed for natural resources values, including fish and wildlife, habitat, water quality, and air quality, as well as cultural resources. Training actions are concentrated into several development zones. Over the past several decades, these parts of the withdrawn land have been minimally developed by addition of such features as firing ranges, airstrips, and-

PART 1 OF 4 ENDS [00:31:04]

Kate Siftar:

Features as firing ranges, airstrips, and access roads and trails. Outside of the development zones, much of the withdrawn land retains undeveloped characteristics.

Maggie:

Thank you, Kate. Laura, I will turn it over to you in just one second. Laura, if you could provide us with the next FAQ, that would be great.

Laura Sample:

So what alternatives are the Army considering [inaudible 00:31:44]. Alternatives to be considered include one, extending the land withdrawal for 25 years or more, or assigning control of the land to the secretary of the Army until such time as the Army determines it no longer needs the land for military purposes. And two, a no action alternative under which the withdrawal would not be extended and uncontaminated portions of the withdrawn land would be returned to management under the Department of the Interior. Other reasonable alternatives raised during the scoping process that can meet the project purpose and need as well as screening criteria will be considered for evaluation in the LEIS. Thank you.

Maggie:

Thank you, Laura. I will again provide a reminder of the purpose of the meeting, which is to collect your comments on the Land Withdrawal Extension Legislative Environmental Impact Statement at US Army Garrison Alaska. To provide a comment, you can press zero on your keypad at any time. We'll announce your name, inform you that you're live, you can be heard by the rest of the participants. All comments will be considered by the project team during the development of the draft LEIS. And the comment queue will close at approximately 6:45 when the meeting will adjourn at 7:00. You can also contact the US Army Garrison Alaska Public Affairs Office for additional information on the project and how to provide written comments by email or mail. The phone number for the public affairs office is 907-353-6700. At this time, I will turn it over to Kate to provide another FAQ. Kate?

Kate Siftar:

Thank you, Maggie. Question. Does the Army have a preferred alternative? Yes. The Army's preferred alternative is to extend the land withdrawal for 25 years or more, or assigning control of the land to the secretary of the Army until such time as the Army determines it no longer needs to land for military purposes.

Maggie:

Thank you, Kate. Up next, we'll have Laura provide another informative piece. Laura?

Laura Sample:

Thank you, Maggie. So what is the schedule for completion of the LEIS? The entire LEIS process is expected to take approximately two years. The process will start with the publication of the notice of intent in the federal register, which marks the beginning of the 30 day scoping period. Virtual public scoping meetings will be held during the scoping period as we are doing now, which is scheduled to begin in fall of 2021. The draft LEIS is anticipated to be published in the summer of 2022. Additional public meetings will be held for the communities of Delta Junction, North Pole, Fairbanks, and Anchorage during the public comment period for the draft LEIS. In accordance with 40 CFR, our NEPA implementing regulations, a final LEIS is not required for the Legislative EIS process. Public comments on the draft LEIS will be submitted as part of the legislative proposal. Thank you.

Maggie:

Thank you, Laura. At this time, I would like to provide another friendly reminder that the purpose of this meeting is to collect your comments on the Land Withdrawal Extension Legislative Environmental Impact Statement. To provide a comment, you may press zero on your phone keypad to placed in the queue. When it's your turn to speak, I will announce your name, unmute you, and let you know you can be heard by the rest of the participants. And then you may proceed to give your comment. All comments will be considered by the project team during the development of the draft LEIS. The comment queue will

close at approximately 6:45 PM. You can also contact the US Army Garrison Alaska Public Affairs Office for additional information on the project and how to provide written comments by email or mail. The phone number for the public affairs office is 907-353-6700. At this time, I will turn it back over to Kate to provide another FAQ. Kate?

Kate Siftar:

Thank you, Maggie. Question. When will the land withdrawal extension go into effect? The land withdrawal extension is planned to be implemented prior to the expiration date of the current withdrawal period in November 2026 to ensure seamless continuation of training activities and facilitate long-term planning and management of the withdrawn land.

Maggie:

Thank you, Kate. At this time, I would like to ask Chelsea to give the next FAQ. Chelsea?

Chelsea:

Thanks, Maggie. The question is, is there a cooperating agency? The US Bureau of Land Management, BLM has agreed to participate as a cooperating agency for the preparation of the LEIS and is actively participating in its development and review.

Maggie:

Thank you, Chelsea. Laura, may I ask you to provide the next FAQ please?

Laura Sample:

Yes. Thank you, Maggie. So will the Army coordinate with other agencies on this project? Throughout the development of the LEIS, the Army will coordinate with appropriate federal, state, and local agencies, Alaska native tribes, and the public about the proposed land withdrawal extension. Agency involvement activities include formal meetings with agency representatives during the scoping period and active consideration of agency comments on the draft LEIS. Thank you, Maggie.

Maggie:

Thank you, Laura. We do have one commenter in the comment queue at this time. Mr. Bryce Ward, you are live and everyone can be heard. Please begin your comment.

Bryce Ward:

Yes, thank you. My name is Bryce Ward. I'm with the Fairbanks North Star Borough. I'm the current borough mayor. And I'm speaking in support of the extension of the agreement or the reassignment of the land management to the secretary of the Army. The lands that are used for training support the Arctic strategy. The Army just came out with that here recently. Also support the training mission for mission readiness. And we're a big part of that here in the Fairbanks area, in support of Fort Wainwright and the troops using that land to be able to train and become well equipped to be able to go out in combat.

Bryce Ward:

The military is also a big part of our economy here locally. So things that we can do to be supportive of that are very much supported by the community in general. But we also do have many different organizations that have been doing work to help promote those different activities here in the interior. So I speak in favor of the extension of the agreement. Or I think reassignment to the secretary of the Army so

you don't have to do this every 25 years is probably appropriate. I think the Army's developed and shown that they are good stewards of that land. And I think it's in the best interest of our community at this time for that extension of that agreement to go on. That's all I have for my comments. Thank you.

Maggie:

Thank you, Mr. Ward. We appreciate your comment. Our commenting queue is currently empty. I would like to remind everyone on the call that this is a virtual public meeting for the Land Withdrawal Extension Legislative Environmental Impact Statement at the US Army Garrison Alaska. And the purpose of this meeting is to collect your comments. So to provide a comment, you may press zero on your phone keypad at any time to be placed in the queue to speak. When it's your turn, I will announce your name, unmute you, and inform you that you're live and can be heard by the rest of the participants. All comments tonight will be considered by the project team during the development of the draft LEIS. You can also contact the US Army Garrison Alaska Public Affairs Office for additional information on the project and how to provide written comments by email or mail. The phone number for the public affairs office is 907-353-6700. At this time, while we wait for any others to enter the comment queue, I'd like to turn it over to Kate to provide another FAQ. Kate?

Kate Siftar:

Thank you, Maggie. Question. How is public input included in the LEIS process? One of the Army's goals as part of the LEIS development is to engage and educate the public about this project. The Army desires to understand the community's interest and concerns regarding this project and has prepared a public involvement plan to ensure that all members of the public have full opportunity to review and comment on the proposed action and alternatives.

Maggie:

Thank you, Kate. I'd like to provide an additional reminder that your comments are important and the purpose of this meeting is to collect your comments for consideration in the draft LEIS. Please feel free to enter the queue at any time by pressing zero on your phone keypad. And we will announce when it is your turn to speak. At this time, I would like to turn it over to Laura to give another FAQ. Laura?

Laura Sample:

Thank you, Maggie. So how can you get involved? There are two primary opportunities during the LEIS process where the public can get involved and provide comments. The first opportunity comes after the NOI is published in the federal register, which happened on 24 September during the 30-day scoping period for the public to learn about the proposed action and provide comments. The Army is hosting public scoping meetings during the scoping period and have advertised them in the Fairbanks Daily News-Miner, the Delta Wind, and the Anchorage Daily News. Comments received during the scoping meetings will help inform and develop the LEIS analysis. The second opportunity for public comment comes when the draft LEIS is published. Notices announcing the availability of the draft LEIS will be published in the federal register and in the Fairbanks Daily News-Miner, the Delta Wind, and the Anchorage Daily News, an additional set of public meetings will be publicized and if feasible, held in person in Fairbanks, Delta Junction, North Pole, and Anchorage.

Laura Sample:

If in person meetings are not possible due to public health concerns, the meetings will be held in a virtual setting. Comments received during the draft LEIS review period will be appended to the draft LEIS and made available to the public through the project website. Thank you, Maggie.

Maggie:

Thank you, Laura. At this time, I will ask Kate to provide another FAQ you for us. Kate?

Kate Siftar:

Thank you, Maggie. Question. Is project information available online? You can learn more about the project by visiting the Army's NEPA website at https://home.army.mil/alaska/index.php/fort-wainwright/nepa. The website provides links to project materials, project schedule, and project updates, and provides methods of submitting comments during the scoping and public comment period.

Maggie:

Thank you, Kate. At this time, I would like to remind anyone who has joined the call since our last comment that this is the virtual public meeting for Public Law 10665, Land Withdrawal Extension Legislative Environmental Impact Statement at US Army Garrison Alaska. The purpose of this meeting is to collect your comments. So to provide a comment, please press zero on your phone keypad, and you'll be placed in a queue to speak. When it is your turn to speak, I will announce your name, unmute you, and inform you that you're live and can be heard by the rest of the participants. All comments will be considered by the project team during the development of the draft LEIS. In addition, you can also contact the US Army Garrison Alaska Public Affairs Office for additional information on the project and how to provide written comments by email or mail. The phone number for the public affairs office is 907-353-6700. The close of the public comment period is October 25th, 2021. At this time, I would like to ask Laura to give another FAQ. Laura?

Laura Sample:

Thank you, Maggie. So can you access information about the project if you don't have a computer? Project information and LEIS documents will be available at the following information repositories. Within Fairbanks, we have them at the Noel Wien Public Library at 1215 Cowles Street. In Delta Junction, we have them at the Delta Community Library at 2291 Deborah Street. In North Pole, at the North Pole Branch Library at 656 North NPHS Boulevard. And in Anchorage, at the Anchorage Public Library at 3600 Denali Street. In the event that the repositories are closed, copies of the draft LEIS may be provided upon request. Thank you.

Maggie:

Thank you, Laura. Kate, could you please provide the next FAQ?

Kate Siftar:

Sure. Question. Does public opinion really matter? Public participation is a key component of the NEPA process. One of the goals of the NEPA process is to promote informed and engaged public and agency involvement. The Army invites and encourages the public to participate throughout the LEIS preparation process.

Maggie:

Thank you, Kate. At this time, I would like to remind everyone on the call that if you would like to provide a comment, you can press zero on your keypad at any time to be placed in the comment queue. When it is your turn to speak, I will call your name, unmute you, and let you know that you are live and can be heard by the rest of the meeting. All comments collected tonight will be considered during the development of the draft LEIS. And the comment queue will be open until approximately 6:45 PM. This meeting will adjourn at 7:00. You can also contact the US Army Garrison Alaska's Public Affairs Office for additional information on the project and how to provide written comments by email or mail. The phone number for the public affairs office is 907-353-6700. At this time, I would like to ask Laura to provide an additional FAQ. Laura?

Laura Sample:

Thank you, Maggie. So how do you submit comments or who can you contact if you have additional questions about the project? So the public may submit comments by mail, email, or directly on the project website at home.army.mil/alaska/index.php/fort-wainwright/nepa. Comments can be mailed to the directorate of public works attention line AMIM-AKP-E (L.sample) 1046 Marks Road Number 4500, Fort Wainwright, Alaska 99703-4500. Comments can be emailed to usarmy.wainwright.id-pacific.mbx.lwe-leis@mail.mil. Please contact the public affairs office at 907-353-6700 with any questions or requests for additional information. Thank you.

Maggie:

Thank you, Laura. This is a reminder to anyone who may have joined the call since our last set. This is the virtual public scoping meeting for the Land Withdrawal Extension Legislative Environmental Impact Statement. The purpose of this call is to collect your comments. And all comments will be considered in the development of the draft LEIS. At this time, I would like to ask if Kate could provide the next FAQ. Kate?

Kate Siftar:

Question. What specific environmental resources and concerns will be addressed in the LEIS? The LEIS will evaluate environmental resource areas that may be affected by the proposed action. The resources to be analyzed include recreational uses of the withdrawn land, subsistence uses according to the Alaska National Interest Lands Conservation Act, section 8-10, air quality, noise, soil, water resources, biological resources, wild land fire, timber management, cultural resources, traffic and transportation, and hazardous materials. The LEIS will also identify mitigation measures that would reduce or eliminate adverse impacts.

Maggie:

Thank you, Kate. At this time, I would like to ask Laura to fill us in on the next FAQ. Laura?

Laura Sample:

Thank you, Maggie. So what are the anticipated environmental impacts? Significant impacts may include economic impacts to the communities of Delta Junction and Fairbanks, recreational and military use of airspace, including currently restricted airspace, utilities and infrastructure, and hazardous and toxic materials and waste. In addition, the Army anticipates minor, moderate, or beneficial impacts to other resources. The intensity of possible impacts would reduced to the degree possible by implementation of avoidance, minimization, and mitigation measures. Thank you, Maggie.

Maggie:

Thank you, Laura. I'd like to provide a general reminder to all those on the call that this is a virtual public meeting for Public Law 10665, Land Withdrawal Extension Legislative Environmental impact statement or LEIS at US Army Garrison Alaska. The purpose of this meeting is to collect your comments. And all comments collected tonight will be considered in the development of the draft LEIS. To provide a comment, please press zero on your phone keypad. And you'll be placed in a queue to speak. When it is your turn to speak, I will announce your name, unmute you, and inform you that you're live and can be heard by the rest of the participants. The comment queue will close at approximately 6:45 and the meeting will adjourn at 7:00. You can also contact the US Army Garrison Alaska Public Affairs Office for additional information on the project and how to provide comments by email or mail. The phone number for the public affairs office is 907-353-6700.

Maggie:

At this time, I would like to ask Kate if she could provide another FAQ for us. Kate?

Kate Siftar:

Question. Will the land withdrawal continuation affect access to the land? No. Implementation of the proposed action will not change access to the land relative to current conditions.

Maggie:

Thank you, Kate. I'd like to remind anyone who would like to make a comment, you can press zero on your keypad at any time to be placed into the queue. At this time, I would like to ask Daniel Reese from the US Army Garrison Alaska to provide a bit of information on GIS at Fort Wainwright. Dan?

Daniel Reese:

Sure. GIS, or geographic information systems, from 2018 to 2020, the US Army Garrison Alaska collected LIDAR data to complete the LIDAR coverage data set across the entirety of its interior Alaska training lands. LIDAR is a light detection and ranging remote sensing method used to examine the surface of the earth by calculating distances between surfaces at a small scale. LIDAR data can be used for visualization and mapping software. Over 20 unique layers have been generated from the initially collected LIDAR flights over Garrison lands. This data has been used to visualize tree hazards, storm water systems, wetlands, trail placement, hydrological flow dynamics, and an assortment of other applications.

Daniel Reese:

Us Army Garrison Alaska managed lands offers a variety of recreational opportunities from hunting to hiking, to fishing that are popular with residents and tourists in Alaska. To facilitate military safety and proper recreational use, the GIS department has created over 50 maps that are developed from this LIDAR that provide information on access, rules and regulations, and navigation. These maps and other resources pertaining to recreating on Army training lands are available at https://usartrak.isportman.net.

Maggie:

Thank you, Dan. I'd like to remind everyone on the call that this is the virtual public scoping meeting for the Land Withdrawal Extension Legislative Environmental Impact Statement. If you'd like to provide a comment, please press zero on your phone keypad at any time to enter the comments queue. While we wait for speakers to fill our queue, I would like to ask Elizabeth Cook the cultural resources and tribal

liaison from the US Army Garrison Alaska to provide us a little bit of insight on archeological sites. Ms. Cook?

Elizabeth Cook:

Thank you, Maggie. The US Army Garrison Alaska manages over 700 known archeological sites, dating from the first inhabitants of North America to the Homestead period. The majority of these sites represent short term occupations of days to weeks. However, a few are large campsites that were visited many times since the end of the last glacial period. Only 14% of Army managed lands have been surveyed for archeological sites to date. Many sites are yet to be discovered. Every summer, archeologists search for archeological sites in preparation for Army projects involving ground disturbance.

Maggie:

Thank you, Ms. Cook. At this time, I would like to remind everyone on the call that this is the virtual public scoping meeting for the Land Withdrawal Extension Legislative Environmental Impact Statement. The purpose of this call is to collect your comments. And all comments collected will be considered in the development of the draft LEIS. If you'd like to provide a comment, you may press zero on your phone keypad at any time to be entered into the speaking queue. When it is your turn to speak, I will announce your name, unmute you, and let you know it is your time to speak. Additionally, you may contact the US Army Garrison Alaska Public Affairs Office for more information on the project and how to provide written comments by email or mail. The phone number for the public affairs office is 907-353-6700. At this time, as we wait for those folks to enter the comment queue, I would like to ask Dan Reese to provide a little more information on natural resources on the withdrawn lands. Dan?

Daniel Reese:

Sure. Our next subject, the wetlands.

PART 2 OF 4 ENDS [01:02:04]

Daniel Reese:

Our next subject can be wetlands. Approximately 217,000 acres of US Army Garrison Alaska managed lands have been surveyed for wetlands. Of those, more than 20%, or 46,000 acres, have been classified and mapped as wetland.

Daniel Reese:

In some areas, like the Tanana Flats and west of the Delta River, such as Donnelly Training Area West, wetlands make up between 30% and 50% of surveyed land. From black spruce bogs to herbaceous fens, these wetlands represent a range of vegetation and habitat types. Moving forward, the recent integration of LIDAR data and a predictive wetlands model will improve the efficiency and accuracy of wetland mapping.

Maggie:

Thank you, [Dan 01:02:56]. At this time, I would like to ask Ms. [Cook 01:03:04] to provide a little bit of insight on Indigenous people of Alaska. Ms. Cook?

Elizabeth Cook:

Thank you, [Maggie 01:03:12]. People have lived in the Tanana and Delta River Valleys, the locations of US Army Garrison Alaska managed land, for thousands of years. Evidence of this is in the radio-carbon dates of ancient sites, but also in the Dena'ina language of local Athabaskan people.

Elizabeth Cook:

One great example is in the Middle Tanana Dena'ina word for Donnelly Dome. It translates to "heart among the glaciers" in English. Since glaciers had receded south of Donnelly Dome by 9,000 years ago, this is a very ancient place name, dating to the end of the last glacial period. This term must have been passed down through spoken language for at least 10,000 years.

Maggie:

Thank you, [Elizabeth 01:04:02].

Maggie:

For those who are just joining the call, this is the virtual public scoping meeting for the Land Withdrawal Extension Legislative Environmental Impact Statement. The purpose of this call is to collect your comments. All comments will be considered in the development of the LEIS.

Maggie:

If you'd like to provide a comment tonight, you may press zero on your phone keypad at any time to be placed into a speaking queue. When it is your turn to speak, I will announce your name, unmute you, and inform you that you are live and can be heard by the rest of the meeting.

Maggie:

While we wait for folks to join our speaker queue, I would like to ask Dan [Reese 01:04:53] to provide some more information about natural resources on the withdrawn lands. Dan?

Daniel Reese:

All right. Let's talk about invasive species. Roads, trails, and other developed areas have been extensively surveyed for invasive plant species across US Army Garrison Alaska managed lands.

Daniel Reese:

More than 3,500 invasive plant populations have been identified. The most common species are bird vetch and white sweet clover, which spread to new areas by vehicles, construction equipment, and fill material, and other human vectors. Two other common species, perennial sow thistle and bird cherry are becoming increasingly abundant along rivers where the spread of seed is further intensified by means of the river. To manage invasive populations, an array of chemical and manual treatments have been applied on US Army Garrison Alaska lands to control priority populations in sensitive areas and to mitigate further spread along corridors.

Maggie:

Thank you, Dan.

Maggie:

At this time, I would like to ask Elizabeth if you could please provide us with some more information on cultural resources on the withdrawn lands? Elizabeth?

Elizabeth Cook:

Ancient people living in the Tanana River Valley relied on stone for hunting weapons, cutting implements, and cooking. Popular tool stones of the past include rock found in local glacial and river deposits like chert, rhyolite, basalt, and quartzite.

Elizabeth Cook:

One type of coveted tool stone is a volcanic rock called obsidian. Obsidian is known from just a handful of source locations in Alaska and the nearby Yukon, including Batza Tena on the Koyukuk River in the Brooks Range, Wiki Peak in the Wrangell-St. Elias Mountains, and Hoodoo Mountain and Mount Edziza in the Yukon Territory. Obsidian artifacts from US Army Garrison Alaska managed sites can be chemically sourced to all of these locations. People likely traded for this popular rock and traveled great distances to mine it.

Maggie:

Thank you, Elizabeth.

Maggie:

I would like to just remind anyone who has joined the call that this is the virtual public scoping meeting for the Land Withdrawal Extension Legislative Environmental Impact Statement at US Army Garrison Alaska. The purpose of this meeting is to collect your comments. All comments will be considered during the development of the draft LEIS.

Maggie:

To provide a comment, you can press zero on your phone keypad and you will be placed in a queue to speak. When it is your turn, I will announce your name, unmute you, and inform you that you're live and can be heard by the rest of the meeting's participants. Comment queue will close at approximately 6:45, and the meeting will adjourn at 7:00 PM.

Maggie:

You can also contact the US Army Garrison Alaska Public Affairs Office for additional information on the project, and how to provide comments by email or mail. The phone number for the Public Affairs Office is (907)353-6700.

Maggie:

While we wait for folks to join our comment queue, I would like to ask Mr. Dan Reese to provide more information on natural resources at the withdrawn lands. Dan?

Daniel Reese:

Okay. Next subject, eDNA for Chinook salmon. Environmental DNA, or eDNA, is a valuable, cost effective tool that can help managers understand where different species exist in the environment. For example, researchers have used eDNA to model how lynx move across a snowpack, or to map the distribution of rare plant species in a wetland.

Daniel Reese:

The US Army Garrison Alaska Environmental Division used eDNA to sample under-ice conditions in streams to infer presence of juvenile Chinook salmon within its training lands. In a recently published journal article, an undergraduate student from the University of Alaska Fairbanks presented eDNA detection data gathered from Army lands that offered strong evidence of the location of overwintering juvenile Chinook salmon. The high distribution sampling of Chinook eDNA from this study will allow future researchers to target specific areas to gather physical samples and avoid low probability areas, which will streamline the mapping of Chinook salmon habitat and aid in resource management efforts.

Maggie:

Thank you, Dan.

Maggie:

At this time, I would like to ask Ms. Cook to provide us with some more information on cultural resources on the Army lands in Alaska. Ms. Cook?

Elizabeth Cook:

Thanks, Maggie.

Elizabeth Cook:

Here's a little information about the history of Fort Wainwright. The Ladd Field National Historic Landmark is recognized for the role it played in early cold weather testing as the transfer point of Lend-Lease aircraft during World War II, as the northern headquarters of the Air Transport Command. It is one of 2,500 national historic landmarks in the nation, designated in 1985 by the National Park Service and listed on the National Register of Historic Places for its significance in interpreting our nation's heritage.

Maggie:

Thanks, Elizabeth.

Maggie:

I'd like to provide a reminder that this is the virtual public scoping meeting for the Land Withdrawal Extension Legislative Environmental Impact Statement. Purpose of this meeting is to collect your comments.

Maggie:

To provide a comment, please press zero on your phone keypad, and you'll be placed in a queue to speak. When it is your turn, I will announce your name, unmute you, and inform you that you are live and can be heard by the rest of the meeting's participants. All comments collected tonight will be considered by the project team during the development of the draft LEIS. The comment queue will close at approximately 6:45, and the meeting will adjourn at 7:00.

Maggie:

You may also contact the US Army Garrison Alaska Public Affairs Office on additional information on the project and how to provide comments by email or mail. The phone number for the Public Affairs Office is (907)353-6700.

Maggie:

At this time, we will continue providing some background information on the natural resources of the withdrawn lands. I would like to ask Dan Reese if he could provide our next topic of conversation. Dan?

Daniel Reese:

All right. Our next topic is songbirds. US Army Garrison Alaska is home to over 35 common neotropical migrants, otherwise known as songbirds. These birds, which are often the size of a computer mouse, fly to Central or South America to nest, breed, and feed on the bounties of Alaska summers, which means mosquitoes and other non-mosquito insects like bees and spiders.

Daniel Reese:

The Environmental Division conducted songbird or neotropical migrant bird surveys at over 250 unique locations across US Army Garrison Alaska managed lands in interior Alaska. The goals of the project were to model species composition, identify high use areas of all species, and predict occupancy for species that are rare, of national concern, specifically the olive-sided flycatcher and rusty blackbird. The data collected suggests that high use, high density areas commonly overlap where olive-sided flycatcher and rusty blackbirds occupy.

Daniel Reese:

These areas tend to edge habitat at the border of spruce and birch stands and open into wet grasslands that are very common in the boreal forest. These high use, high density songbird areas rarely overlap with commonly used military training areas. When they do, however, the Army will have improved information to aid in the mitigation of potential impacts to songbird species.

Maggie:

Thank you, Dan.

Maggie:

At this time, I would like to ask Ms. Cook to provide some more information on cultural resources around the withdrawn lands. Ms. Cook?

Elizabeth Cook:

Here's a little information about the Cold War heritage of Fort Wainwright. The Ladd Air Force Base Cold War historic district was determined eligible for inclusion in the National Register of Historic Places in 2001. It was recognized as the home of fighter intercept squadrons and the 46th/72d Reconnaissance Squadron that protected our nation's northern and western borders by monitoring Soviet activities in these regions, and scrambling to meet our adversaries when they ventured too close.

Maggie:

Thank you, Elizabeth.

Maggie:

At this time, I would like to provide another reminder that this is the virtual public scoping meeting for the Land Withdrawal Extension Legislative Environmental Impact Statement at US Army Garrison

Alaska. The purpose of this call is to collect your comments. All comments collected this evening will be considered by the project team during the development of the draft LEIS.

Maggie:

To provide a comment, please press zero on your phone keypad, and you'll be placed in a queue to speak. When it is your turn, I will announce your name, unmute you, and inform you that you're live and can be heard by the rest of the participants. All comments will be considered by the project team during the development of the draft LEIS. The comment queue will close at approximately 6:45, and the meeting will adjourn at 7:00.

Maggie:

You can also contact the US Army Garrison Alaska's Public Affairs Office. For additional information on the project and how to provide comments by email or mail, the phone number for the Public Affairs Office is (907)353-6700.

Maggie:

At this moment, we do not have any speakers in the queue, so I would like to turn it over again to Mr. Dan Reese to provide some the more information on natural resources on the withdrawn lands. Dan?

Daniel Reese:

Our next subject, a shorebird study. US Army Garrison Alaska managed lands are home to a surprisingly large population of shorebirds. These species include migrants such as the lesser yellowlegs, sandpipers, snipes, and one of the very few populations of whimbrels located just behind Donnelly Dome in Donnelley Training Area. These shorebirds can be found in a wide variety of places that include low wetland bogs, banks of glacial streams, and the high Alpine, all of which are habitat types that characterize the diversity of the boreal forest.

Daniel Reese:

Although shorebird densities are low compared to coastal Alaska, a recent US Army Garrison Alaska environmental study concluded that over 45,000 shorebirds nest and breed on US Army Garrison Alaska lands, including four species on the US Fish and Wildlife Service List of species of conservation concerns, the lesser yellowlegs, the solitary sandpiper, whimbrels, and upland sandpipers. If we extrapolate the findings from this research, roughly 8% of all nesting shorebirds in Alaska nest and breed in the boreal forest in interior Alaska.

Maggie:

Thank you, Dan.

Maggie:

At this time, I would like to ask Elizabeth to provide some more information on cultural resources. Elizabeth?

Elizabeth Cook:

Here's a word about cold weather engineering at Fort Wainwright. Breaking ground in 1939, Ladd Field and the north coast of what is now Fort Wainwright were built under harsh Alaskan conditions.

Elizabeth Cook:

Buildings and structures in the Ladd Field National Historic Landmark include engineering marvels. Underground utility corridors kept utility lines from freezing, provided a heated path for pedestrian commuters, and kept aboveground sidewalks snow free. Buildings were constructed to keep the cold away from their occupied spaces. For example, a short flight of stairs inside the entry doors kept heavy, cold air below the first floor working and living spaces.

Maggie:

Thank you, Elizabeth.

Maggie:

This is a reminder to anyone who may have joined the call that this is the virtual public scoping meeting for the Land Withdrawal Extension Legislative Environmental Impact Statement at US Army Garrison Alaska. The purpose of this call is to collect your comments. All comments collected this evening will be considered by the project team during the development of the draft LEIS.

Maggie:

If you would like to provide a comment, please press zero on your phone keypad to be placed in a queue to speak. When it is your turn, I will call on your name, unmute you, and announce that you are live and can be heard by the rest of the meeting participants.

Maggie:

Details on how to submit comments can also be found on the project's website, which can easily be found by searching for "Legislative Environmental Impact Statement for Land Withdrawal Extension at US Army Garrison Alaska" in your preferred search engine. You can also contact the US Army Garrison Alaska's Public Affairs Office for additional project information and specifics on how to provide written comments. The phone number for the Public Affairs Office is (907)353-6700.

Maggie:

At this time, we don't have anybody in the comment queue, so I will turn it back over to Dan Reese to provide us some more information on natural resources. Dan?

Daniel Reese:

All right. Our next subject, bat maternity roost. US Army Garrison Alaska's Yukon Training Area has the first documented maternity bat roost that is not a manmade structure. Generally, little brown bats, the only bat species found in interior Alaska, roost in buildings across interior Alaska.

Daniel Reese:

Little is known about the interior little brown bats, specifically where they spend their winters. Do they migrate? Do they overwinter in dormant, underground caves or mines? The US Army Garrison Alaska environmental office has put significant effort into determining when they are detectable on US Army Garrison Alaska managed lands, and where they can be found.

Daniel Reese:

Through this effort, it was found that little brown bats are detectable using high frequency recording starting in March all the way into November. They generally like to roost in deciduous lowland forests near areas with high insect density and diversity. Before little brown bat research was conducted on US Army Garrison Alaska managed lands, there was no evidence that these bats had a maternity roost anywhere other than roofs of insulated buildings. No roost could be found anywhere else.

Daniel Reese:

In 2019, that changed. Researchers captured several little brown bats from a building on Fort Wainwright and tracked them to three separate tree cavities all in the same general area in the Yukon Training Area. They monitored these tree cavities over the next few weeks. As the sun went down, on one particular evening in one particular tree, roughly 50 bats of all cohorts emerged and filled the sky, hunting for insects. This became the first non-building maternity roost documented in interior Alaska.

Maggie:

Thank you, Dan. That's very interesting information on bats.

Maggie:

At this time. I would like to turn it over to Ms. Cook to provide us with a little bit more information on cultural resources around the withdrawn lands. Ms. Cook?

Elizabeth Cook:

Word about the history of the Army coming to Alaska. In 1934, Lieutenant Colonel Henry "Hap" Arnold led the Alaska Flight, 10 B-10 bombers traveling to Fairbanks from Washington DC. The mission was to scout for locations where installations could be constructed, as Alaska was vital to defending the nation.

Elizabeth Cook:

As Congress debated the funding for such construction, General William "Billy" Mitchell stated it succinctly when he told Congress, "Alaska is the most central place in the world for aircraft. I believe, in the future, he who holds Alaska will hold the world."

Maggie:

Thank you, Elizabeth.

Maggie:

Like to provide a reminder that if you'd like to provide a comment or have the opportunity to speak, please press zero on your phone keypad at any time to be placed into the commenting queue. The purpose of this meeting is to collect your comments, and we'd like to hear from you.

Maggie:

You can also contact the US Army Alaska Public Affairs Office in order to get more information on the project and how to provide comments via email or mail. The phone number for the Public Affairs Office is (907)353-6700. All comments collected tonight and throughout the comment period through October 25th will be considered by the project team during the development of the draft LEIS. Once again, if you'd like to be placed into the queue to speak, please press zero on your phone keypad at any time.

Maggie:

At this time, I would like to turn it back over to Dan to provide some more information about natural resources. Dan?

Daniel Reese:

Our next subject is cranes. Each fall, around the end of September, sandhill cranes follow the Tanana River through Delta Junction and Donnelly Training Area during migration. They overnight on the Delta River, which cuts through the middle of Donnelley Training Area East.

Daniel Reese:

The migratory pattern of these cranes is an environmental consideration during military training exercises at the end of September. It's also an opportune time for military training to occur. With this overlap in mind, US Army Garrison Alaska Environmental Office worked with a research group to determine the best method to identify early detection of cranes as they approach the river to bed down for the night. Identifying where the cranes are located each evening informs when and where training can occur, and avoids potential impacts to the resting cranes.

Daniel Reese:

The three best methods for identification were infrared scopes, specialized sonar tuned to detecting birds and not aircraft, and traditional binoculars and ears. Each person standing at a firing point using their eyes and ears is still the best method to detect cranes as the sun goes down, but the infrared scopes can detect cranes as they bed down after sunset.

Maggie:

Thank you, Dan.

Maggie:

This is a reminder to anyone on the call that if you would like to provide a comment, please press zero on your keypad at any time to enter the queue.

Maggie:

At this time, I would like to ask Elizabeth to provide another piece of information for us pertaining to the withdrawn lands. Elizabeth?

Elizabeth Cook:

Here's a word about Fort Wainwright's namesake, General Wainwright. In 1961, the Army reassumed control of Ladd Field from the Air Force and dedicated it to Jonathan Mayhew Wainwright IV, a career officer and a commander of Allied forces in the Philippines at the time of their surrender to the Empire of Japan during World War II. He was the most senior ranking prisoner of war during the war, and saved the lives of thousands of personnel through his surrender. He received the Medal of Honor for his courageous leadership.

Maggie:

Thank you, Ms. Cook.

Maggie:

This is a reminder that this is the virtual public scoping meeting for the Land Withdrawal Extension Legislative Environmental Impact Statement at US Army Garrison Alaska. The purpose of this meeting is to collect your comments. We'd love to hear from you. To provide a comment, please press zero at any time on your keypad, and you'll be placed in a queue to speak.

Maggie:

You can also get in touch with the US Army Garrison Alaska Public Affairs Office for additional information on the project and how to provide written comments by email or mail. The phone number for the Public Affairs Office is (907)353-6700. In addition to this virtual public meeting, information can be found on the project website, which can be easily found by searching for "Legislative Environmental Impact Statement for Land Withdrawal Extension at US Army Garrison Alaska" in your preferred search engine. Once again, if you would like to get into the queue to speak, please press zero at any time.

Maggie:

Now I'd like to turn it back to Dan to give us some information about bison. Dan?

Daniel Reese:

All right. The bison that live near Delta Junction and roam the Donnelly Training Area today were reintroduced to the area in 1928. Bison were abundant in the grasslands of the Tanana and Delta River Valleys during the last glacial period. Archeological sites in the area have evidence of people hunting and eating bison until about 3,000 years ago. After that there are no traces of bison until 1928. Remains of bison meals were found buried in silt deposits with some stone tools at archeological sites such as Delta River Overlook in Donnelly Training Area.

Maggie:

Thank you, Dan.

Maggie:

This is a reminder that this is the virtual public scoping meeting for the Land Withdrawal Extension LEIS. If you'd like to provide a comment at any time, please press zero on your phone keypad to be placed into the queue to speak.

Maggie:

This time, I would like to ask Elizabeth to provide some more information on archeological sites near the withdrawn lands. Elizabeth?

Elizabeth Cook:

Archeology is everywhere on army-managed lands. The McDonald Creek Archeological Site near Blair Lakes in the Tanana Flats Training Area is the second oldest site in Alaska and one of the oldest sites in all of North America. It dates to 13,900 years ago.

Elizabeth Cook:

This ancient campsite is a location of a bison-butchering event. While the site inhabitants spent several weeks living off the large animal, they also hunted waterfowl and trapped small fur-bearing animals. The bones of these animals and stone cutting tools were preserved in windblown silt deposits a meter below

the modern surface. Metal artifacts dating to the time before European influence in Central Alaska are rarely discovered in US Army Garrison Alaska managed archeological sites.

Elizabeth Cook:

In the last thousand years, the ancestors of modern Athabaskan people-

PART 3 OF 4 ENDS [01:33:04]

Elizabeth Cook:

... the ancestors of modern [inaudible 01:33:03] and people made arrowhead from hammered copper derived from copper nodules found in the Copper River Valley in south central Alaska. The copper nodules were hammered into sheets and cut or shaped into tools. Once, such copper arrowhead was found at an archeological site in Donnelley Training Area, bow and arrow technology likely dates to about 1200 years ago in this part of the United States.

Maggie:

Thank you, Elizabeth. At this time, I'd like to remind everyone on the call that this is the virtual public meeting for the Land Withdrawal Extension Legislative Environmental Impact Statement at US Army Garrison, Alaska. The purpose of this meeting is to collect your comments. All comments received tonight will be considered by the project team during the development of the draft, LEIS. To provide a comment, please press zero on your phone keypad at any time and you'll be placed in a queue to speak. When it is your turn to speak, I'll announce your name, unmute you, and inform you that you're live and can be heard by the rest of the participants. The comment queue will close at approximately 6:45 and the meeting will adjourn at 7:00.

Maggie:

You can also contact the US Army Garrison, Alaska Public Affairs Office for additional information on the project and how to provide comments by email or mail. The phone number for the Public Affairs Office is 907-353-6700. Details on how to submit comments in writing have also been provided in local advertisements and can be found on the project website, which can be found online by searching for the Legislative Environmental Impact Statement for Land Withdrawal Extension at US Army Garrison, Alaska in your preferred search engine. Again, if you would like to provide comments, please press zero at any time to enter the queue to speak. At this time, we will be reviewing some frequently asked questions about the project. I would like to ask Kate to explain what the Army is proposing to do. Kate?

Kate:

Thank you, Maggie. The Department of the Army through the Military Lands Withdrawal Act withdrew 869,862 acres of public land and water area from public use. The withdrawn areas are currently US Army Garrison, Alaska training ranges, Yukon Training Area, Donnelley Training Area East and Donnelley Training Area West. The Army has determined that there is a continuing military need for this land and is requesting to extend its use of the three training areas. A legislative proposal is required to withdraw the land.

Maggie:

Thank you, Kate. At this time, I would like to ask Laura, why does the Army need to prepare an LEIS for the proposed land withdrawal continuation?

Laura Sample:

Thank you, Maggie. [NPA 01:36:46] and the Army's implementing NPA regulations require the Army to provide an analysis of the environmental impacts that could result from implementing a proposed action or any reasonable alternative. Solicit relevant input from all interested parties and make this information available to all stakeholders. Since the proposed action potentially results in significant impacts to the environment an environmental impact statement, as opposed to an environmental assessment is the appropriate level of NPA analysis to evaluate potential impacts and identify appropriate mitigation measures. The Army will present the analysis and findings of this LEIS to Congress.

Maggie:

Thank you, Laura. This is a reminder to everyone on the call that this is the virtual public meeting for the Land Withdrawal Extension Environmental Impact Statement at US Army Garrison, Alaska. The purpose of this meeting is to collect your comments and all comments received tonight and throughout the rest of the comment period through October 25th will be considered by the project team during the development of the LEIS. If you'd like to provide a comment, please press zero on your phone keypad and you'll be placed in queue speak. When it is your turn to speak, I will announce your name, unmute you, and inform you that your live and can be heard by the rest of the audience. The comment queue will close at approximately 6:45 and the meeting will adjourn at 7:00.

Maggie:

Additionally, you can contact the US Army Garrison, Alaska Public Affairs Office for more information on the project and how to provide comments by email or mail. The phone number to the Public Affairs Office is 907-353-6700. Details on how to submit comments have also been provided in local advertisements and can be found on the project website. To access the project website, please search for legislative environmental impact statement for land withdrawal extension at US Army Garrison, Alaska in your preferred search engine. Again, if you would like to provide a comment, please press zero on your phone keypad at any time. At this point, I would like to ask Laura to provide another FAQ on the project. Laura?

Laura Sample:

Thank you, Maggie. So what is a legislative environmental impact statement and how is it different than a standard EIS? An LEIS is a detailed NPA document in an agency's recommendation or report on a legislative proposal to Congress. In this instance, the proposed land withdrawal extension would occur through the Military Lands Withdrawal Act, which requires that the Army submit a legislative proposal to Congress as part of its proposal. An LEIS will be prepared under the provisions of and accordance with NPA. The council and environmental quality regulations and the Army NPA implementing regulations.

Laura Sample:

In more general terms, the LEIS is being prepared to inform Army decision makers, federal, state, and local agencies, Alaska native tribe, and the public of potential environmental effects resulting from the proposed action. The primary difference between an LEIS and a standard EIS is that the decision to implement an action will be made by Congress, not the Army, and that the development of a final EIS is not required. In addition, the Army will not prepare a record of decision at the end of the process, but rather the land withdrawal extension process will culminate in drafted legislation submitted to Congress for approval. Thank you.

Maggie:

Thank you, Laura. This is a reminder that this is the virtual public scoping meeting for the Land Withdrawal Extension, LEIS. The purpose of this meeting is to collect your comments. If you'd like to provide a comment, please press zero on your phone keypad at any time to be placed into a queue to speak. Additionally, you may contact the US Army Garrison, Alaska's Public Affairs Office for more information on the project and how to provide written comments by email or mail. The phone number for the Public Affairs Office is 907-353-6700. At this time, I would like to turn it over to Kate to explain what the Army's purpose and need for the proposed action is. Kate?

Kate:

Thanks, Maggie. The purpose of the proposed action is to obtain an extension of the land withdrawal of the three training areas for 25 years or more, or have the land assigned to the control of the Secretary of the Army until such time as the Army determines it no longer needs the land for military purposes. The proposed action is needed to ensure that the Army will retain the full and continued use of the training areas to successfully execute and fulfill its mission in Alaska. Access to the withdrawn land enables the Army to produce a force trained to mobilize, deploy, fight, and win anywhere in the world. Army training conditions must match or closely resemble all possible environments throughout the world, including Arctic and subarctic addition. In addition to Army training needs, the US Air Force plans, conducts, and coordinates air operations in the restricted airspace over the withdrawn land. The ability to conduct air-to-air and air-to-ground operations in the same airspace ensures the effectiveness of this training. Designated impact areas and associated airspace within the Army land are the primary site in Alaska for military aircraft air-to-ground training.

Maggie:

Thank you, Kate. For those still joining us, if you'd like to provide a comment on the proposed action, the alternatives to consider, or anything else you would like the project team to consider during the development of the draft LEIS, please press zero at any time to enter the comment queue. When it is your turn to speak, I will announce your name, unmute you, and inform you that you're live and can be heard by the rest of the participants. All comments received tonight and through the end of the scoping period on October 25th will be considered by the project team during the development of the draft LEIS. You can also contact the US Army Garrison, Alaska Public Affairs Office for additional information on the project and how to provide written comments by email or mail. The phone number for the Public Affairs Office is 907-353-6700. Details on how to submit comments have also been provided in local advertisements and can be found on the project website.

Maggie:

To access the project website, please search for legislative environmental impact statement for land withdrawal extension at US Army Garrison, Alaska in your preferred search engine. Again, if you would like to provide oral testimony tonight, please press zero on your phone keypad at any time to be placed in the queue to speak. At this time, we'll be leaving the comment queue open until the close of the meeting as we do not have anyone in the queue at the moment. We have approximately 15 minutes left in the virtual public scoping meeting. At this time, I would like to ask Kate to provide another FAQ for us this evening. Kate, what is the current condition of the withdrawn land?

Kate:

The Army's need for the withdrawn land is that they present conditions similar to those that may be encountered during actual war time situations in cold weather regions around the globe. Therefore, it is intentional that although parts of the withdrawn land are used intensively for military training, most of the area is undeveloped. The land is managed for natural resources values, including fish and wildlife habitat, water quality and air quality, as well as cultural resources. Training actions are concentrated into several development zones. Over the past several decades, these parts of the withdrawn land have been minimal developed by addition of such features as firing ranges, air strips, and access roads and trails. Outside of the development zones, much of the withdrawn land retains undeveloped characteristics.

Maggie:

Thank you, Kate. Laura, what alternative is the Army considering for the land withdrawal?

Laura Sample:

Alternatives to be considered include one, extending the land withdrawal for 25 years or more or assigning control of the land to the Secretary of the Army until such time as the Army determines it no longer needs the land for military purposes, and two, a no action alternative under which the withdrawal would not be extended and uncontaminated portions of the withdrawn land would be returned to management under the Department of the Interior. Other reasonable alternatives raised during the scoping process that can meet the project purpose and need as well as screening criteria will be considered for evaluation in the LEIS. Thank you.

Maggie:

Thank you, Laura. At this time, I would like to remind everyone on the call that this is the virtual public scoping meeting for the Land Withdrawal Extension Legislative Environmental Impact Statement, or LEIS, at US Army Garrison, Alaska. The purpose of this meeting is to collect your comments. So to provide a comment, please press zero on your phone keypad at any time and you'll be placed in a queue to speak. When it is your turn, I will announce your name, unmute you, inform you that you're live and can be by the rest of the audience. All comments will be considered by the project team during the development of the draft LEIS. The comment queue will remain open until the end of this meeting at 7:00 PM. You can also contact the US Army Garrison, Alaska Public Affairs Office for additional information on the project and how to provide written comments by email or mail. The phone number for the Public Affairs Office is 907-353-6700.

Maggie:

Details on how to submit comments have also been provided in local advertisements and can be found online at the project website. To access the project website, please search for legislative environmental impact statement for land withdrawal extension at US Army Garrison, Alaska in your preferred search engine. We have approximately 10 minutes left in tonight's public meeting. If you would like to provide oral testimony before the end of the meeting, please press zero on your phone keypad to enter the queue to speak. At this time, we'll answer a few more frequently asked questions. I'd like to ask Kate, does the Army have a preferred alternative?

Kate:

Yes, the Army's preferred alternative is to extend the land withdrawal for 25 years or more or assigning control of the land to the Secretary of the Army until such time as the Army determines it no longer needs the land for military purposes.

Maggie:

Thank you, Kate. Laura, I would like to ask what is the schedule for completion of the LEIS?

Laura Sample:

The entire LEIS process is expected to take approximately two years. The process started with the publication of the notice of intent in the federal register on September 24th, which marks the beginning of the 30-day scoping period. Virtual public scoping meetings are being held during this scoping period. The draft LEIS is anticipated to be published in the summer of 2022. Additional public meetings will be held for the communities of Delta Junction, North Pole, Fairbanks, and Anchorage during the public comment period for the draft LEIS. In accordance with our NPA regulations, a final LEIS is not required for the legislative EIS process. Public comments on the draft LEIS will be submitted as part of the legislative proposal. Thanks, Maggie.

Maggie:

Thank you, Laura. For the next reminder, I'd like to do one more FAQ for Kate. When will the land withdrawal extension go into effect?

Kate:

The land withdrawal extension is planned to be implemented prior to the expiration date of the current withdrawal period in November, 2026 to ensure seamless continuation of training activities and facilitate long-term planning and management of the withdrawn land.

Maggie:

Thank you, Kate. At this time, I would like to provide a reminder that this is the virtual public meeting for the Land Withdrawal Extension Legislative Environmental Impact Statement. The purpose of this meeting is to collect your comments and all comments received this evening will be considered by the project team during the development of the draft LEIS. To provide a comment, please press zero on your phone keypad and you'll be placed in a queue to speak. When it is your turn to speak, I will announce your name, unmute you, and inform you that you're live and can be heard by the rest of the participants. The comment queue will remain open until the end of this meeting. We have approximately seven minutes left. Alternatively, you can contact the US Army Garrison, Alaska Public Affairs Office for additional project information and information on how to provide written comments by email or mail.

Maggie:

The phone number for the Public Affairs Office is 907-353-6700. Additional details and project information is also located on the project website, which can easily be found by searching for legislative environmental impact statement for land withdrawal extension at US Army Garrison, Alaska in your preferred search engine. At this time, we have no one in our speaker queue, so if you'd like to make a comment, please press zero and we will put you through to make comments. At this time, I would like to ask Chelsea [Criner 01:54:30] from the US Bureau of Land Management to provide our next FAQ. Chelsea?

Chelsea:

Is there a cooperating agency? The US Bureau of Land Management, BLM, has agreed to participate as a cooperating agency for the preparation of the LEIS and is actively participating in its development and review.

Maggie:

Thank you, Chelsea. Laura, will the Army coordinate with other agencies on this project?

Laura Sample:

Throughout the development of the LEIS, the Army will coordinate with appropriate federal, state, and local agencies, Alaskan native of tribes, and the public about the proposed land withdrawal extension. Agency involvement activities include formal meetings with agency representatives during the scoping period and active consideration of agency comments on the draft LEIS. Thank you.

Maggie:

Thank you, Laura. I'd like to remind everyone on the call that there are approximately five minutes left remaining in the public scoping meeting, so if you would like to provide a comment, please press zero on your phone keypad and you'll be placed in a queue to speak. We will continue take comments until 7:00 PM. All comments received tonight and throughout the rest of the comment period through October 25th will be considered by the project team during the development of the draft LEIS. In addition to comments received tonight, comments can be submitted through the project website or written via email or mail. Details on how to submit comments can be gathered from the US Army Garrison, Alaska's Public Affairs office by calling 907-353-6700 or by visiting the project website, which can easily be found by searching for legislative environmental impact statement for a land withdrawal extension at US Army Garrison, Alaska in your preferred search engine. While we wrap up this evening, I would like ask Kate to provide some more information on how public input is included in the LEIS process. Kate?

Kate:

One of the Army's goals as part of the LEIS development is to engage and educate the public about this project. The Army desires to understand the community's interest and concerns regarding this project and has prepared a public involvement plan to ensure that all members of the public have full opportunity to review and comment on the proposed action and alternatives.

Maggie:

Thank you, Kate. In addition, Laura, could you provide more information on how the public can get involved?

Laura Sample:

Yes, Maggie. Thank you. There are two primary opportunities during the LEIS process where the public can get involved and provide comments. The first opportunity is now, after the NOI been published in the federal register, which started the 30-day scoping period for the public to learn about the proposed action and provide comments. The Army is hosting public scoping meetings during the scoping period and has advertised them in The Fairbanks Daily News Minor, The Delta Wind, and The Anchorage Daily News. Comments received during scoping meetings will help inform and develop the LEIS analysis.

Laura Sample:

The second opportunity for public comment comes when the draft LEIS is published. Notices announcing the availability of the draft LEIS will be published in the federal register and in the Fairbanks Daily News Minor, Delta Wind, and Anchorage Daily News. An additional set of public meetings will be publicized and, if feasible, held in person in Fairbanks, Delta Junction, North Pole, and Anchorage. If in-person meetings are not possible due to public health concerns, the meetings will be held in a virtual setting. Comments received during the draft LEIS review period will be appended to the draft LEIS and made available to the public through the project website. Thank you, Maggie.

Maggie:

Thank you, Laura. At this time, I would like to provide a final reminder that this has been the virtual public scoping meeting for the Land Withdrawal Extension Legislative Environmental Impact Statement at US Army Garrison, Alaska. The purpose of this meeting is to collect your comments. All comments provided this evening will be considered during the development of the draft LEIS. We have now closed the comment queue and the meeting will adjourn. I would like to thank all those who have provided comments this evening. I will now turn it over to Laura to provide some final reminders about the comment period. Laura?

Laura Sample:

Thank you, Maggie. If for some reason you are not able to submit a comment tonight, you can still do so through the project website, which can easily be found by searching for legislative environmental impact state for land withdrawal extension at US Army Garrison, Alaska in your preferred search engine. Please submit all comments by October 25th, 2021. I would now like to turn it back to our host, Ms. Miller for her closing remarks. Ms. Miller?

Catherine Miller:

Thank you for taking the time to join us this evening for this virtual public meeting for the Land Withdrawal Extension, LEIS at US Army Garrison, Alaska. Your time here and comments provided are important to us. We look forward to reviewing your comments and considering them in the development of the draft LEIS, which is anticipated to be published in mid 2022. This concludes our virtual public meeting. Thank you and have a good evening. Goodbye.

PART 4 OF 4 ENDS [02:01:25]

Attachment 2: Agency Meeting Transcript

Transcript from the Land Withdrawal Extension LEIS Agency Scoping Meeting

Held October 14, 2021 from 9:00 AM to 11:00 AM

00:00:00.000 --> 00:00:19.520
Laura Sample (Guest)
As health and safety continues to be a top priority, the project team has established this virtual agency meeting, which is complemented by our project website in an effort to provide accessible options to the public and other interested parties. Both this meeting and the project website provide opportunities to submit comments on the development of the LEIS.

00:00:20.380 --> 00:00:32.090
Laura Sample (Guest)
The link to our project website where project information can be found has been provided in our local advertisements for the notice of intent to prepare the LEIS and in the agency scoping letter most of you should have received.

00:00:32.740 --> 00:00:55.370
Laura Sample (Guest)
In addition, the project website link can be easily found by searching for "Legislative Environmental Impact Statement for Land Withdrawal Extension at U.S. Army Garrison, Alaska" in your preferred search engine. The project website URL and email and mailing addresses for submitting comments will also be displayed on a slide during the comment portion of this meeting.

00:00:56.090 --> 00:01:13.290
Laura Sample (Guest)
Thank you again for your participation in this virtual agency scoping meeting for the LEIS. We will take as many comments from participants as possible during this meeting until 11:00 AM. If there are still participants on the line at 11:00 AM, we may continue as needed.

00:01:13.960 --> 00:01:26.720
Laura Sample (Guest)
If you have a comment, please raise your hand by clicking on the raise hand button in the top right corner of the screen or by pressing STAR 5 on your phone keypad after the presentation to be placed in a queue to speak.

00:01:28.020 --> 00:01:40.950
Laura Sample (Guest)
After the presentation has finished, our meeting moderator will announce commentors one at a time by either their name or last four digits of their phone number, unmute them, and inform them that they are live and may make a comment.

00:01:41.720 --> 00:02:07.010
Laura Sample (Guest)
We respectfully ask that you be considerate of others participating in the meeting with respect to the length of your comments so that we may hear from as many participants as possible within the allotted time for this event. If you have additional follow up statements after you make your initial comment, you can raise your hand again by clicking the raise hand button or by pressing STAR 5 on your phone keypad at any time to get back into the queue to speak.

00:02:07.880 --> 00:02:29.760
Laura Sample (Guest)
The comments from this virtual agency meeting will be recorded and transcribed for the project team. Comments received today and throughout the comment period until October 25th will be considered by the project team during the development of the LEIS. All comments are part of the public record and today's call is being recorded for the project's administrative record.

00:02:30.400 --> 00:02:36.320
Laura Sample (Guest)
Before we begin taking comments, I will provide another reminder of the guidelines and instructions for how to do so.

00:02:36.990 --> 00:02:54.010
Laura Sample (Guest)
For now I would like to invite our host to start the meeting with a brief introduction and welcome. Thank you, Ms. Catherine Miller, Deputy to the Garrison Commander at U.S. Army Garrison, Alaska, for joining us today and introducing the members of the project team who are on the call to hear comments. Ms. Miller?

00:02:56.100 --> 00:03:05.370
Catherine Miller
Thank you. Good morning, everyone. My name is Catherine Miller and as Ms. Sample stated I am the Deputy to the Garrison Commander at U.S. Army Garrison, Alaska.

00:03:06.050 --> 00:03:28.350
Catherine Miller
Thank you to those who are participating this morning in the virtual agency scoping meeting for the Land Withdrawal Extension LEIS. The Army recently announced its intent to prepare a legislative environmental impact statement, or LEIS, to assess potential impacts of continued military use of withdrawn public land in Alaska.

00:03:29.420 --> 00:03:59.860
Catherine Miller
These lands are important to the Army's mission to main, to man, train, equip and organize in the Arctic to protect our nation and preserve the peace. The information presented in the LEIS will inform a legislative proposal submitted to Congress by the Army and Support Congress's decision on granting an extension to the current land withdrawal. The U.S. Bureau of Land Management has jurisdiction by law over the land withdrawal extension process and is a cooperating agency for the LEIS.

00:04:03.620 --> 00:04:07.220
Catherine Miller
They are actively participating in its development and review.

00:04:08.340 --> 00:04:38.470
Catherine Miller
U.S. Army Garrison, Alaska and U.S. Army, Alaska, acknowledges that the land the Army manages and uses for the readiness of the force have provided for its first stewards for generations. The Dana Athabascans of Alaska past, present and future, and their dedication to the homelands will be honored by the Army's continually improving stewardship. The Army will work with Alaska's tribal governments to

learn and work in partnership towards sustainable management of those lands for as long as they are needed in support of our warriors.

00:04:43.450 --> 00:04:58.240
Catherine Miller
We want to hear from you as we prepare the draft LEIS. All comments submitted during the scoping period will be reviewed and considered in the development of alternatives and identification of key issues of concern to be evaluated.

00:04:58.870 --> 00:05:29.420
Catherine Miller
Scoping comments will not receive individual responses but will be included in a scoping report and considered during the development of the draft LEIS. Your feedback is important. Comments we receive here as well as those collected through the project website, email and regular mail will be recorded and reviewed by the project team. On the phone and on the MS teams with us this morning we have several representatives from U.S. Army Garrison, Alaska to listen and participate in this virtual scoping meeting. First is Miss Kate Sifter, Directorate of Public Works Master Planning Division Chief.

00:05:39.950 --> 00:05:48.110
Catherine Miller
We also have Elizabeth Cook, Directorate of Public Works Environmental Division, Cultural Resource Manager and Tribal Liaison.

00:05:48.910 --> 00:05:55.810
Catherine Miller
We also have Mr. Matt Sprau, Directorate of Public Works, Environmental Division Planning branch chief.

00:05:56.710 --> 00:06:09.510
Catherine Miller
Mr. Grant Sattler, the Public Affairs Officer for the US Army Garrison, Alaska, and lastly, we have Daniel Reese, Directorate of Public Works, Environmental Division, Natural Resources Program Manager.

00:06:10.530 --> 00:06:37.450
Catherine Miller
In addition to the Army Garrison representatives, we also are joined by Miss Chelsea Kreiner, Realty Specialist and the withdrawal lead for the BLM's Alaska State Office. Thank you for joining us and I look forward to receiving your comments. At this time, I invite you to listen to an overview of the BLM's involvement in the project as a cooperating agency by Miss Chelsea Kreiner and their realty team. Chelsea?

00:06:40.210 --> 00:06:51.500
Kreiner, Chelsea L
Thank you for the introduction, Miss Miller. Good morning. My name is Chelsea Kreiner and I'm a Realty specialist and the withdrawal lead for the Bureau of Land Management, Alaska State Office.

00:06:52.360 --> 00:07:22.800
Kreiner, Chelsea L
The Bureau of Land Management, or BLM, is responsible for processing the Army’s application to renew

the US Army Garrison, Alaska land withdrawal. Together, the BLM's Alaska State Office and Eastern Interior Field Office will facilitate the work that our agency is responsible for, as well as what the Army has requested our assistance with for this proposed withdrawal renewal. As mentioned, we are a cooperating agency and will be providing our knowledge and expertise regarding public lands to assist the army in developing, preparing, and reviewing the final LEIS.

00:07:33.390 --> 00:08:03.440
Kreiner, Chelsea L
We will also be completing a variety of other activities to meet our responsibilities under regulation and law, which include surveying the boundaries of the withdrawn lands, completing the subsistence analysis required by section 810 of the Alaska National Interest Lands Conservation Act, and preparing the case file which will incorporate the application, the LEIS, and the findings and recommendations to be submitted to the Secretary of the Interior.

00:08:04.560 --> 00:08:21.810
Kreiner, Chelsea L
While both the Department of land, I'm sorry, while both the Bureau of Land Management and the Department of the Interior have a role in processing this application and developing the information to make a recommendation, the decision to extend the withdrawal can only be made by Act of Congress.

00:08:22.580 --> 00:08:34.070
Kreiner, Chelsea L
I will now turn the meeting over to Miss Kate Sifter from the US Army Garrison Alaska Directorate of Public Works who will provide an overview of the project you're being asked to comment on. Kate?

00:08:36.670 --> 00:08:38.100
Kate Siftar (Guest)
Thank you Miss Kreiner. In 1999, through the Military Lands Withdrawal Act, Congress withdrew nearly 870,000 acres of public land comprising Yukon Training Area, Donnelly Training Area East and Donnelly Training Area West and reserved them for use by the Army. The current withdrawal will expire on November 6, 2026 unless Congress enacts legislation to extend it.

00:09:08.910 --> 00:09:31.880
Kate Siftar (Guest)
The Army has determined there is ongoing military need for this land in order to: one, produce a force trained to mobilize, deploy, fight and win anywhere in the world, including Arctic and sub Arctic environments; two, coordinate and conduct operations with the U.S. Air Force; and three, execute and fulfill its mission in Alaska.

00:09:32.600 --> 00:09:45.170
Kate Siftar (Guest)
Yukon Training Area, Donnelly Training Area East, and Donnelly Training Area West provide the Army with the environmental conditions, space, and facilities to meet its ongoing needs.

00:09:48.170 --> 00:09:52.180
Kate Siftar (Guest)
The Army is proposing to extend the existing land withdrawal.

00:09:52.790 --> 00:10:04.460
Kate Siftar (Guest)

To understand the environmental consequences of the decision to be made, the LEIS will evaluate the reasonably foreseeable effects resulting from the project alternatives.

00:10:05.070 --> 00:10:25.320
Kate Siftar (Guest)
At this time, the alternatives to be considered include the Army's proposed action to extend the land withdrawal for 25 years or more, or assign control of the lands to the Secretary of the Army until such time as the Army determines it no longer needs the lands for military purposes, and the no action alternative under which the withdrawal would not be extended, and the lands would be returned to the management of the Department of the Interior in accordance with the guidelines presented in Public Law 106 dash 65.

00:10:42.860 --> 00:11:04.050
Kate Siftar (Guest)
The LEIS will analyze potential impacts to a number of resource areas, including but not limited to: recreation, subsistence use, air quality, noise, soils, water quality, airspace, archaeological sites, traffic and transportation, and hazardous materials.

00:11:05.000 --> 00:11:11.530
Kate Siftar (Guest)
In addition to the BLM, the Army will also coordinate with appropriate federal, state, and local agencies, Alaska Native tribes and other members of the public during the LEIS process.

00:11:19.030 --> 00:11:27.340
Kate Siftar (Guest)
Thank you for listening to this brief project review. I will now turn it back over to Laura to review our expectations for this virtual agency meeting and begin the comment process. Laura?

00:11:35.340 --> 00:12:01.150
Laura Sample (Guest)
Thank you, Kate. Here are a few notes and expectations for this virtual agency meeting. This meeting is part of the public outreach process as required by the National Environmental Policy Act for the Public Law 106-65 Land Withdrawal Extension LEIS at the US Army Garrison, Alaska. The project is currently in the formal 30-day scoping comment period, which ends October 25th, 2021.

00:12:01.870 --> 00:12:12.570
Laura Sample (Guest)
In addition to this virtual agency meeting, we have a project website that is available at any time during the 30-day comment period where you can access project materials and submit your comments online.

00:12:13.550 --> 00:12:27.830
Laura Sample (Guest)
Updated project information and materials will be posted to the project website intermittently throughout the project, including announcements of the availability of the draft LEIS, dates of the future comment period, and responses to public comments.

00:12:29.270 --> 00:12:41.090
Laura Sample (Guest)
Substantive comments provided by the public and agencies during our ongoing scoping period from September 24th to October 25th will assist us in the development of the draft LEIS.

00:12:41.700 --> 00:13:01.900
Laura Sample (Guest)
Once the draft LEIS is complete, a Notice of Availability will be published in the Federal Register and in local newspapers. The public will have an opportunity to review and comment on the proposed action and its potential impacts after the publication of the draft LEIS, which is anticipated for mid-2022.

00:13:02.660 --> 00:13:17.400
Laura Sample (Guest)
In addition to this virtual public meeting, you can provide comments on the project through the project website, by email or by written mail. Details on how to submit comments have been provided in local advertisements and are displayed on the current slide.

00:13:18.080 --> 00:13:30.660
Laura Sample (Guest)
Additional inquiries for project information can be directed to the US Army Garrison Alaska's Public Affairs Office by calling 907-353-6700.

00:13:31.580 --> 00:13:54.340
Laura Sample (Guest)
We will be taking as many comments from the public as possible until this virtual agency meeting concludes at 11:00 AM. As a reminder, if you have a comment on potential alternatives, information sources or analysis related to the proposed action, click on the raise hand button in the top right corner of your screen or press star 5 on your phone keypad to be placed in a queue to submit a comment.

00:13:55.020 --> 00:14:25.580
Laura Sample (Guest)
All commenters who are in the queue by 10:45 AM will be given the opportunity to provide comments to our project team members. We will let you know when you will be live on the call and can be heard by all participants on the call. We ask that all commenters use appropriate language and be respectful and anyone demonstrating behavior that would be unacceptable in a public setting will be muted and asked to provide comments in writing. We respectfully ask that you be considerate of others participating in the meeting with respect to the length of your comments so that we may hear from as many participants as possible within the allotted time for this event.

00:14:31.540 --> 00:14:44.170
Laura Sample (Guest)
If you have additional follow up statements after you make your initial comment, you can raise your hand again by clicking the raise hand button or pressing star 5 on your phone keypad at any time to get back into the queue to speak.

00:14:44.890 --> 00:14:51.050
Laura Sample (Guest)
As a friendly reminder, comments from this virtual agency meeting will be recorded and transcribed for the project team.

00:14:52.200 --> 00:15:05.890
Laura Sample (Guest)
Comments received today and during the comment period will be considered by the project team during the development of the draft LEIS. All comments are part of the public record and today's call is being recorded for the project’s administrative record.

00:15:06.460 --> 00:15:12.020
Laura Sample (Guest)
At this time I will now turn it over to Maggie, who will be moderating the main meeting. Maggie?

00:15:14.360 --> 00:15:15.170
Poyant, Maggie
Thank you, Laura.

00:15:16.530 --> 00:15:33.800
Poyant, Maggie
As a reminder to all participating in this call, you may click on the raise hand button in the top right corner of your screen or press star 5 on your phone keypad to be placed in a queue to submit a comment. When you hear your name announced, I will unmute you and you may begin your statement.

00:15:34.490 --> 00:15:41.700
Poyant, Maggie
If you were calling in from the phone and you would like to make a comment, you will need to press star 6 to unmute yourself before you begin to speak.

00:15:43.130 --> 00:15:50.490
Poyant, Maggie
At this time we don't have anybody in the comment queue, so if anyone would like to get us going, you may raise your hands.

00:15:52.800 --> 00:15:53.630
Mary Leith & Pete Hallgren (Guest)
Two people

00:15:53.620 --> 00:15:54.340
Poyant, Maggie
All right?

00:15:54.960 --> 00:15:57.200
Poyant, Maggie
I have Miss Mary Leith. You may begin your comment.

00:16:01.160 --> 00:16:05.060
Mary Leith & Pete Hallgren (Guest)
Mary's here. This is Pete Hallgren, the deputy mayor.

00:16:05.820 --> 00:16:15.200
Mary Leith & Pete Hallgren (Guest)
Mary and I have been involved in this since 1999 for the City of Delta Junction and continue to be the lead people on it. I don't see an [resource] area concerning fire mitigation and the reason I'm calling is the City of Delta Junction has an MOA, memorandum of agreement, with USARAK dated May 3 May 13? 2006 having to do with parts of the Donnelly East Training Area.

00:16:48.280 --> 00:16:57.820
Mary Leith & Pete Hallgren (Guest)
So, yeah, we want to make sure that that Memorandum of Agreement, its title is USARAK MOA Dash

029. [Undiscernible] We've dealt with USARAK Alaska and U.S. Army at Fort Wainwright ever since 2006 on this matter.

00:17:13.050 --> 00:17:17.830
Mary Leith & Pete Hallgren (Guest)
It arose out of the federal litigation that the city brought, where we claim that there was insufficient consideration of the wildfire problems in the supplemental [Undiscernible] EIS for the CACTF BAX down here at Fort Greely.

00:17:36.980 --> 00:18:00.510
Mary Leith & Pete Hallgren (Guest)
And the suit was settled through the Army and the city entering into the Memorandum of Agreement that I'm mentioning. Our main concern is that the Memorandum of Agreement not be superseded or in any way harmed by the actions of the renewal. The city has no problem with the renewal, of the venture [you're] proposing, [Undiscernible] we want to make sure that we are not going to be zeroed out by through neglect or inadvertence, because we have the MOA which we've dealt with the Army, you know, many times over the past 15 years. OK, at this time we believe that the Army is in general compliance, at least compliance that makes us happy with the MOA.

00:18:41.450 --> 00:18:49.200
Mary Leith & Pete Hallgren (Guest)
One of the reasons we're slightly concerned is the MOA does have some restrictions on training and training activities in the Donnelly East.

00:18:56.550 --> 00:19:02.060
Mary Leith & Pete Hallgren (Guest)
It requires fire breaks to be kept and maintained. They have been made and have been maintained.

00:19:02.920 --> 00:19:05.450
Mary Leith & Pete Hallgren (Guest)
But it also worries us about the, on occasion, daily changes in the fire hazard category and we had many problems with that, let's say disagreements, with the USARAK over the years until several years ago USARAK or Fort Wainwright, I'm not sure exactly which, set up a fire mitigation community of interest working group. Wildfires are very dangerous toward the City of Delta Junction, because in the summer during the fire season, prevailing winds are from the from the south to the north and we are joined directly with Fort Greely on our border and they're directly south of us and there have been a number of major wildfires, including the 1999 wildfire, which caused Fort Greely to be temporarily evacuated and several buildings were consumed by the fire at Fort Greely cantonment area at that time, and since then there have been other major fires on army property that have escaped or threatened to escape onto private or state property.

00:20:26.830 --> 00:20:30.450
Mary Leith & Pete Hallgren (Guest)
BLM is fully aware of this, as is the Alaska Fire Service.

00:20:31.130 --> 00:20:41.270
Mary Leith & Pete Hallgren (Guest)
We greatly appreciate and find that it's extremely effective the way of the fire mitigation community interest working group has been set up.

00:20:43.180 --> 00:20:52.800
Mary Leith & Pete Hallgren (Guest)
It includes the Alaska Fire Service, and it includes the City of Delta Junction. It does not include any other municipality and it does not include the Fairbanks North Star Borough.

00:20:54.780 --> 00:21:02.270
Mary Leith & Pete Hallgren (Guest)
So we believe we are on there because our peculiar fire situation and because of our MOA and we wish to stay on top of all those things. So, we're happy with the way things are going currently. There are other things mentioned in the MOA, including a potential flooding problem and aufeis on Jarvis Creek, which we believe are taken care of properly by the military at this point. So our main concern is that the MOA be at least mentioned and as a continuing document. We do not want it lost. We spent a lot of money and litigation and time to take care of what's a real problem for not just the Army, but the City of Delta Junction.

00:21:45.370 --> 00:21:53.700
Mary Leith & Pete Hallgren (Guest)
So that's our main concern. We will have most of the paperwork is with our attorney firm in Anchorage and we will put in a written statement and include copies of the MOA. I'm sure you have them and also other documents of interest and explain why we're interested in expanding on what I've just said.

00:22:09.910 --> 00:22:14.050
Mary Leith & Pete Hallgren (Guest)
So we're very happy with that. On a general note, with respect to recreation, there has been a fair amount of discussion in the town about the inability to get onto, to climb, Donnelly Dome for citizens and the general public, and tourists on occasions because the usual easiest way up Donnelly Dome is up a USARAK road, and when you're flying the red flags, nobody can get a permit to go on that road. There is the possibility of accessing it not going over Army property and we've got a trails association here which would be happy to work with you folks to see if we could come up with some way of getting a trail that doesn't impinge on the Army property. So I think that's about it. We would be very happy to talk to you folks after our attorney has put our comments in proper form and like I say, we're happy with the way things are working now. We don't want them to change to our detriment and we want the MOA to be recognized as a continuing documents so thank you very much and we will put in our urther comments in writing.

00:23:38.100 --> 00:23:53.100
Poyant, Maggie
Thank you Mr. Hallgren and Miss Leith. We really appreciate your feedback and your comments will definitely be considered in the development of the draft LEIS. If you have any questions as you're compiling your written statements, please feel free to reach out to the Public Affairs Office.

00:23:56.200 --> 00:24:05.970
Poyant, Maggie
At this time we have one other person in the in the queue to speak, but I'd actually like to allow just a moment for us to have a couple more introductions. It seems that we've had a few folks who joined in after we went through the initial round, so I'm just taking a look through our participant list here. Let's see, I'm not sure that I have everything anyone called out, but if there's anyone who had joined and would like to introduce themselves from an agency perspective or let us know what their title is just to have them on the record for this call, please feel free to do so now.

00:24:47.860 --> 00:24:51.350
Josh Buzby (Guest)
Yeah, thanks Maggie. This is Josh Buzby with Fort Wainwright Range Control.

00:24:54.410 --> 00:24:55.010
Poyant, Maggie
Thanks Josh.

00:24:58.500 --> 00:24:59.730
Poyant, Maggie
Is there anyone else who's joined?

00:24:59.040 --> 00:24:59.810
Dunker, Bradley E (DFG)
Good morning, this is Brad Dunker. I'm calling from the Alaska Department of Fish and Game.

00:25:07.880 --> 00:25:09.740
Poyant, Maggie
Good morning Mr. Dunker, thanks for joining us.

00:25:20.430 --> 00:25:34.200
Poyant, Maggie
Alright, at this time I will turn it over back over to the comment queue so we can hear from as many people as possible this morning. Next up I have Mr. Bob Henszey. Bob, if you would like to go ahead and unmute yourself, you can give your comment now.

00:25:35.630 --> 00:25:47.870
Henszey, Bob
Yeah, good morning guys. I have one administrative question and then another statement that I'd like to make. The slides - can you make those available to the participants, especially the ones that are calling in so they can see some of the visuals that you provided?

00:25:49.550 --> 00:25:50.690
Poyant, Maggie
Yes, absolutely.

00:25:51.220 --> 00:25:59.860
Henszey, Bob
Yeah, that that would be handy because I know one of my staff is on the phone and I didn't think to make some screen copies of some of the more intricate slides I guess.

00:26:01.460 --> 00:26:11.280
Henszey, Bob
And then I guess something I'd like to see addressed in the LEIS is: we recognize the Army is the primary user of these lands, however there are others that do use the lands.

00:26:12.310 --> 00:26:30.710
Henszey, Bob
The Mayor of Delta Junction brought up the public. There's also the Air Force that, from what I understand, uses the road system to access some of their targets, and we're curious: who is responsible for

maintaining these roads so that they don't deteriorate to the point where they start affecting the wetland habitat adjacent to the wetlands? Thank you.

00:26:37.640 --> 00:26:40.780
Poyant, Maggie
Thank you, Mr. Henszey. We appreciate your comments.

00:26:42.000 --> 00:26:52.110
Poyant, Maggie
And as we said earlier, all comments here will be addressed, not individually, but as part of the development of the draft LEIS, so we appreciate your input.

00:26:57.760 --> 00:27:19.220
Poyant, Maggie
If there are any other folks on the line who would like to provide comments or statements, we do not have anyone currently in the queue. Just a reminder that you can use the raise hand button if you have joined us via computer or web browser in the top right corner of your screen, or if you're on the phone, you can press star 5 to raise your hand.

00:27:26.440 --> 00:27:29.430
Poyant, Maggie
Laura I see your hand is raised if you'd like to provide [Undiscernable].

00:27:30.130 --> 00:27:50.740
Laura Sample (Guest)
Yeah, Maggie, thank you. Sorry I just wanted to respond to Mr. Henszey's administrative question concerning the slides. They are immediately available right now on the project website on so those POCs who have called him by phone are able to access the project website and review the slides as we proceed through this meeting. Thank you.

00:27:53.870 --> 00:27:55.810
Poyant, Maggie
Thank you, Laura, for that clarification.

00:28:02.640 --> 00:28:07.130
Poyant, Maggie
Mr. Henszey, did you have your hand raised again or did I just not lower it the first time?

00:28:07.180 --> 00:28:09.030
Henszey, Bob
No, that was a thumbs up for thank you.

00:28:08.990 --> 00:28:11.050
Poyant, Maggie
OK, no problem.

00:28:22.560 --> 00:28:37.550
Poyant, Maggie
OK, well this is a reminder just for anyone who would like to give a comment in the queue is open currently. This meeting will run until 11:00 AM and so we will be accepting comments during that full period of time.

00:28:39.040 --> 00:28:47.930
Poyant, Maggie
I will leave the queue open for just a couple more moments here in case anyone wants to gather their thoughts to provide any comments or statements, but then we will be moving on to some closing statements from the project team.

00:29:08.290 --> 00:29:13.610
Poyant, Maggie
I see Mr. Brad Dunker has raised his hand. Brad, you can go ahead and begin your comment.

00:29:15.720 --> 00:29:22.750
Dunker, Bradley E (DFG)
Great, thank you. Yeah, this is, uh, I'm representing Alaska Department of Fish and Game and just wanted to let everyone know that our interest in this will be in the 810 analysis as well as maintaining wildlife and fisheries management responsibilities within our jurisdiction on these lands. So, as we go through this process, we look forward to working with you on that.

00:29:45.700 --> 00:29:48.970
Poyant, Maggie
Great. Thank you, Mr. Dunker. We appreciate that feedback.

00:30:02.340 --> 00:30:21.930
Poyant, Maggie
Alright, there's just also a reminder that on the screen we are sharing the project email address and written mail address where you may provide a written statements after this meeting. We do ask that comments be submitted by October 25th, which is the end of our public scoping period.

00:30:22.390 --> 00:30:51.950
Poyant, Maggie
Additional questions can be forwarded to Mr. Grant Sattler at the Public Affairs Office at the US Army Garrison, Alaska. His phone number is on the screen. It is 907-353-6700. Additionally, more information can be found on the project website which can easily be found by searching for land withdrawal extension legislative environmental impact statement in your preferred web browser.

00:30:54.790 --> 00:31:01.430
Poyant, Maggie
The project website is also linked from the NEPA page of the US Army Garrison Alaska's website.

00:31:15.620 --> 00:31:31.080
Poyant, Maggie
So at this time we're going to leave the queue open for as the remainder of the meeting, in case anyone would like to provide comments or statements, but I'm going to turn it back over to Laura to provide some final reminders about the comment period and close out our presentation. Laura?

00:31:36.570 --> 00:32:00.210
Laura Sample (Guest)
Thank you, Maggie, and thank you everyone for joining us. If for some reason you are not able to submit a comment today, you can still do so through the project website, which can be easily found by searching for legislative environmental impact statement for land withdrawal extension at US Army Garrison, Alaska in your preferred search engine or by following the link posted on the slide shown.

00:32:02.040 --> 00:32:13.500
Laura Sample (Guest)
Additional inquiries for project information or how to submit comments can be directed to the US Army Garrison Alaska's Public Affairs Office by calling 907-353-6700.

00:32:14.330 --> 00:32:23.670
Laura Sample (Guest)
Please submit all comments by October 25th, 2021. I would now like to turn back to our host, Miss Miller, for her closing remarks. Miss Miller?

00:32:36.900 --> 00:33:05.780
Catherine Miller
I'm sorry, I dropped off the line for a second there. OK, so thank you for taking the time to join us this evening, or this morning rather, for this virtual public meeting for the land withdrawal extension, LEIS at U.S. Army Garrison Alaska. Your time here and comments provided or important to us. We look forward to reviewing your comments and considering them in the development of the draft, which is anticipated to be published in mid-2022.

This concludes our virtual agency scoping meeting. Thank you and have a good rest of your day. Goodbye.

00:33:18.020 --> 00:33:29.230
Poyant, Maggie
That concludes the presentation portion of our meeting this morning. If anyone else would like to provide comment, we will leave the line open and you may raise your hand by clicking on the raise hand button, or I do have one person on the line, Miss Leith and Mr Hallgren?

00:33:42.310 --> 00:33:45.470
Mary Leith & Pete Hallgren (Guest)
We didn't really receive timely notice [of] this meeting because for some reason the letter was addressed to our former mayor at her former address, and so we just got a copy of that, courtesy of Angie Glass at Fort Greely, yesterday afternoon when we learned of the time of this meeting and everything. Let me reiterate that our address has not changed since the MOA has been signed. On the MOA it the City of Delta Junction, it should be addressed to City Clerk, City of Delta Junction, PO Box 229 Delta Junction, Alaska, 99737.

00:34:33.220 --> 00:34:41.400
Mary Leith & Pete Hallgren (Guest)
City clerk or city administrator would be fine, but like I say, our address has not changed. It is not the mayor's home address.

00:34:42.500 --> 00:35:00.590
Mary Leith & Pete Hallgren (Guest)
It is PO Box 229, Delta Junction, Alaska, 99737. If you wish to talk to Mary by phone, the phone number at City Hall is 907-895-4656 ext. 3 and her email address at City Hall is MLEITH@DeltaJunction.US. Thank you.

00:35:17.840 --> 00:35:21.280
Poyant, Maggie
Thank you both for joining us this morning. We appreciate it.

00:35:21.760 --> 00:35:23.310
Mary Leith & Pete Hallgren (Guest)
Yeah, thanks for having us.

00:35:27.310 --> 00:35:44.260
Poyant, Maggie
OK, well thank you to everyone who has joined the meeting this morning. Like I said, we will be leaving the line open in case there's anyone that joins us late and wants to provide a comment over the phone this morning, but this concludes the presentation portion of our meeting and we hope you have a good rest of your day.

01:51:01.490 --> 01:51:29.600
Poyant, Maggie
Hi everyone, this is Maggie. We've got about a minute left on our scheduled meeting here and I just want to thank you all for sitting through this today in case we had additional comments that were going to be received. We will be typing up meeting minutes to distribute to the project team, and of course the meeting was recorded and the transcript will also be available. Thank you, everyone!

01:51:30.970 --> 01:51:33.820
Laura Sample (Guest)
Thank you very much, Maggie. Have a good day, everyone.

01:51:35.510 --> 01:51:36.150
Melanie Roed (Guest)
Thank you.

01:51:36.750 --> 01:51:37.300
Munro, David
Thank you.

Attachment 3: Scoping Letters

Scoping letters were sent to the following agency representative on September 24, 2021:

Name	Title	Organization
Geoff Beyersdorf	District Manager	U.S. Bureau of Land Management
Kyle Cowan	Associate Deputy State Director, Fire and Aviation	U.S. Bureau of Land Management – Alaska Fire Service
Justin Hogrefe	Environmental Program Manager	Eielson Air Force Base
Bob Henszey	Conservation Planning Assistance Branch Chief	U.S. Fish and Wildlife Service
Sarah Conn	Field Supervisor, Fairbanks Office	U.S. Fish and Wildlife Service
Stewart Cogswell	Field Supervisor, Anchorage Office	U.S. Fish and Wildlife Service
Andrea Medeiros	Press Officer	U.S. Fish and Wildlife Service
Darren Bruning	Regional Supervisor - Fairbanks, Wildlife Conservation Division	Alaska Department of Fish and Game
Audra Brase	Regional Supervisor - Fairbanks, Habitat Division	Alaska Department of Fish and Game
Erik Anderson	Public Outreach Officer	Alaska Department of Fish and Game
Nancy Sonafrank	Division of Water, Water Quality Standards Assessment and Restoration Program, Program Manager	Alaska Department of Environmental Conservation
Alice Edwards	Division of Air Quality, Division Director	Alaska Department of Environmental Conservation
Denise Koch	Division of Spill Prevention and Response, Division Director	Alaska Department of Environmental Conservation
Jeanne Proulx	Natural Resource Manager, Division of Land, Mining and Water	Alaska Department of Natural Resources
Alison Arians	Public Affairs Officer	Alaska Department of Natural Resources
Public Information Center	Fairbanks Public Information Center	Alaska Department of Natural Resources
Molly Vaughan	NEPA Reviewer - Alaska Operations Office	U.S. Environmental Protection Agency, Region 10
Public Affairs Office	Public Affairs	U.S. Army Corps of Engineers
Lanien Livingston	Public Information Officer	Fairbanks North Star Borough
Bryce Ward	Mayor	Fairbanks North Star Borough
Donald Galligan	Transportation Planner	Fairbanks North Star Borough
Ryan Anderson	Regional Director	Alaska Department of Transportation and Public Facilities
Judy Chapman	Planning Chief	Alaska Department of Transportation and Public Facilities
Andy Mills	Communications Director	Alaska Department of Transportation and Public Facilities
Jackson Fox	Executive Director	Fairbanks Metropolitan Area Transportation System
Mayor Dave Bronson	Mayor	Municipality of Anchorage, AK
Mayor Freda Degnan	Mayor	City of Delta Junction, AK
Mayor Jim Matherly	Mayor	City of Fairbanks, AK

Mayor Michael Welch	Mayor	City of North Pole, AK
Teal Soden	Communications Director	City of Fairbanks, AK
Bert Frost	Regional Director	National Park Service
Jennifer Pederson Weinberger	Team Manager, CR Team	National Park Service
Marisa Sharrah	President/CEO	Greater Fairbanks Chamber of Commerce
Jim Styers	Fire Chief	Fairbanks Fire Department
Ronald K. Inouye	President	Tanana Yukon Historical Society
Paloma Harbour	Director	Alaska Department of Labor and Workforce Development - Administrative Services
Trina Bailey	Regional Special Assistant to U.S. Senator Lisa Murkowski	U.S. Senate
Leslie Hajdukovich	Regional Director to U.S. Senator Dan Sullivan	U.S. Senate
Bruce Newman	Special Assistant to U.S. Representative Donald E. Young	U.S. House of Representatives
Scott Kawasaki	Senator - Fairbanks	Alaska Senate
Click Bishop	Senator - Fairbanks	Alaska Senate
Robert Myers	Senator - North Pole	Alaska Senate
Bart LeBon	Representative - Fairbanks	Alaska House of Representatives
Steve Thompson	Representative - Fairbanks	Alaska House of Representatives
Grier Hopkins	Representative - Fairbanks	Alaska House of Representatives
Adam Wool	Representative - Fairbanks	Alaska House of Representatives
George Rauscher	Representative - Sutton	Alaska House of Representatives
Mike Prax	Representative - North Pole	Alaska House of Representatives
Bill Wielechowski	Senator - Anchorage	Alaska Senate
Lora Reinbold	Senator - Eagle River	Alaska Senate
Joshua Revak	Senator - Anchorage	Alaska Senate
Mike Shower	Senator - Anchorage	Alaska Senate
Chris Tuck	Representative - Anchorage	Alaska House of Representatives
Andi Story	Representative - Juneau	Alaska House of Representatives
Geran Tarr	Representative - Anchorage	Alaska House of Representatives
Matt Claman	Representative - Anchorage	Alaska House of Representatives
George Rauscher	Representative - Sutton	Alaska House of Representatives
Laddie Shaw	Representative - Anchorage	Alaska House of Representatives
David Nelson	Representative - Anchorage	Alaska House of Representatives

Scoping letters were sent to the following tribal representative on September 24, 2021:

Name	Title	Organization
Rhonda Pitka	Chief	Beaver Village
Jacqueline Baalam	First Chief	Birch Creek Tribe
Tammy Straughn	President	Native Village of Cantwell
Stephanie Herbert	First Chief	Chalkyitsik Village
Larry Sinyon	President	Cheesh-Na Tribe
Jessica Fields	First Chief	Circle Native Community
Tracy Charles-Smith	President	Village of Dot Lake
Benjamin Juneby	First Chief	Native Village of Eagle
Darin Gene	President	Native Village of Gakona
Roy S. Ewan	President	Gulkana Village
Nancy James	First Chief	Gwitchyaa Gwichin Tribal Government Native Village of Fort Yukon
Patricia MacDonald	President	Healy Lake Village
Karl Pete	President	Native Village of Kluti-Kaah
Raymond Woods	Chief	Manley Hot Springs Village
Caroline David	First Chief	Mentasta Traditional Council
Joseph Alexander	First Chief	Native Village of Minto
Tim McManus	First Chief	Nenana Native Association
Chaaiy Albert	President	Northway Village
Milton Moses	President	Rampart Village
Michael Simon	Chief	Native Village of Stevens
Herbert Demit	President	Native Village of Tanacross
Curtis Sommer	Chairman	Native Village of Tanana
Johnny Goodtaw	President	Native Village of Tazlina
Michael Sam	President	Native Village of Tetlin
Julian Roberts	Tribal Chief	Native Village of Venetie Tribal Government
Timothy Roberts	First Chief	Venetie Village

The following pages are examples of the letters sent to agency and tribal representatives.

DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, U.S. ARMY GARRISON ALASKA
1046 MARKS ROAD #6000
FORT WAINWRIGHT, ALASKA 99703-6000

September 24, 2021

Mr. Ryan Anderson
Regional Director
Alaska Department of Transportation and Public Facilities
2301 Peger Road. MS-2550
Fairbanks, AK 99709

Dear Mr. Anderson,

The Department of the Army (Army) invites you to participate in an agency scoping meeting to discuss a Legislative Environmental Impact Statement (LEIS) being prepared to evaluate the potential environmental impacts on land currently withdrawn from the public under Public Law 106-65 for military use in interior Alaska. The Army is preparing a legislative proposal to extend the current withdrawal of 869,862 acres of land from public use for 25 years or more, or assign control of the land to the Secretary of the Army until such time as the Army determines it no longer needs the land for military purposes.

The current withdrawal expires in November 2026, and Congressional approval of the legislative proposal is required to extend it. The Army has determined that there is a continuing military need for this land and is requesting to extend its use of three training areas (Yukon Training Area, Donnelly Training Area East, and Donnelly Training Area West). The purpose of the withdrawal is to ensure that the Army will retain full and continued use of the training areas to successfully execute and fulfill its mission in Alaska.

After the Notice of Intent to prepare an LEIS is published in the Federal Register, there will be a 30-day scoping period for the public to learn about the proposed action and provide comments. The Army will host a virtual public scoping meeting during the scoping period and will advertise it in area newspapers. Comments received during the scoping period will help inform and develop the LEIS analysis.

The agency scoping meeting will be held as a virtual presentation on MS Teams on Thursday, October 14, 2021 from 9:00 a.m. to 11:00 a.m. ADT. To attend the meeting online, please email usarmy.wainwright.id-pacific.mbx.lwe-leis@mail.mil to receive the access link. Alternatively, you may participate by phone by calling (213) 357-2812 and entering the meeting code 996 549 538#. Phone participants may download the visual meeting presentation in advance at the project website listed below.

The virtual public scoping meeting will be a teleconference call, on Wednesday, October 13, 2021 from 5:00 p.m. to 7:00 p.m. ADT. To attend the virtual public scoping meeting, please call (855) 756-7520 and enter the meeting code 74422#. For more information, please visit https://home.army.mil/alaska/index.php/fort-wainwright/NEPA.

In addition to oral comments received during the scoping meetings, written comments will be accepted for 30 days following the Federal Register's publication of the Notice of Intent to prepare the LEIS. Written comments may be submitted via mail to Ms. Laura Sample, NEPA Program Manager, Attn: AMIM-AKP-E (L. Sample), 1046 Marks Road #4500, Fort Wainwright, Alaska 99703-4500, or email to usarmy.wainwright.id-pacific.mbx.lwe-leis@mail.mil. Comments may also be submitted online through the project website at https://home.army.mil/alaska/index.php/fort-wainwright/NEPA.

A copy of the LEIS Notice of Intent published in the Federal Register, and other project information, is also accessible online at the project website.

The Army looks forward to your participation in the LEIS scoping process. If you would like any additional information, please contact Mr. Grant Sattler, Public Affairs Office, at (907) 353-6701 or Alan.G.Sattler.civ@mail.mil.

Sincerely,

Nathan S. Surrey
Colonel, U.S. Army
Commanding

DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, U.S. ARMY GARRISON ALASKA
1046 MARKS ROAD #6000
FORT WAINWRIGHT, ALASKA 99703-6000

September 24, 2021

Chief Rhonda Pitka
Beaver, Beaver Village
P.O. Box 24029
Beaver, AK 99724

Dear Chief Rhonda Pitka,

The Department of the Army (Army) Army invites you to participate in a public scoping meeting to discuss a Legislative Environmental Impact Statement (LEIS) being prepared to evaluate the potential environmental impacts on land currently withdrawn from the public under Public Law 106-65 for military use in interior Alaska. The Army is preparing a legislative proposal to extend the current withdrawal of 869,862 acres of land from public use for 25 years or more, or assign control of the land to the Secretary of the Army until such time as the Army determines it no longer needs the land for military purposes.

The current withdrawal expires in November 2026, and Congressional approval of the legislative proposal is required to extend it. The Army has determined that there is a continuing military need for this land and is requesting to extend its use of three training areas (Yukon Training Area, Donnelly Training Area East, and Donnelly Training Area West). The purpose of the withdrawal is to ensure that the Army will retain full and continued use of the training areas to execute and fulfill its mission in Alaska successfully. The withdrawn land provides the Army with the necessary space and unique environmental conditions to complete training and testing required by established training doctrine. Uninterrupted access to suitable training land is needed to ensure that the Army will continue to produce a force trained to mobilize, deploy, fight, and win anywhere in the world.

A virtual public scoping meeting will be held on Wednesday, October 13, 2021 from 5:00 p.m. to 7:00 p.m. ADT. In order to attend the meeting, please call 855-756-7520 and enter the meeting code 74422#. For information about joining the Tele-Town Hall, please visit https://home.army.mil/alaska/index.php/fort-wainwright/NEPA.

In addition to oral comments received during the scoping meetings, written comments will be accepted for 30 days from the Federal Register's publication of the Notice of Intent to prepare the LEIS. Written comments may be submitted vial mail or email to Ms. Laura Sample, NEPA Program Manager, Attn: AMIM-AKP-E (L. Sample), 1046 Marks Road #4500, Fort Wainwright, Alaska 99703-4500, or email to

usarmy.wainwright.id-pacific.mbx.lwe-leis@mail.mil. Comments may also be submitted online through the project website at https://home.army.mil/alaska/index.php/fort-wainwright/NEPA.

If you believe that a tribe-specific scoping meeting is warranted for this proposed action or if you wish to enter into government-to-government consultation please advise Ms. Elizabeth A. Cook in writing by 30 days from the Federal Register's publication of the Notice of Intent to prepare the LEIS. Please consider this letter our notification in accordance with the Department of Defense (DOD) Instruction Number 4710.02: *DoD Interactions with Federally Recognized Tribes* and the *DoD American Indian and Alaska Native Policy*.

Requests should be directed to Ms. Elizabeth Cook, USAG Alaska Native Liaison, at Attn: AMIM-AKP-E (Cook), 1046 Marks Road #4500, Fort Wainwright, Alaska 99703-4500 or Elizabeth.A.Cook80.civ@mail.mil

Sincerely,

Nathan S. Surrey
Colonel, U.S. Army
Commanding

Attachment 4: Comments Received

Verbal Comments Received from the Public Scoping Meeting on 10/13/21

Comment Date	Name	Organization
10/13/21 5:30 PM	Peter Hallgren	Mayor of Delta Junction

My name's Peter Hallgren, H-A-L-L-G-R-E-N. I'm the Deputy Mayor for the City of Delta Junction. We just received notice of this public hearing within the last several hours. And I don't believe it's been in the local newspaper. So I don't know if it's anybody else from Delta Junction will even be interested or have heard of it. We didn't find it in the paper when we were looking a few minutes ago. And of course the City of Delta Junction directly joins the Donnelly Training Areas that you're discussing here. So we haven't seen it published. So we don't know if the local populace has received notice of it. We got a notice from the federal register a few days ago. Now, you sent the city a letter a while back, but you addressed it to the former mayor at her home address and she no longer lives there, so we didn't actually receive the letter to Mayor Freda Degnan until about 3:00 o'clock this afternoon.

The comment we want to make is we're generally very happy with the city having to do with our relationship with Fort Wainwright and the training areas. However, of great importance to us is the existence of a 2006 memorandum of agreement between USAREC and the City of Delta Junction. It was signed by General Jacoby at the time, USARAK Commander, May 13th, 2006. It's USARAK MOA 029. It covers concerns that we had about fire in the area and fire suppression and also potential flooding on Jarvis Creek coming into the town. We have dealt with USARAK and Fort Wainwright since 2006 and I think that what's going on with the fire provisions is really useful and very good, but we're concerned that the MOA may be ignored or somehow superseded by your actions. We don't want you to miss it.

Generally, we're very happy, particularly with the current fire provisions in the summer that has weekly meetings. They're conducted with the BLM [inaudible 00:19:34] fire service and Fort Wainwright. So just putting in a word, we will have our attorney ... The MOA was a settlement of a federal lawsuit that we brought several years earlier and we don't want to see it disappear. We'll have our attorney send a detailed response by the 25th, and we just don't know what to say. I'll also try to attend tomorrow's agency meeting. We're just not ready at the city right now. We just come across it. Sorry to be so vague.

If you want a better address for the city, address it to Mary Leith, City Administrator. It's L-E-I-T-H, Mary Leith, L-E-I-T-H, City Administrator, City of Delta Junction, P.O. Box 229. Delta Junction, Alaska, 99737.

Comment Date	Name	Organization
10/13/21 5:40 PM	Bryce Ward	Mayor of Fairbanks North Star Borough

My name is Bryce Ward. I'm with the Fairbanks North Star Borough. I'm the current borough mayor and I'm speaking in support of the extension of the agreement or the reassignment of the land management to the Secretary of the Army. The lands that are used for training support the Arctic strategy. The Army just came out with that here recently. [They] also support the training mission for mission readiness. And we're a big part of that here in the Fairbanks area, in support of Fort Wainwright and the troops using that land to be able to train and become well equipped to be able to go out in combat.

The military is also a big part of our economy here locally, so things that we can do to be supportive of that are very much supported by the community in general. But we also do have many different organizations that have been doing work to help promote those different activities here in the Interior. So I speak in favor of the extension of the agreement. Or I think reassignment to the Secretary of the Army so you don't have to do this every 25 years is probably appropriate. I think the Army's developed and shown that they are good stewards of that land and I think it's in the best interest of our community at this time for that extension of that agreement to go on. That's all I have for my comments. Thank you.

Verbal Comments Received from the Agency Scoping Meeting on 10/14/21

Comment Date	Name	Organization
10/14/21 9:20 AM	Peter Hallgren	Mayor of Delta Junction

Mary's here. This is Pete Hallgren, the deputy mayor. Mary and I have been involved in this since 1999 for the City of Delta Junction and continue to be the lead people on it. I don't see an [resource] area concerning fire mitigation and the reason I'm calling is the City of Delta Junction has an MOA, memorandum of agreement, with USARAK dated May 3 May 13? 2006 having to do with parts of the Donnelly East Training Area.
So, yeah, we want to make sure that that Memorandum of Agreement, its title is USARAK MOA Dash 029. [Undiscernible] We've dealt with USARAK Alaska and U.S. Army at Fort Wainwright ever since 2006 on this matter. It arose out of the federal litigation that the city brought, where we claim that there was insufficient consideration of the wildfire problems in the supplemental [Undiscernible] EIS for the CACTF BAX down here at Fort Greely.

And the suit was settled through the Army and the city entering into the Memorandum of Agreement that I'm mentioning. Our main concern is that the Memorandum of Agreement not be superseded or in any way harmed by the actions of the renewal. The city has no problem with the renewal, of the venture [you're] proposing, [Undiscernible] we want to make sure that we are not going to be zeroed out by through neglect or inadvertence, because we have the MOA which we've dealt with the Army, you know, many times over the past 15 years. OK, at this time we believe that the Army is in general compliance, at least compliance that makes us happy with the MOA.

One of the reasons we're slightly concerned is the MOA does have some restrictions on training and training activities in the Donnelly East. It requires fire breaks to be kept and maintained. They have been made and have been maintained. But it also worries us about the, on occasion, daily changes in the fire hazard category and we had many problems with that, let's say disagreements, with the USARAK over the years until several years ago USARAK or Fort Wainwright, I'm not sure exactly which, set up a fire mitigation community of interest working group. Wildfires are very dangerous toward the City of Delta Junction, because in the summer during the fire season, prevailing winds are from the from the south to the north and we are joined directly with Fort Greely on our border and they're directly south of us and there have been a number of major wildfires, including the 1999 wildfire, which caused Fort Greely to be temporarily evacuated and several buildings were consumed by the fire at Fort Greely cantonment area at that time, and since then there have been other major fires on army property that have escaped or threatened to escape onto private or state property. BLM is fully aware of this, as is the Alaska Fire Service.

We greatly appreciate and find that it's extremely effective the way of the fire mitigation community interest working group has been set up. It includes the Alaska Fire Service, and it includes the City of Delta Junction. It does not include any other municipality and it does not include the Fairbanks North Star Borough. So we believe we are on there because our peculiar fire situation and because of our MOA and we wish to stay on top of all those things. So, we're happy with the way things are going currently. There are other things mentioned in the MOA, including a potential flooding problem and aufeis on Jarvis Creek, which we believe are taken care of properly by the military at this point. So our main concern is that the MOA be at least mentioned and as a continuing document. We do not want it lost. We spent a lot of money and litigation and time to take care of what's a real problem for not just the Army, but the City of Delta Junction.

So that's our main concern. We will have most of the paperwork is with our attorney firm in Anchorage and we will put in a written statement and include copies of the MOA. I'm sure you have them and also other documents of interest and explain why we're interested in expanding on what I've just said. So we're very happy with that. On a general note, with respect to recreation, there has been a fair amount of discussion in the town about the inability to get onto, to climb, Donnelly Dome for citizens and the general public, and tourists on occasions because the usual easiest way up Donnelly Dome is up a USARAK road, and when you're flying the red flags, nobody can get a permit to go on that road. There is the possibility of accessing it not going over Army property and we've got a trails association here which would be happy to work with you folks to see if we could come up with some way of getting a trail that doesn't impinge on the Army property. So I think that's about it. We would be very happy to talk to you folks after our attorney has put our comments in proper form and like I say, we're happy with the way things are working now. We don't want them to change to our detriment and we want the MOA to be recognized as a continuing documents so thank you very much and we will put in our further comments in writing.

Comment Date	Name	Organization
10/14/21 9:30 AM	Bob Henzsey	U.S. Fish and Wildlife Service

Yeah, good morning guys. I have one administrative question and then another statement that I'd like to make. The slides - can you make those available to the participants, especially the ones that are calling in so they can see some of the visuals that you provided? That would be handy because I know one of my staff is on the phone and I didn't think to make some screen copies of some of the more intricate slides I guess.

And then I guess something I'd like to see addressed in the LEIS is: we recognize the Army is the primary user of these lands, however there are others that do use the lands. The Mayor of Delta Junction brought up the public. There's also the Air Force that, from what I understand, uses the road system to access some of their targets, and we're curious: who is responsible for maintaining these roads so that they don't deteriorate to the point where they start affecting the wetland habitat adjacent to the wetlands? Thank you.

Comment Date	Name	Organization
10/14/21 9:33 AM	Brad Dunker	Alaska Department of Fish and Game

Great, thank you. Yeah, this is [Brad Dunker], I'm representing Alaska Department of Fish and Game and just wanted to let everyone know that our interest in this will be in the 810 analysis as well as maintaining wildlife and fisheries management responsibilities within our jurisdiction on these lands. So, as we go through this process, we look forward to working with you on that.

Comment Received from the Project Website

Comment Date	Name	Organization
10/14/21 8:30 PM	Steve McCombs	Community Member

In regards to the continued military use of lands in the Donnelly training areas, I would like to see Donnelly Dome and Weasel Lake returned to public lands under BLM management. I do not see these as critical training areas. The dome is a highly used area for recreational hiking and under BLM management its full potential could be realized. Minimally the eastern half of the dome adjacent to state land and running parallel to the Richardson Highway could be made a BLM recreation area and developed accordingly. A secondary concern is any permanent transfer of these lands from public lands under the BLM to Army Land. Currently the Alaska Fire Service (BLM) has wildland fire suppression responsibility for the area. That could easy change with an ownership transfer. As a former BLM wildland fire dispatcher, I trust the skills, experience, and resources that AFS brings to wildland fire suppression. Steve McCombs Delta Junction, AK 99737

From:	Judy Hicks
To:	Sattler, Alan G (Grant) CIV USARMY USAG (USA); USARMY Ft Wainwright ID-Pacific Mailbox LWE LEIS
Subject:	[Non-DoD Source] Fort Greely land withrawal
Date:	Monday, October 25, 2021 11:11:40 PM

Dear Ms Sample

I have some concerns and questions regarding the extension of withdrawal of public lands at Fort Greely.

First I think Donnelly Dome and adjacent Weasel Lake should be designated as recreational lands. The military still could continue to use a sustainable trail on Donnelly Dome for physical fitness exercises. Not only is Donnelly Dome a cultural landmark, but also there is interest in including Donnelly Dome as a feature in a statewide network of long trails (think Pacific Crest Trail), bringing recreation tourism to the State and Delta Junction economy.

Second, has there been any science based reason for the land size requirement the military needs to accomplish their training? And why for 25 years? Maybe there could be a more efficient utilization of the land use. This might provide good military training as well. This could be reviewed every 5 years.

Third, public land withdrawn for military use at Fort Greely is used only for training. Soldiers and their families are stationed in North Pole and Fairbanks. The community of Delta Junction suffers the road hazards and sonic boom noise, etc., yet gains none of the positive economic benefits of having more military families stationed here. Why should local Delta Junction residents agree to a 25 year extension?

Thank you for your time and consideration.

Judy Hicks

DOYON UTILITIES LLC

714 Fourth Avenue, Suite 100 • Fairbanks, AK 99701
PO Box 74040 • Fairbanks, AK 99707
Phone (907) 455-1500 • Fax (907) 455-6788

October 22, 2021

Ms. Laura Sample
NEPA Program Manager
Directorate of Public Works
Attn: AMIM-AKP-E (L. Sample)
1046 Marks Road #4500
Fort Wainwright, AK 99703-4500

Submitted via email to: usarmy.wainwright.id-pacific.mbx.lwe-leis@mail.mil

RE: Comments of Doyon, Limited on the Legislative Environmental Impact Statement (LEIS) analyzing the extended withdrawal of federal lands for military training in interior Alaska.

Dear Ms. Sample,

Please accept our comments of support for an extension of the current withdrawal of 869,862 acres of public land and water area from public use to meet the Army's continuing military need. The land areas in question, and the training areas they encompass, are an important component of military readiness for both the U. S. Army and the U. S. Air Force, as well as the military forces of our allied nations.

We encourage Congress to approve this extension without delay to allow our military forces to continue to use this important training resource without interruption.

Sincerely,

Lou Florence
President/CEO
Doyon Utilities, LLC

GEORGE R. LYLE
MICHAEL S. MCLAUGHLIN
CHRISTINA RANKIN
KRISTIN E. CRABB
ADAM D. HARKI
TRACI N. BUNKERS
RIKKI BURNS-RILEY

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www.guessrudd.com

W. EUGENE GUESS 1932-1975
JOSEPH RUDD 1933-1978
FRANCIS E. SMITH, JR. 1941-1991

OF COUNSEL
GARY A. ZIPKIN
JAMES D. LINXWILER
PATRICK J. COUGHLIN

October 21, 2021

VIA EMAIL usarmy.wainwright.id-pacific.mbx.lwe-leis@mail.mil
and FIRST CLASS MAIL

Laura Sample
NEPA Program Manager
Directorate of Public Works
ATTN: AMIM-AKP-E (L. Sample)
1046 Marks Road #4500
Fort Wainwright, Alaska 99703-4500

Re: Comments on Scoping of LEIS for Land Withdrawal Extension at Fort Wainwright, Alaska

Dear Ms. Sample:

The City of Delta Junction, Alaska ("City") submits these initial comments in response to the notice published in the Federal Register at Volume 86, Number 183 dated September 24, 2021 ("Notice") on the scoping of the upcoming Legislative Environmental Impact Statement ("LEIS") addressing the land withdrawal extension at Fort Wainwright, Alaska.[1] I am the attorney for the City in this matter.

The purpose of these initial comments is to ensure that the existing agreement between the U.S. Army-Alaska ("USARAK") and the City, known as the Memorandum of Agreement dated May 2006, USARAK-MOA-029 (the "Agreement"), is taken into account in any land withdrawal extension. A copy of the Agreement is attached as Exhibit A to this letter for your information.

As background, the Agreement arose as a part of a 2006 settlement between the City and USARAK of the City's objections to the original range expansion environmental impact statement. The City's objections were centered on the potential wildfire and flood impacts the range expansion and associated training activities would have on the City and the surrounding area. The Agreement, which settled potential litigation between USARAK and the City over these issues, was signed by Maj. General Charles Jacoby Jr., Commander of U.S. Army Alaska in 2006. At that time, General Jacoby stated that "[t]his is exactly what the (National Environmental Protection Act) process is supposed to do. It's a process that demands accountability and makes sure every voice is heard and that every concern is addressed."[2]

[1] The City may comment separately on the issue of recreational access to Donnelly Dome and other areas.
[2] See News Release #6-5-9-33 dated May 31, 2006, attached to this letter as Exhibit B.

Some of the key provisions of the Agreement include:

1. The creation and maintenance of fire breaks and vegetation mitigation along 33 Mile Loop, the Buffalo Drop Zone to Jarvis Creek, the polygon shaped clearings, and in the Buffalo Drop Zone, among other requirements;
2. Fire crew availability and presence requirements for any training during fire season;
3. Equipment availability requirements and training limitations during elevated fire indices;
4. Consultation with the City before authorizing certain training during periods of elevated fire indices; and
5. Other requirements and limitations important to the City and the community at large.

Over the past several years, the City has had a good relationship with USARAK in the performance of the duties under the Agreement. In particular, the City would like to see the weekly meetings of the Fire Mitigation Community of Interest Working Group it attends with USARAK and the Bureau of Land Management ("BLM") during fire season continue into the future and that continuation of those meetings be formally added as a condition for extension of the range expansion.[3] Also, the submission to the City of the annual operating plan for wildland fire management services between USARAK and BLM should also continue. Having this information and attending these meetings allows the City to monitor compliance with the Agreement and provide its perspective on the critically important fire management issues that are likely to affect the City and the surrounding community.

The Notice also includes a statement that "[t]he purpose of the proposed action is to obtain an extension of the land withdrawal of the three training areas for another 25 years or more, or have the land assigned to the control of the Secretary of the Army until such time as the Army determines it no longer needs the lands for military purposes." (Emphasis added.) The City strongly prefers that the land remain under BLM management and that control not be transferred to the Secretary of the Army. The City believes that the current structure is the best one because the BLM has the most experience and resources for dealing with the wildland fire and flooding issues. BLM brings a different and valuable perspective to such issues which could be lost if the land is transferred to the Army.

The City of Delta Junction prides itself on the long, mutually supportive relations with USARAK. A substantial number of former military personnel, both military and civilian, have chosen to retire and make their homes in and around the City. The City is proud of that heritage and looks forward to continuing its constructive working relationship with USARAK.

[3] The City is the only municipal member of the Fire Mitigation Community of Interest Working Group.

Finally, you are authorized to communicate directly with the City in connection with these comments. Please direct any future notices or correspondence to the City Administrator, City of Delta Junction, P.O. Box 229, Delta Junction, Alaska 99737, and through email at mleith@deltajunction.us. Thank you.

Sincerely yours,

GUESS & RUDD P.C.

Michael S. McLaughlin

Michael S. McLaughlin

cc: Mary Leith, City Administrator
City of Delta Junction

Senator Lisa Murkowski

Senator Dan Sullivan

Representative Don Young

MEMORANDUM OF AGREEMENT

USARAK-MOA-029

CITY OF DELTA JUNCTION, ALASKA - U.S. ARMY ALASKA

City of Delta Junction, Alaska
P.O. Box 229
Delta Junction, Alaska 99707

("the City") and

United States Army Alaska
Department of the Army
724 Postal Service Loop #5000
Fort Richardson, Alaska 99505-5000

("USARAK") agree that:

RECITALS

A. USARAK plans a range expansion in the Donnelly Training Area southeast of the City, constructing a Combined Arms Collective Training Facility ("CACTF") and a Battle Area Complex ("BAX") in the area commonly known as the Eddy Drop Zone.

B. USARAK has issued an Environmental Assessment ("EA"), Draft Environmental Impact Statement ("DEIS") and Supplemental Draft Environmental Impact Statement ("SDEIS") pursuant to the National Environmental Policy Act ("NEPA").

C. The City has disputed the adequacy of the EA and DEIS. The City disputes the adequacy of the SDEIS under NEPA.

D. As proposed, the BAX will be constructed in the Jarvis Creek flood plain. Executive Order 11988 ("EO 11988") bars construction in a flood plain unless there is no practicable alternative. USARAK asserts that there is no practicable alternative to construction of the BAX in the Jarvis Creek flood plain. The City disputes that assertion.

E. USARAK asserts that soils in the Donnelly Drop Zone, Alternative No. 3 in the SDEIS, make that area unsuitable for the BAX and CACTF, specifically that the soils are not trafficable. The City disputes that assertion.

F. USARAK asserts that construction anywhere but in the Eddy Drop Zone is prohibitively expensive. The City asserts that the failure to take into account the costs of fire and flood damage to the City and the Deltana region, and the failure to include maintenance costs of the BAX, make any cost comparison incomplete and flawed.

G. The City asserts that construction of the CACTF and BAX so close to the City creates an unacceptable risk of damage to

the City and the Deltana region by wildfire. USARAK asserts that mitigation efforts can reduce the risk of wildfire to an acceptable level.

H. In numerous other material respects, USARAK and the City disagree as to the existence of risks, the extent of those risks, and the capability of mitigating or managing those risks.

I. USARAK is not willing to voluntarily change its preferred alternative from Eddy Drop Zone to another location in the Donnelly Training Area.

J. If the City and USARAK were to litigate the adequacy of the SDEIS under NEPA, or the Finding of No Practical Alternative under EO 11988, the outcome would be uncertain, and the risk of delay to USARAK significant.

K. To reduce the risk of delay in the construction of the CACTF and BAX, and to address the City's concerns to the extent USARAK believes it can, USARAK is willing to enter into this Memorandum of Agreement.

L. To obtain what pledges of mitigation from USARAK that it can, and to reduce the expense of litigation to the City, and to resolve this protracted dispute, the City is willing to enter into this Memorandum of Agreement.

NOW, THEREFORE, THE CITY AND USARAK AGREE THAT:

A. Additional Fire Mitigation Treatments Created

1. USARAK will create a fuel break approximately 6 kilometers in length along 33-Mile Loop where it serves as the northern boundary of the BAX. On each side of the road the break will be 75 feet wide, for a total new clearing width of 150 feet. When the 150 feet is added to the width of 33-Mile Loop (approximately 50 feet) the total break width will be about 200 feet, including the road. The break will be anchored by Jarvis Creek on the west and by the area burned in 1987 on the east.

2. USARAK will create a 300-foot-wide break connecting Buffalo Drop Zone with Jarvis Creek, which is a length of approximately 800 meters.

3. USARAK will create at least 2 off-setting polygon-shaped clearings north of the break proposed in #2 above. Each will be at least 10 acres in size, and shaped similar to those polygons already in place as part of the Jarvis North Fire Mitigation Project.

4. USARAK will extend the length, by at least 100 meters, of 8 polygon-shaped clearings that are already in place as part of the Jarvis North Fire Mitigation Project.

5. USARAK shall maintain the current and above-described areas as fuel breaks using methods determined in consultation with the Alaska Fire Service. Such methods may include disking, burning, mowing, and conversion to hardwood stands.

6. USARAK shall maintain the vegetation in Buffalo Drop Zone so as to serve as a fuel break using methods determined in consultation with the Alaska Fire Service. Such methods may include disking, prescribed burning and mowing.

B. Training Restrictions

7. USARAK agrees to not conduct training at the BAX and CACTF range complex during fire season unless a wildland fire crew with a minimum of three persons is present in the Donnelly Training Area (DTA). This wildland fire crew is in addition to present regular staffing at the Fort Greely Fire Department. Under lower fire indices (Low and Moderate), the fire crew would be available to perform fire protection duties including creation and maintenance of fuel breaks. Under elevated fire indices (High and Extreme), the fire crew must be on standby at the BAX and CACTF range complex. Under extreme fire conditions, no training would occur in the BAX without contemporaneous approval of the USARAK Chief of Staff following consultation with the Alaska Fire Service and, dependent on availability, either consultation with or electronic notice to the City of Delta Junction.

8. USARAK agrees to purchase a new Type VI, 4-wheel drive, initial attack wildland fire engine for the fire crew discussed in #7 above.

9. The wildland fire crew discussed in #7 above would be initially trained and certified, and periodically re-certified, according to BLM Alaska Fire Service standards. USARAK would use good faith efforts to enter into an agreement with the Fort Greely Fire Department such that outside of fire season the fire crew and engine would be based at Fort Greely year-round.

10. During the fire season, under elevated fire indices a helicopter with a water bucket would be immediately available at any time training is being conducted at the BAX and CACTF range complex.

11. Under elevated fire indices soldiers training at the BAX and CACTF range complex would be prohibited from using pyrotechnic devices (including, without limitation, tracers, trip flares, and smoke). These prohibitions could only be waived for critical training exercises (e.g., preparation for deployment to a war theatre). Waiver could only be granted by the USARAK Chief of Staff after consultation with the City at least seven days in advance.

12. During periods of a Moderate fire index, use of pyrotechnic devices would be prohibited unless used in a container that completely contains all burning elements of the device (i.e., a burn pan). These prohibitions could only be waived for critical training exercises (e.g., preparation for deployment to a war theatre). Waiver could only be granted by the USARAK Chief of Staff after consultation with the City at least seven days in advance.

13. Under elevated fire indices ground units training at the BAX and CACTF range complex must carry firefighting equipment.

C. Jarvis Creek Flood Control Project

14. USARAK agrees to seek funding from Congress through the annual Department of Army military construction budget request process for the purpose of constructing a flood control dike in Donnelly Training Area East to direct floodwaters back into Jarvis Creek. USARAK will assign priority to this project. USARAK will treat this project as a community-based collaboration with the City. The final design will be selected only after the required environmental review is completed. To the extent possible, USARAK will support the City of Delta Junction's efforts to request funding for the repair of School Road/Nistler Road.

15. USARAK agrees to not harm the 1967 dike built along Jarvis Creek by construction of the BAX/CACTF project. The parties recognize and agree that the 1967 dike may be incorporated into the design of the flood control dike cited in the paragraph immediately above.

16. USARAK agrees to have the U.S. Army Corps of Engineers' hydrologists review and take into account the concerns and risks identified by Travis/Peterson Environmental Consulting, hydrologists retained by the City, in the design of the BAX and USARAK's application to the U.S. Army Corps of Engineers for its Section 404 permits.

D. General

17. Capitalized terms in this Memorandum of Agreement shall have the definitions given to them in the SDEIS, except where the context clearly requires otherwise.

18. USARAK agrees to take reasonable planning and administrative steps to facilitate public crossing of Donnelly Training Area to support public access to the Granite Mountains.

19. In order to mitigate potential interference with wireless communication services in the Deltana area caused by training exercises conducted at the BAX and CACTF, the Army will make available the use of Fort Greely land to communications

companies for purposes of installing and operating wireless communications systems.

20. Nothing in this Memorandum of Agreement replaces or substitutes the mitigation efforts required under previously approved projects or the mitigation efforts recommended in the SDEIS dated March 17, 2006.

21. The City and USARAK each warrants that it is authorized to make and enter into this Memorandum of Agreement, that the Memorandum of Agreement is fully enforceable against them, and that there is no supervening authority or power that impairs the enforceability of this Memorandum of Agreement, except as provided herein.

22. The City and USARAK pledge themselves to a standard of good faith and fair dealing under this Memorandum of Agreement.

E. Settlement Agreement

23. So long as USARAK is in compliance with the covenants and conditions set out in this Memorandum of Agreement, the City agrees that the City will not contest the adequacy, completeness or accuracy of the SDEIS or Final Environmental Impact Statement ("FEIS"), and will not protest or appeal from the issuance of a Record of Decision based upon the FEIS.

24. So long as USARAK is in compliance with the covenants and conditions set out in this Memorandum of Agreement, the City agrees that the City will not oppose issuance of a Section 404 permit or permits authorizing construction in wetlands or the flood plain located in the Eddy Drop Zone.

25. USARAK agrees that all mitigation measures identified in the SDEIS, pertaining to construction and operation of the CACTF and BAX at the Eddy Drop Zone location, will be retained in the FEIS. USARAK will take all reasonable efforts to urge Army decision-makers to undertake all of the mitigation efforts currently described in the SDEIS as carried forward in the final form of the EIS or variations of those mitigation efforts reasonably satisfactory to the City. The parties have attached a Table of Mitigation Measures to this Memorandum of Agreement as Exhibit A. The failure by USARAK to timely undertake a mitigation measure identified in Exhibit A as "Critical" shall be a default under this Memorandum of Agreement and resolved under Part G below. The failure to timely undertake a mitigation measure identified as "Important" shall not be a default but shall be the subject of mandatory consultation between USARAK and the City. USARAK agrees that the mitigation efforts described in Exhibit A, as supplemented and modified by this Memorandum of Agreement, represent that minimum level of mitigation that is acceptable to the City.

26. USARAK agrees that it will in good faith implement the mitigation efforts described in the amended Section 404 wetlands permit applications to the U.S. Army Corps of Engineers, or variations in those mitigation efforts reasonably satisfactory to the City. USARAK agrees that those Section 404 mitigation efforts, as supplemented by this Memorandum of Agreement, represent that minimum level of mitigation that is acceptable to the City.

27. Nothing in this Memorandum of Agreement shall be interpreted as a consent by the City to expansion of the CACTF or BAX beyond the levels and uses described in the SDEIS.

F. Implementation

28. The City will introduce an ordinance approving this Memorandum of Agreement on May 2, 2006. A public hearing before the City Council on the proposed ordinance and memorandum of Agreement will be held on May 16, 2006.

29. USARAK will participate in the public hearing on May 16, 2006 before the Delta Junction City Council. At or immediately before that public hearing, USARAK will conduct a demonstration of the noise level associated with the 105mm Stryker Mobile Gun System tank gun and a representative sample of aircraft traffic at the BAX and CACTF respectively.

30. The City's approval of this Memorandum of Agreement shall be final upon the City Council's approval of this ordinance and resolution of any reconsideration of that action.

31. USARAK's approval of this Memorandum of Agreement shall be final upon signature by Major General Charles Jacoby, Commander, United States Army Alaska.

G. Enforcement and Dispute Resolution.

32. Should the Army decide to not build the CACTF and BAX at the Eddy Drop Zone or be unable to build the CACTF and BAX at the Eddy Drop Zone, for whatever reason, this agreement will be deemed null and void and subject to termination by either the City or the Army by providing written notice under the terms of this agreement.

33. The City and USARAK intend this Memorandum of Agreement to create enforceable rights in each of them for all times in which Eddy Drop Zone is used as a CACTF or BAX as described in the SDEIS.

34. In the event of a dispute between the City and USARAK as to interpretation, application or enforcement of this Memorandum of Agreement, the dispute shall be resolved as described in this paragraph.

(a) In the event of a disagreement between the City and USARAK concerning the interpretation or performance of any aspect of this Memorandum of Agreement, the dissatisfied party shall provide the other party with written notice of the Dispute and a request for informal negotiations within twenty (20) days of the disputed event. The parties shall meet and confer in a good faith effort to attempt to resolve the Dispute within thirty (30) days of the written notice or such time thereafter as is mutually agreed.

(b) If the parties are unable to resolve the Dispute informally through negotiation, then the parties shall endeavor to settle the Dispute by non-binding mediation, Within ten (10) days after the close of the informal negotiation period, each party shall provide the other with the names of at least three (3) individuals qualified by experience and background to serve as a neutral mediator, along with a brief summary of each individual's qualifications. The recommended individuals shall not be members of or otherwise affiliated with the party who recommends them. For example, candidates may not be members of or employed by the U.S. Army, or citizens of the City. Within ten (10) days after delivery of the written recommendations, representatives of each party shall confer in person or by telephone to select the individual who will serve as neutral mediator. Prior service as mediator under this Memorandum of Agreement shall not disqualify an individual from subsequent service. The parties shall extend their best reasonable efforts to select a mutually acceptable neutral mediator to resolve the dispute through the mediation process. If the parties are unable to mutually agree on a neutral mediator within ten (10) days from the first effort, then each party shall select a mediator candidate from their list and those candidates shall select a neutral mediator. The first $5,000 in reasonable and customary costs of the mediator, including travel, lodging, meals and mediation time, shall be paid by USARAK. If the total costs exceed $5,000 in any calendar year, the costs in excess of $5,000 shall be borne equally by the City and USARAK. If a court determines that the mediation demand was frivolous, the court may order a party to pay all of the mediator costs. In mediation, each party shall bear its own costs and attorneys' fees.

(c) If the Dispute remains unresolved after completion of the mediation process, then either the City or USARAK may petition the United States District Court for the District of Alaska to resolve the Dispute. The parties waive all jurisdictional defenses to such a petition.

(d) All informal negotiations, mediations, and related communications and proceedings conducted pursuant to subparagraphs (a) - (b) of this Paragraph shall be treated as compromise and settlement negotiations for the purposes of all applicable rules of evidence. However, a recital of compliance with the dispute resolution requirements of this Paragraph shall be admissible.

35. In any litigation under this Memorandum of Agreement before a competent court the prevailing party shall be entitled to recover its costs and attorneys' fees.

H. Force Majeure.

36. The City and USARAK recognize that circumstances outside the reasonable control of USARAK may delay compliance with the timetables established in this Memorandum of Agreement. Such a delay in performance shall not constitute a breach of this Memorandum of Agreement, provided that USARAK acts with such reasonable diligence as those circumstances may permit. A failure of funding for Wildfire Protection shall not be excused under this Paragraph. Any disputes as to the applicability of this clause shall be resolved under the Dispute Resolution provisions of this Memorandum of Agreement.

I. Miscellaneous

37. The parties agree that this Memorandum of Agreement was jointly drafted by the parties. The parties agree that any and all rules of construction that require an ambiguity to be interpreted against the drafting party shall be inapplicable.

38. If, subsequent to the execution of this Memorandum of Agreement, any change in the law occurs that increases, decreases, or otherwise alters USARAK's obligations concerning matters addressed in this Memorandum of Agreement, then this Memorandum of Agreement shall be amended to conform to such changes. Any disputes as to the applicability of this clause shall be resolved under the Dispute Resolution provisions of this Memorandum of Agreement.

39. Any notice required or made with respect to this Memorandum of Agreement shall be in writing and shall be effective upon receipt. Any notice or other documents required pursuant to this Memorandum of Agreement shall be sent to the following persons:

FOR THE CITY OF DELTA JUNCTION:

City Clerk
City of Delta Junction
P.O. Box 229

Delta Junction, Alaska 99737
pwhite@ci.delta-junction.ak.us

FOR UNITED STATES ARMY ALASKA

Mike Gieryic, Esq.
Office of the Staff Judge Advocate
U.S. Army Alaska
724 Postal Service Loop # 5700
Fort Richardson, Alaska 99505-5700
mike.gieryic@us.army.mil

Upon written notice to the other parties, any party may designate a successor contact person for any matter related to this Memorandum of Agreement.

Notice given by email shall not be effective unless it is acknowledged to have been received by the recipient.

40. The parties recognize that USARAK's performance under this Memorandum of Agreement is subject to fiscal and procurement laws and regulations of the United States, including without limitation the Anti-Deficiency Act, 31 U.S.C. §1341 et seq. Nothing in this Memorandum of Agreement shall be interpreted to require USARAK to obligate or pay funds in contravention of those laws. Any disputes as to the applicability of this clause shall be resolved under the Dispute Resolution provisions of this Memorandum of Agreement.

41. This Memorandum of Agreement constitutes the full, final and complete agreement between the City and USARAK with respect to the matters addressed in this Memorandum of Agreement. There are no representations, agreements or understandings relating to this settlement other than those expressly contained in this Memorandum of Agreement.

DATED at Delta Junction, Alaska this 16th day of May, 2006.

CITY OF DELTA JUNCTION, ALASKA

ROY GILBERTSON, MAYOR

DATED at Fort Richardson, Alaska this 13th day of May, 2006.

UNITED STATES ARMY ALASKA

Major General Charles Jacoby,
Commander, United States Army
Alaska

EXHIBIT A

Critical and Important Mitigation Measures Contained in the Supplemental Draft Environmental Impact Statement

Critical Mitigation Measures	Important Mitigation Measures
4.2.1 Soil Resources	
	Mitigation for permafrost includes the maintenance and nondisturbance of the vegetation mat, precluding the predictable subsequent initiation of thermokarst. This is best accomplished through the avoidance of permafrost rich areas altogether or by limiting disturbance to periods when sufficient snow depth prevents vegetation damage. 4.2.1.2, pp. 4-15 - 4-16.
	Compliance with training regulations, as stipulated by USARAK Range Regulation 350-2. 4.2.1.2.1, p. 4-16.
	Application of the ITAM program to inventory and monitor, repair, maintain, and enhance training lands. 4.2.1.2.1, p. 4-16.
	Implementation of programs to track munitions usage. 4.2.1.2.1, p. 4-16.
	Use of the Range Facility Maintenance Support System (RFMSS) and input range use data. 4.2.1.2.1, p. 4-16.
	Implementation of a soil and water monitoring program for DTA. 4.2.1.2.1, p. 4-16.
	Adjust site layouts to relocate proposed structures away from areas having higher permafrost potential. 4.2.1.2.2, page 4-16.
	Additional drilling at sites to confirm initial interpretations, prior to final design and construction. 4.2.1.2.2, page 4-16.

	Prevent off-road vehicle traffic in high permafrost areas during summer months when the ground is thawed. 4.2.1.2.2, page 4-16.
	Incorporate existing cleared areas into design of range facilities. 4.2.1.2.2, page 4-16.
	Utilize BMPs, common in the construction industry in Alaska, to localize impacts and to ensure soils would not erode from the site or enter waterways. In particular, USARAK should take into consideration the effects of melting permafrost on drainage. 4.2.1.2.2, page 4-16.
4.2.2 Surface Water	
During the range design phase, placement and construction of facilities, access roads and range targetry stations would be undertaken to ensure unimpeded flows and the maintenance of current flow rates through the area. For example, water crossings and culverts in road systems would be modified as needed to preclude impoundment behind roadway systems and to prevent potential overtopping, roadbed erosion, or diversion of surface waters. Vegetation within high water drainage ways and channels would be maintained, except in very localized areas. This natural channel vegetation slows water velocities and flow rates from flood events, thus lessening the downstream effects toward the Alaska Highway and Delta Junction. 4.2.2.1.4 at p. 4-24.	Site ranges to avoid construction footprints near lakes and ponds. 4.2.2.2.2 at p. 4-31.
Proposed features within the construction footprint and maneuver area of the BAX at Eddy Drop Zone ... would require the clearing of vegetation. A majority of the roads and trails would be designed to run north to south and would be elevated. Culverts of adequate size would be installed to convey annual spring break-up flood waters through the range complex. ... The natural historic occurrence of Jarvis Creek spring flooding due to aufeis accumulation would still occur, and it would	Prevent maneuver near lakes and ponds. 4.2.2.2.2 at p. 4-31.

be conveyed along its natural path. ... the downstream vegetation would likely return the velocities to existing levels. 4.2.2.1.4 at p. 4-24.	
	Prevent direct fire into lakes and ponds. 4.2.2.2.2 at p. 4-31.
All existing mitigation measures listed in Section 4.2.2.2.1 at p. 4-30.	
Comply with Executive Order 11988 - *Protection of Floodplains* to minimize adverse impacts to floodplains. 4.2.2.2.2 at p. 4-31.	
Closely monitor all sites to detect and correct future changes in drainage patterns. 4.2.2.2.2 at p. 4-31.	
Design and build ranges to ensure they would not impede floodwaters. 4.2.2.2.2 at p. 4-31.	
Avoid designing roads and trails in the general direction of preferential water flow and at ground level. 4.2.2.2.2 at p. 4-31.	
Avoid constructing large areas of impervious surface. 4.2.2.2.2 at p. 4-31.	
Remove minimal amounts of vegetation to prevent increased overland flow through the range areas. 4.2.2.2.2 at p. 4-31.	
Design range facility drainage to accommodate general local snowmelt runoff each spring and rainfall events throughout the year. 4.2.2.2.2 at p. 4-31.	
Construct permanent low-water crossings (i.e. ingress and egress ramps) or other features at designated vehicular stream crossings to prevent bank erosion, widening of waterways and increased sediment in streams. 4.2.2.2.2 at p. 4-31.	
4.2.3 Fire Management	
The threat of wildfire to Delta Junction would be reduced through 1) reduction of fuel load prior to any use of the range complex, and 2) the provision of a USARAK quick-reaction fire suppression capability at DTA. In	

addition, the range siting lies between the source of wildfire ignition and the town of Delta Junction, insuring a dedicated USARAK response to protect Army investments as well as Delta. 4.2.3.1.4 at p. 4-40.	
Several mitigation measures have been suggested to reduce the risk of wildfire impacts on the community of Delta Junction. An extensive hazard fuels reduction project, coupled with a prescribed fire, has been undertaken to protect community residents. Under extreme conditions, such measures cannot guarantee that fires would not spread into adjacent lands. A detailed wildfire pre-attack plan (including an initial attack plan and egress routes for residents of Delta Junction) should be required before any live weapons fire training exercises occur. USARAK would not use pyrotechnics during training exercises when fire weather indices are rated high or extreme. In addition, USARAK should also coordinate with AFS to pre-position an Initial Attack Response Team in the Delta Junction area. 4.2.3.1.4 at p. 4-40.	
Mitigation measures should prepare the landscape for impending wildland fires. Patches of thinned trees and controlled burns in high-risk areas may lessen wildland fire intensity and spread. 4.2.3.2 at p. 4-43.	
All existing mitigation measures listed in Section 4.2.3.2.1 at p. 4-43.	
Locate range operational areas within hardwood forests (i.e., not in black spruce) to minimize the probability of wildland fire ignition. 4.2.3.2.2 at p. 4-44.	
Create defensible space around existing and new structures, including targets. This would be accomplished by clearing fuels around new structures and facilities. 4.2.3.2.2 at p. 4-44.	
Create a fire break along the northern boundary of the BAX if built at Eddy Drop Zone.	

Station a USARAK wildland fire crew at FWA [Fort Wainwright] depending on type of range use and fire weather index rating. The crew would accompany troops that train at DTA during high and extreme fire danger and would provide immediate wildland fire suppression. During times of a low fire risk index rating, the fire crew would conduct needed hazard fuel reduction projects (mow and "burn out" grass patched around targets to prevent fire, remove dead trees, and thin live trees to reduce the fuels within the range footprints) near military structures and on ranges. 4.2.3.2.2 at p. 4-44.	
At least two weeks prior to a major training exercise, a public notice would be posted throughout the Delta Junction community and published in the local newspaper. The notice would indicate which range would be used, duration of exercise/range closure, any use of close air support, and any anticipated use of military convoys on local roadways. 4.2.3.2.2 at p. 4-44.	
Place fire weather stations at or near proposed BAX and CACTF sites. The station would be purchased and maintained by USARAK. AFS would advise on placement of facility (usually in an area with representative vegetation for the site) and initial setup. The on-site weather station would provide the most accurate fire weather indices for the proposed range. 4.2.3.2.2 at p. 4-45.	
Develop a fuels management plan for Bolio Lake Training Area to reduce the threat of wildfires and increase military training opportunities. 4.2.3.2.2 at p. 4-45.	
Continue with Jarvis Creek North Fire Mitigation Project, as discussed in Section 3.2.3.4.1 at pp. 3-31 - 3-33.	
4.2.4 Noise	
	All existing mitigation measures contained in Section 4.2.4.3.1 at p. 4-60.

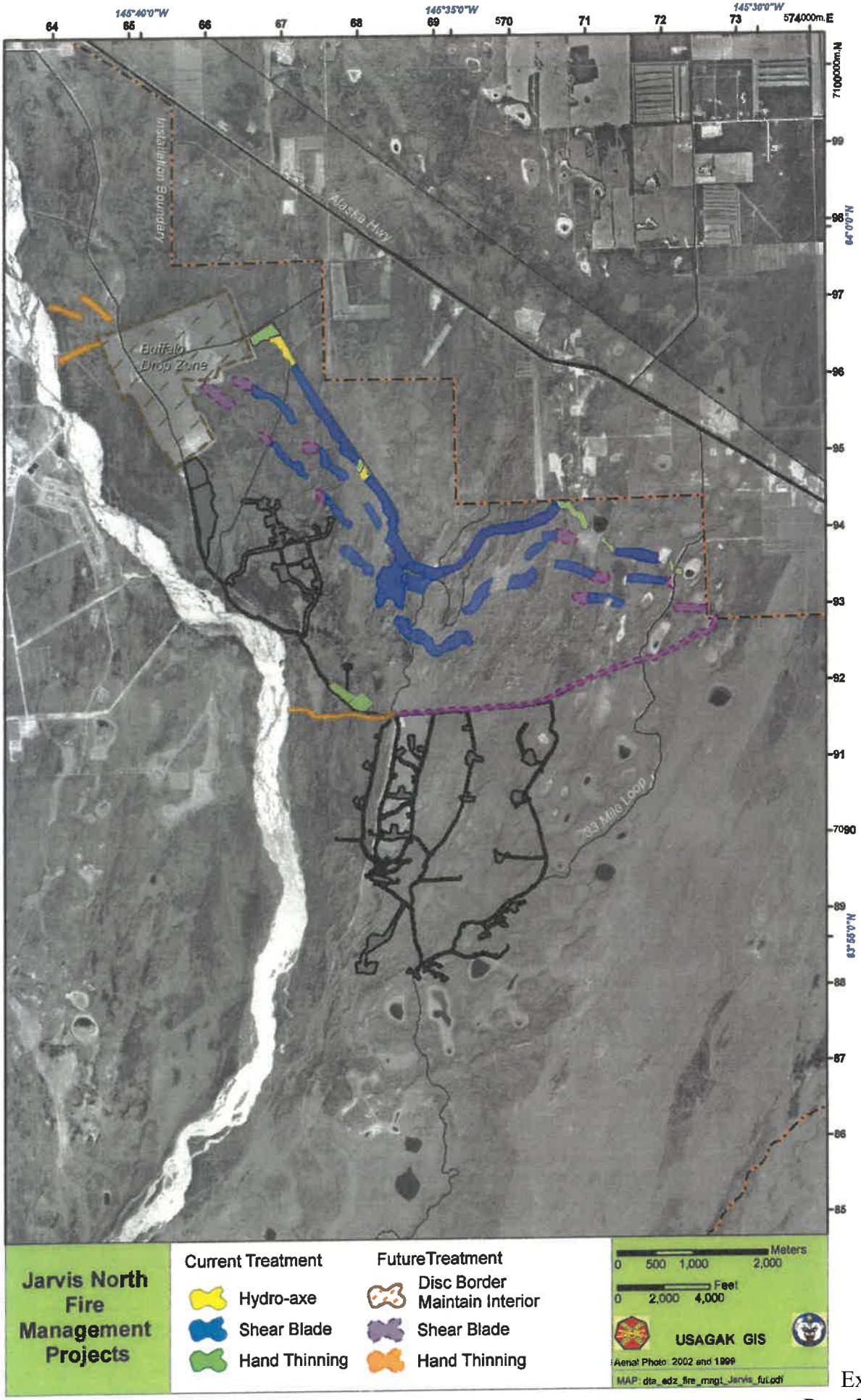
	Provide a 24-hour feedback line to collect comments or complaints regarding noise (similar to the existing Air Force program). 4.2.4.3.2 at p. 4-60.
4.2.5 Human Health and Safety	
	USARAK standard operation procedures call for large convoys to be broken into groups of no more than 20 vehicles. These groups are then separated by 30-minute gaps between departures to alleviate traffic pressure on Alaska's public highways. 4.2.5.1.2 at p.4-65.
	All existing mitigation measures contained in Section 4.2.5.2.1 at p. 4-68.
	No dudded munitions and surface danger zone adequate to contain all projectiles. 4.2.5.1.2 at pp. 4-64 - 4-65; 4.2.5.2.2 at p. 4-69.
4.2.6 Wildlife and Fisheries	
	All existing mitigation measures contained in Section 4.2.6.2.1 at p. 4-95.
	Implement proposed mitigation measures contained in Section 4.2.6.2.2 at pp. 4-96 - 4-97, and, in particular: • Determine placement of access gates along Meadows Road and 33-Mile Loop Road to allow for maximum continued recreational use and maximum public safety, as to wildlife; • Allow all other recreational activities outside of the construction footprint and maneuver area per current USAG-AK management policies (wildlife); • Determine placement of access gates along Meadows Road and Windy Ridge Road to allow for maximum continued recreational use and maximum public safety to allow ADF&G access to stocked lakes and regulated hunting areas; • Maintain access to all 14 stocked lakes; • Allow all other recreational activities outside of the construction footprint

	and maneuver areas per current USAG-AK management policies (fisheries).
4.3.2 Groundwater	
	Existing mitigation measures contained in Section 4.3.2.2.1 at p. 4-137. Specifically, continue and expand groundwater monitoring.
4.3.3 Wetlands	
	Existing mitigation measures contained in Section 4.3.3.2.1 at p. 4-150.
	Site facilities, targetry, access and firing roads/trails to avoid construction within wetlands, as much as practicable. Construction would remove the least amount of vegetation possible to avoid melting permafrost. 4.3.3.2.2 at p. 4-150.
	Use silt fences and other construction techniques to prevent siltation during construction. Overburden would not be stored in wetland areas. 4.3.3.2.2 at p. 4-150
	Complete detailed wetland delineations as designs of the proposed BAX and CACTF facility are finalized and the exact locations of targets, trails, buildings and other construction elements are better known for utilization in siting facilities, where necessary.
4.3.4 Vegetation	
	Existing mitigation measures contained in Section 4.3.4.2.1 at p. 4-161 specifically including continued implementation of a recreational use vehicle policy at USARAK and continue to make available usable timber that cannot be sold in a timber sale to the public at no cost.
4.3.7 Subsistence	
	All existing mitigation measures contained in Section 4.3.7.2.1 at p. 4-181.
	Make USARAK long-term training and convoy schedules available to the public, allowing regional residents to better plan subsistence activities within DTA East. 4.3.7.2.2 at p. 4-181.

	Initiate and continue consultations with Alaska Native tribes to identify and evaluate traditional cultural properties that may be present on military managed land in interior Alaska. 4.3.7.2.2 at p. 4-181.
4.3.8 Public Access and Recreation	
	All existing mitigation measures contained in Section 4.3.8.2.1 at p. 4-194.
	Make USARAK long-term training and convoy schedules available to the public, allowing regional residents to better plan public access and recreation activities within DTA East. 4.3.8.2.2 at p. 4-194.
	Determine placement of access gates along Meadows Road, Windy Ridge Road, 12-Mile Crossing and 33-Mile Loop Road to allow for maximum continued recreational use and to maximize public safety. 4.3.8.2.2 at p. 4-194.
	Maintain access to ADF&G stocked lakes. 4.3.8.2.2 at p. 4-194.
	Allow all other recreational activities outside of the construction footprint and maneuver area per current USAG-AK policies. 4.3.8.2.2 at p. 4-194.
	Work with ADF&G to support stocked lake program brochures, signs and improvements. 4.3.8.2.2 at p. 4-195.
	Upgrade road access at Fleet Street. 4.3.8.2.2 at p. 4-195.
4.3.10 Cumulative Impacts	
Regional Mitigation Measures discussed in Section 4.3.10.3 at p. 4-221: A longer-term, more comprehensive fire management and mitigation strategy may eventually be required for the local DTA region. A regional strategy would necessarily include controls and protections from both the Army and other community constituents. Adaptive management policies and management of community land use and	

activities during specific risk conditions, could reduce non-military risks. Areas that constitute a likely fire threat could be more actively managed to reduce community risks from non-military wildfires. Mitigation measures could include landscape treatment or alterations to reduce wildfire threats. For example, mechanized vegetation removal [and] controlled burns in high-risk areas may lessen potential wildfire intensity and spread. While Army mitigation measures are limited to military-induced wildfire threats, they constitute only partial reductions to the overall threat of wildfires in the community. A more comprehensive and regional approach is a possible long-term solution to cumulative wildfire threats, given growth and development in the region, and accompanying risks of wildfire starts. While Army mitigation measures ... will reduce these risks from military activities, accompanying mitigation measures for non-military activities will be requires to reduce the growing long-term cumulative risks as a regional level.	

See Appendix at pp. APP-15 - APP 52 for USARAK's assessment of the effectiveness of existing and proposed mitigation measures.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Jarvis North Fire Management Projects
Current Treatment
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Shear Blade
Hand Thinning
FutureTreatment
Disc Border Maintain Interior
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USAGAK GIS
Aerial Photo 2002 and 1999
MAP: dta_edz_fire_mngt_Jarvis_fuLodf

MEMORANDUM OF AGREEMENT

USARAK-MOA-029

CITY OF DELTA JUNCTION, ALASKA – U.S. ARMY ALASKA

SIGNED below at Delta Junction, Alaska on this Memorial Day, the 29th day of May in the year 2006, in recognition of the City of Delta Junction and United States Army Alaska having entered into the foregoing Memorandum of Agreement on the 16th day of May, 2006:

FOR THE CITY OF DELTA JUNCTION, ALASKA

Mary Leith-Dowling
Mayor Pro tem
City of Delta Junction

FOR UNITED STATES ARMY ALASKA

Major General Charles H. Jacoby Jr.
Commander
United States Army Alaska

Pete Hallgren

From: "Gohlke, Kirk W MAJ USA USARAK PAO" <Kirk.Gohlke@richardson.army.mil>
To: <undisclosed-recipients:>
Sent: Wednesday, May 31, 2006 3:57 PM
Attach: DSCN0574.JPG
Subject: Agreement signed

NEWS RELEASE

FOR GENERAL RELEASE May 31, 2006

AGREEMENT SIGNED Release #-6-5-9-33

FORT RICHARDSON, Alaska – The city of Delta Junction and the Army agreed to mitigate rather than litigate over the Army's proposed ranges in the Donnelly Training Area Monday in Delta Junction.

Maj. Gen. Charles H. Jacoby Jr., commander of U.S. Army Alaska, met with city officials from Delta Junction in Delta Junction for a ceremonial signing of a memorandum of agreement Monday, an agreement that was originally signed on May 16. The agreement outlines specific fire and flood mitigation efforts to be undertaken by the Army in return for an agreement from the city to forego litigation to delay construction of the range.

"Many of these mitigation efforts were already written into the (supplementary draft environmental impact statement), but a number of them were not," said Pete Hallgren, Delta Junction city manager. "We want to make sure the Army understands our concerns and is willing to take the steps necessary to alleviate these concerns."

"This is exactly what the (National Environmental Protection Act) process is supposed to do," said Maj. Gen. Charles Jacoby Jr., commander of U.S. Army Alaska. "It's a process that demands accountability and makes sure every voice is heard and that every concern is addressed."

Fire mitigation efforts in the agreement include, among others, cutting additional fire breaks in the training area and stationing a helicopter with fire bucket and a dedicated firefighting team at the ranges when training during periods of elevated wildfire danger.

The Army also agreed to join the city of Delta Junction in an effort to secure federal funding for construction of a levee along Jarvis Creek, a waterway which often presents a flooding hazard to both the proposed range location and to the city.

The proposed ranges, called the battle area complex and combined-arms collective training facility, or BAX/CACTF, will train up to 1,000 Soldiers at a time in both urban and rural combat. The BAX, a live-fire maneuver range, will train company-level commanders and below, leading forces of up 200 Soldiers while reacting to a wide variety of scenarios in a rural or open setting using live ammunition.

The CACTF, an urban warfare center, will train up to a battalion, or 800 Soldiers, in city fighting using blank ammunition or sub-caliber plastic bullets that are safe for Soldiers to shoot at each other.

Jacoby, in a prepared statement, stated that the day of the ceremony, Memorial Day, holds a special significance for him. The annual holiday reminds him of his responsibility for the training and safekeeping of nearly 10,000 Soldiers. "It is my moral obligation, and the obligation of every American citizen, to provide our Soldiers the toughest, most realistic training possible before sending them into battle."

"The Army must train. We've never questioned that," said Hallgren. "So this agreement is a compromise. We'll always have, what we feel, are legitimate concerns over the Army training so close to our city, but this ceremony is our way of showing that we're willing to work with the Army despite our reservations.

"In the end," he added, "I think the risk is worth the benefits to the community and the benefits to the Army. We welcome more Army involvement in the Delta community and hope to nurture a long-term, mutually-beneficial relationship."

-30-

Photo cutline: Delta Junction Mayor Pro tem Mary Leith-Dowling looks on as Maj. Gen. Charles H. Jacoby Jr. addresses Delta Junction City Council and other attendees at the ceremonial signing of the memorandum of agreement Monday between the city of Delta Junction and U.S. Army Alaska. (Photo by Kirk Gohlke.)

Respectfully,

Kirk W. Gohlke
MAJ, SF
U.S. Army Alaska Public Affairs Officer
(907)384-1542
DSN 315-384-1542
fax (907)384-2060

United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE
Northern Alaska Fish and Wildlife Field Office
101 12th Avenue, Room 110
Fairbanks, Alaska 99701
October 20, 2021

VIA ELECTRONIC MAIL, NO HARD COPY TO FOLLOW

Ms. Laura Sample
NEPA Program Manager
Attn: AMIM-AKP-E (L. Sample)
1046 Marks Road #4500
Fort Wainwright, Alaska 99703-4500

Dear Ms. Sample,

Thank you for the opportunity to provide scoping comments for the Legislative Environmental Impact Statement (LEIS) being prepared to evaluate the potential environmental impacts on three training areas (Yukon Training Area, Donnelly Training Area East, and Donnelly Training Area West) currently withdrawn from the public under Public Law 106-65 for military use in interior Alaska. The current withdrawal expires in November 2026, and Congressional approval of the legislative proposal is required to extend the current withdrawal of 869,862 acres from public use for 25 or more years. The purpose of the withdrawal is to ensure that the Army will retain full and continued use of the training areas to successfully execute and fulfill its mission in Alaska.

Comments and Recommendations: The U.S. Fish and Wildlife Service (Service) appreciates the United States Army Garrison at Fort Wainwright, Alaska's (USAG FWA) coordination for this proposed land withdrawal extension. We offer the following recommendations to help minimize impacts on fish, wildlife, and their habitat.

The Service recommends the USAG FWA establish standard protocols for withdrawn-land management where the actions of the land manager (i.e., USAG FWA) and any tenants (e.g., United States Air Force) comply with the Integrated Natural Resource Management Plan (INRMP) and permitted activities. These protocols would include the timely restoration of degraded wetland functions, and the rehabilitation of other landscape actions (e.g., upland activities causing erosion).

To successfully execute the land management protocols, the Service recommends implementing a funding system to maintain the Integrated Training Area Management Program (ITAM), specifically the Land Rehabilitation and Maintenance (LRAM), and Range and Training Land Assessment (RTLA) components at their highest levels. Integrating LRAM and RTLA funding into specific training and complex development budgets may be an option. Fully funded ITAM components assist with timely restoration and rehabilitation in support of continued use of training lands.

We appreciate this opportunity to provide comments, and we would be happy to discuss them with you. Amal Ajmi (amal_ajmi@fws.gov, 907-456-0324) will continue to be our primary point of contact (POC), with her supervisor Bob Henszey (bob_henszey@fws.gov, 907-456-0323) as our secondary POC.

Sincerely,

Sarah Conn
Field Office Supervisor

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 155
Seattle, WA 98101-3188

REGIONAL
ADMINISTRATOR'S
DIVISION

October 26, 2021

Laura Sample
NEPA Program Manager
Directorate of Public Works
Attn: AMIM–AKP–E (L. Sample)
1046 Marks Road #4500
Fort Wainwright, Alaska 99703–4500

Dear Ms. Sample:

The U.S. Environmental Protection Agency has reviewed the Department of Army (Army) Notice of Intent to prepare a Legislative Environmental Impact Statement (LEIS) for the proposed continued military use of the Yukon Training Area near Fort Wainwright, Donnelly Training Area East, and Donnelly Training Area West, near Delta Junction, Alaska (EPA Region 10 Project Number 21-0055-USA). Our review was conducted in accordance with our responsibilities under Section 309 of the Clean Air Act, the National Environmental Policy Act, and the Council on Environmental Quality regulations for implementing NEPA (40 CFR §§ 1500-1508).

According to the NOI, the Army is proposing to evaluate the potential environmental impacts associated with a proposal to extend its use of three training areas that are officially under the management of the U.S. Bureau of Land Management. The purpose of the proposed action is to obtain a land withdrawal extension for the three training areas for 25 years or more, or to have the land assigned to the control of the Secretary of the Army until such time as the Army determines it no longer needs the land for military purposes. The current land withdrawal will expire on November 6, 2026, unless Congress enacts legislation to extend it. The proposed extension includes: the Yukon Training Area (246,277 acres), Donnelly Training Area East (51,590 acres), Donnelly Training Area West (571, 995 acres), and restricted airspace operations over the withdrawn land.

EPA understands the overall purpose of the proposed action is to improve military readiness training and appreciates the Army's decision to analyze the potential environmental and socioeconomic impacts of this action in a LEIS. EPA offers the attached scoping comments to highlight considerations we feel are important in the NEPA analysis for the project.

Thank you for the opportunity to provide scoping comments on this project proposal. If you have questions about our comments, please contact David Magdangal of my staff at (206) 553-4044 or at magdangal.david@epa.gov, or you may contact me at (206) 553-1774 or by email at chu.rebecca@epa.gov.

Sincerely,

Rebecca Chu, Chief
Policy and Environmental Review Branch

U.S. Environmental Protection Agency Scoping Comments on the Land Withdrawal Extension at Fort Wainwright, Alaska

Range and Comparison of Alternatives

EPA recommends that the LEIS include a range of reasonable alternatives that meet the stated purpose and need for the proposed action and that are responsive to the issues identified during the scoping process. The White House Council on Environmental Quality recommends that all reasonable alternatives should be considered, even if outside the capability or jurisdiction of the Army. It would also be helpful if the LEIS included:

- A table comparing the environmental impacts of the proposal and alternatives, so the document sharply defines the issues and provides a clear basis for choice among options by the decision maker and the public;
- Quantification of the potential impacts; and
- A list of mitigation measures for each alternative action's impacts.

EPA encourages selection of reasonable alternatives that will minimize environmental degradation.

Environmental Effects

EPA recommends the LEIS include the environmental effects of the proposed action on natural resources and any necessary mitigation measures to reduce those effects. This would involve the delineation and description of the affected environment or analysis area, indication of the impacted resources, the nature of the impacts, and proposed mitigation measures to reduce those impacts. We recommend that providing adequate information in the LEIS on the following topics to help decision makers and the public.

a) Noise and disturbance effects

As a result of the proposed action, the community may experience noise and other flight-related disturbance, which variously affects residents, visitors, schools, businesses, recreation areas and activities, natural areas and wildlife. Therefore, EPA recommends that the LEIS address the direct, indirect, and cumulative effects from aircraft and other equipment noise and disturbance that may impact human and wildlife communities. EPA encourages the Army to consider including the following in the LEIS analysis:

- Identification of the geographic location and area affected by the proposed training program and related operations;
- Any differences in intensity/severity of effects with respect to air traffic, including height above ground and height above sea level for all effects;
- Any new effects on previously undisturbed areas and cumulative/increased effects (e.g., increased frequency, severity) on areas currently within the analysis area;
- Effects on birds and habitat quality/suitability for nesting, rearing, foraging, roosting, particularly within important habitat/concentration areas, such as Wildlife Refuges, Natural Areas/Key Conservation Sites, and other important habitat, and on threatened, endangered, candidate, sensitive, and other species of concern listed by Federal or State fish and wildlife agencies;

- Effects on other terrestrial or aquatic wildlife species and a disclosure of the area, location, and accessibility of any remaining intact habitats and refugia currently unaffected by armor, infantry, and aviation units;
- Effects on children's health and safety, including effects of noise/disturbance on schools and other learning facilities, outdoor recreation areas, and other sensitive locales. See Executive Order 13045; [1]
- Effects on other vulnerable/disadvantaged populations, including minorities, low income, elderly, disabled, and Native Americans. See Executive Order 12898 on Environmental Justice;[2]
- Effects on quality of life, recreation activities, and quietude. Churches and other community gathering environments may be affected by new or increased noise and frequency of military exercises; and
- Indirect and cumulative effects on sensitive human and non-human animal receptors.

b) Air quality impacts

Because the proposed action may result in impacts to air quality, we recommend that the EIS include a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards, and criteria pollutant non-attainment areas in the analysis area and vicinity. We recommend estimating emissions of criteria pollutants for the analysis area and discuss the timeframe for release of these emissions through the lifespan of the proposed project. For estimation of emissions, it would be helpful to specify all emission sources and quantify related emissions. Such an evaluation is necessary to assure compliance with affected state and federal air quality regulations, and to disclose the potential impacts from temporary or cumulative degradation of air quality. EPA recommends that the LEIS include the following:

- Detailed information about ambient air conditions, NAAQS, and criteria pollutant non-attainment areas in all areas considered and adjacent areas;
- Data on emissions of criteria pollutants from the proposed action and discuss the timeframe for release of these emissions;
- Specific information about pollutant from mobile sources, stationary sources, and ground disturbance. This source specific information should be used to identify appropriate mitigation measures and areas in need of the greatest attention;
- Equipment Emissions Mitigation Plan that identifies actions to reduce diesel particulate, carbon monoxide, hydrocarbons, and oxides of nitrogen (NOx) associated with armor, infantry, and aviation missions;
- Discussion on the anticipated coordination with other entities in the planning area, such as the various states' environmental regulatory agencies, tribes, and other organizations to ensure compliance with the NAAQS; and
- Identification of the potential effects from air pollutants, including air toxics, to military personnel, ground crews, nearby residents, businesses, and any sensitive receptor locations, such as, schools, medical facilities, senior centers and residences, daycare centers, and outdoor recreation areas (e.g., parks).

[1] https://www.epa.gov/children/executive-order-13045-protection-children-environmental-health-risks-and-safety-risks
[2] https://www.epa.gov/laws-regulations/summary-executive-order-12898-federal-actions-address-environmental-justice

c) Solid waste, hazardous materials, and wastewater management

EPA recommends that the LEIS address the direct, indirect, and cumulative impacts from the use of hazardous and non-hazardous materials. Hazardous materials such as compressed gas, petroleum products, and others may be used and/or stored in the community or at the base. Although their proper management is presumed to be safe, concerns remain about the possibility of accidents resulting in the release of hazardous materials to the environment. EPA recommends that the LEIS describe measures that would be taken to minimize the chances of such an accident, and emergency response measures that would be taken should an accident occur.

EPA also recommends addressing the applicability of state and federal hazardous materials, pollution prevention, and solid waste requirements, and appropriate mitigation measures to prevent and minimize the generation of solid and hazardous materials. Consistent with the Army's guidelines and EPA regulations (40 CFR Part 112), there may be a need to prepare and implement a Spill Prevention, Control, and Countermeasure Plan.[3] EPA recommends that information in the SPCC Plan be included in the LEIS document, if applicable.

d) Water resources impacts

EPA recommends that the LEIS identifies waters in the analysis area and vicinity that could be impacted, the nature of the potential impacts, pollutants likely to affect those waters, and whether the action would affect drinking water (quantity and quality) and sources. If these resources would be impacted, the LEIS should include information on contaminants of concern and measures to be taken to protect drinking water and related source areas, consistent with the Safe Drinking Water Act.

According to the Government Accountability Office, EPA and Department of Defense have detected elevated levels of two emerging contaminants found in firefighting foam, PFOS (Perfluorooctane sulfonate) and PFOA (Perfluorooctanoic acid), in drinking water at or near military installations.[4] These contaminants may reduce training/readiness; restrict use of ranges; increase operation, maintenance, and cleanup costs; and divert important resources from mission needs. Therefore, EPA recommends that the LEIS include information about these emerging contaminants (e.g., PFOS, PFOA, perchlorate, RDX[5], and nitroglycerin), how they may pose human health and environmental risks within the analysis area, and actions to be taken to reduce such risks.

Note that under the Clean Water Act, any project construction that would disturb a land area of one or more acres requires a National Pollutant Discharge Elimination System construction stormwater permit for discharges to waters of the United States. EPA recommends that the LEIS document the proposed action's consistency with applicable stormwater permitting requirements and should discuss specific mitigation measures that may be necessary or beneficial in reducing adverse impacts to water quality.

Use of facilities and runways in training areas may also compact the soil, thus changing hydrology, runoff characteristics, and flow and delivery of pollutants to waterbodies which impacts the ecological function of the area. Therefore, EPA recommends that the LEIS include a detailed discussion of the cumulative effects from this and other projects on the hydrologic conditions of the analysis area. EPA recommends that the LEIS clearly depict reasonably foreseeable direct, indirect, and cumulative impacts to groundwater and surface water resources. For groundwater, identify the potentially affected

[3] https://www.epa.gov/sites/production/files/2014-04/documents/b_40cfr112.pdf

[4] https://www.gao.gov/products/GAO-18-78#summary

[5] https://www.epa.gov/sites/default/files/2017-10/documents/ffrro_ecfactsheet_rdx_9-15-17_508.pdf?VersionId=Qdbs6fDiQ.LlfcSsVbprK_MK8eKTxyff

groundwater basin and any potential for subsidence, and assess impacts to springs or other open waterbodies and biologic resources.

e) Aquatic resources and impacts

There may be aquatic resources within the analysis area. The LEIS should describe all waters of the United States located within the analysis area, including wetlands that could be affected by the proposed action and their locations, preferably using maps. EPA recommends including data on acreages and channel lengths, habitat types, values, and functions of the waters and related wetlands in the LEIS. In case activities related to the proposed action would result in impacts to aquatic resources e.g., filling of wetlands, the Army would need to work with the U.S. Army Corps of Engineers to determine if the proposed action would need a Clean Water Act §404 permit.

Please also note that activities affecting floodplains are also regulated under the CWA §404 and Executive Orders 11988, *Floodplain Management.*[6] For impacts to floodplains, we recommend that the LEIS discuss why activities would need to be in floodplains, alternatives considered, and steps to reduce impacts to floodplains.

f) Habitat, vegetation, and wildlife species impacts

Because the proposed action may result in impacts to biological resources, EPA recommends that the LEIS:

- Describe the current location, quality and capacity of habitat, its use by wildlife in the analysis area, and the potential to affect resident and migratory species;
- Compare the extent to which the various alternatives may impact or avoid impacts to wildlife;
- Discuss work with the U.S. Fish and Wildlife Service, and as appropriate, with each affected State Department of Fish and Wildlife to identify the nature of this action's potential impacts to biological resources and to determine practices that would reduce risks and protect species and their habitat; and
- Provide information on the use of chaff and flares, where they would be used, impacts associated with the potential releases of chaff and flare into the environment, and measures to mitigate the impacts from such releases.

g) Endangered, threatened, candidate, and sensitive species

Where proposed project activities could affect species listed under the Endangered Species Act, EPA recommends that the LEIS include the Biological Assessment and the associated USFWS or National Marine Fisheries Service Biological Opinion or formal concurrence and discuss how the Army would contribute to the recovery of listed species. In addition to these species, there may also be state listed species, candidate state or federal species, and other sensitive or declining species and their habitats in the project area. Therefore, EPA recommends the LEIS disclose these sensitive species and habitats, and the analyses of the alternatives should explore all possible measures to avoid and reduce disturbance or harm to the species and habitats.

h) Cumulative and indirect effects

EPA recommends that the LEIS consider the cumulative effects of the proposed action when added to other past, present, and reasonably foreseeable future projects in and near the analysis area, including those by entities not affiliated with the Army. Only by considering all actions together can one conclude what the impacts on environmental resources are likely to be. EPA has issued guidance on how to provide comments on the assessment of cumulative impacts, *Consideration of Cumulative Impacts in*

[6] https://www.epa.gov/cwa-404/floodplain-management-executive-order-11988

EPA Review of NEPA Documents.[7] The guidance states that to assess the adequacy of the cumulative impact's assessment, there are five key areas to consider:

- Resources, if any, that are being cumulatively impacted;
- Appropriate geographic area and the time over which the effects have occurred and will occur;
- All past, present, and reasonably foreseeable future actions that have affected, are affecting, or would affect resources of concern;
- A benchmark or baseline; and
- Scientifically defensible threshold levels.

Indirect effects, which must also be analyzed in the LEIS, are those that are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects may include additional development or other activity inducing effects and other effects related to induced changes in the pattern of land use, road systems and access, number and frequency of human visits/uses, and related effects on air and water and other natural systems, including ecosystems (40 CFR Part 1508.8).

Public Involvement in the NEPA process

EPA recommends that the Army disclose in the LEIS efforts undertaken to ensure effective public participation in the scoping and throughout the NEPA analysis process. For more information on effective public participation in the NEPA process, EPA recommends consulting the following resources:

- *The Citizen's Guide to the National Environmental Policy Act;*[8]*and*
- *Community Guide to Environmental Justice and NEPA Methods.*[9]

Environmental Justice

If the analysis area includes low income or minority populations, the LEIS would need to address the potential for disproportionate adverse impacts to the populations. See Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, 14008, *Tackling the Climate Crisis at Home and Abroad*; and 13985, *On Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*.[10] EPA's Environmental Justice Screening and Mapping Tool, or EJSCREEN,[11] is available to determine if minority and low income populations reside in the project area .You may also consult the Federal Interagency Working Group on Environmental Justice and NEPA Committee report, *Promising Practices for EJ Methodologies in NEPA Reviews* for additional information, particularly on determining whether the proposed project may result in disproportionately high and adverse impacts.[12] EPA recommends that other vulnerable and disadvantaged populations, such as, the elderly, the disabled, and children, be included in the analysis.

[7] http://www.epa.gov/compliance/resources/policies/nepa/cumulative.pdf
[8] https://ceq.doe.gov/get-involved/citizens_guide_to_nepa.html
[9] https://www.energy.gov/sites/prod/files/2019/05/f63/NEPA%20Community%20Guide%202019.pdf
[10] https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf; https://www.govinfo.gov/content/pkg/FR-2021-02-01/pdf/2021-02177.pdf; https://www.federalregister.gov/documents/2021/01/25/2021-01753/advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government
[11] https://www.epa.gov/ejscreen
[12] https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf

Climate Adaptation
EPA recommends that the LEIS include a discussion of reasonably foreseeable effects that changes in the climate may have on the proposed project and the project area. This would help inform the development of measures to improve the resilience of the program. If projected changes could notably exacerbate the environmental impacts of the program, EPA recommends these impacts also be considered as part of the NEPA analysis.

Coordination with Tribal Governments
Because the proposed project may affect tribes and their resources, EPA recommends that the LEIS describe the process and outcomes of government-to-government consultation between the Army and tribal government(s) that would be affected by the training program, issues that were raised, if any, and how those issues were addressed, consistent with Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*.[13]

Monitoring and Adaptive Management
This action may impact resources in the analysis area for an extended period. Thus, we recommend that the proposed project be designed to include environmental inspection and mitigation monitoring features to ensure compliance with all mitigation measures and to assess their effectiveness. EPA recommends the LEIS describe the monitoring program and how it will be used as an effective feedback mechanism, such as through adaptive management, so that any needed adjustments can be made to meet environmental objectives throughout the life of the project. This can help ensure that lessons learned from past project practices combined with the need to account for new challenges such as climate change, can influence management of the proposed action and measures taken to reduce impacts.

[13] https://www.epa.gov/laws-regulations/summary-executive-order-13175-consultation-and-coordination-indian-tribal

THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Natural Resources

NORTHERN REGION/DIVISION OF FORESTRY

3700 Airport Way
Fairbanks, Alaska 99709-4699
Main: 907.451.2660
Fax: 907.322.4537

December 13, 2021

Dear Ms. Sample

Thank you for the opportunity to provide comments on the proposed LEIS for land withdrawal of Army training lands in interior Alaska. I would like to comment on a fire management issue specific to Donnelly Training Area - West near Delta Junction. Since 1998 there have been three incidents where fires that started in the impact areas of DTA-West has moved off military land and threatened private land and state resources (1998-Carla Lake Fire, 2013-Mississippi Fire, 2014-100 Mile Creek fire). Each of these fires made quick runs northward because they were driven by chinook winds and burned in light flashy fuels. In 2019, the Oregon Lakes fire appeared to be another one of these fires starting in the impact area, eventually moving north to threaten state and private values. During this fire, crews were exposed to military training debris during suppression operations. Safety of fire fighters was the primary concern, so the crews pulled back. As a result of possible UXO and military training debris on military lands, fire crews will not be asked to respond to fires starting in the impact areas and moving out, threatening state land unless firefighter safety can be reasonably ensured.

In the Fall of 2019 fire and land managers changed the fire management option on state land north of Donnelly Training Area from "Full" to "Limited" because of fire fighter safety. Additionally, the State has developed plans to construct a large fuel break approximately 10 miles north of the Donnelly Training Area installation boundary for fire fighters to be able to work from to protect private lands and communities along the Tanana River. The state also has timber and land management interests north of the Donnelly Training Area property boundary.

It would be beneficial for the Army to consider fire management in this LEIS considering the history of fires coming off military land onto state land. The state is very supportive of military training needs and requirements, however, fire mitigation work could occur to reduce the impact these fires have on land management, private property, and individual residences.

Thanks again for the opportunity to comment.

Sincerely,

Jeremy Douse
Northern Region Forester
Alaska Division of Forestry

Delta River West Proposed Fuel Break

ALASKA DEPARTMENT OF NATURAL RESOURCES

There is a proposal to change the fire management options north of the Donnelly Training Area-west to Limited as a result of historic land use. Fire suppression agencies would like to mitigate the risk of putting fire fighters on the ground in this area.

This area has also been subject to a frequent fire return interval that is not normally seen in interior Alaska. The fuels have changed in many cases from forested to grass. This could potentially lead to more frequent fires particularly in the early season before green-up when dead/dry grass becomes exposed.

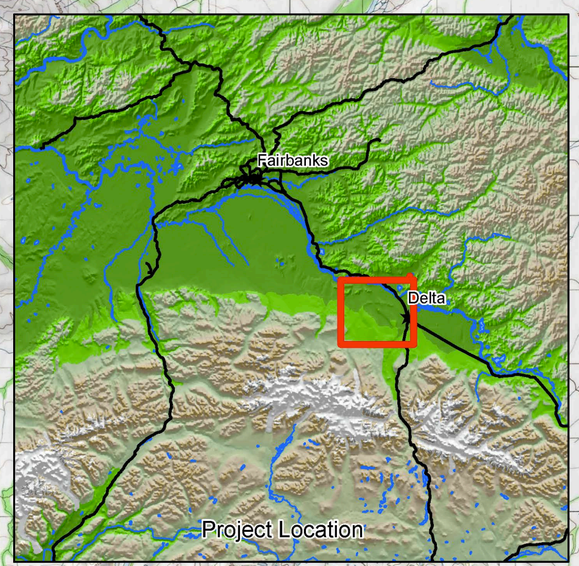
This project proposes to build a fuel break along existing logging roads for fire fighters to work off for more indirect suppression tactics. The proposal is to construct a 300 foot wide fuel break along a 26 mile stretch of existing logging road using a mix of treatments such as shearblade, roller chopper and masticating head hydro-ax.

Legend

- Private Ownership
- Proposed Fuel Break
- Donnely Training Area

Fire Year

- 2019
- 2014
- 2013
- 1998



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J.Douse

APPENDIX 3.0: ADDITIONAL NOISE DATA

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1.0 FUNDAMENTALS OF SOUND

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Acoustics is the field of science that deals with the production, propagation, reception, effects, and control of sound. Noise can be defined as unwanted sound. Sound is characterized by parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation (or the speed by which the wavefront of the soundwave passes through a medium), and the pressure level or energy content (amplitude). The sound pressure level is most commonly used to characterize the loudness of an ambient sound. It is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of the sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies. This method of frequency weighting is referred to as A weighting and is expressed in units of A-weighted decibels (dBA). Unweighted noise levels are referred to as linear. Linear decibels are used to determine a sound's tonality and to engineer solutions to reduce or control sound, as techniques are different for low and high frequency noise. With a C-weighted filter, used for noise events that are low-frequency and impulsive (e.g., explosions, artillery blasts, demolition and

weapons systems larger than 20mm), the low-frequency components of the sounds are not de-emphasized to the same extent as with A-weighting.

Because successive additions of sound vary the community noise level continuously, characterizing a community noise environment and evaluating cumulative noise impacts requires the measurement of noise exposure over a period of time. The time-varying characteristic of environmental noise is described using statistical noise descriptors. The day-night noise level is discussed in this analysis and defined as follows:

DNL: The day-night noise level (DNL) is the energy average of the A-weighted noise levels occurring during a 24-hour period. It accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night. Noise between 10:00 p.m. and 7:00 a.m. is weighted by adding 10 dBA to take into account the greater annoyance of nighttime noises.

There is no universally accepted way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way the new noise compares to the existing noise levels to which one has adapted: the so called "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise is to those hearing it. With regard to increases in A-weighted noise level, the following relationships occur (Caltrans 2013):

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived
- Outside the laboratory, a 3-dBA change is considered a barely perceivable difference and it does not cause a human response (such as annoyance or nuisance)
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected

- A 10-dBA change is subjectively heard as approximately a doubling in loudness and can cause an adverse response

2.0 LAWS AND REGULATIONS DETAILS

AR-200-1 defines the following three noise zones:

- Noise Zone I—Noise Zone I includes all areas around a noise source in which the DNL is less than 65 dBA or less than 62 dBC. This area is usually suitable for all types of land use activities. However, this does not guarantee that training noise will not be heard in these areas.
- Noise Zone II—Noise Zone II consists of an area where the DNL is between 65 and 75 dBA or between 62 and 70 dBC. Exposure to noise within this area is considered significant and use of land within Noise Zone II should normally be limited to activities such as industrial, manufacturing, transportation, and resource production. However, if the community determines that land in Noise Zone II areas must be used for residential purposes, noise level reduction features should be incorporated into the design and construction of the buildings.
- Noise Zone III—Noise Zone III consists of the area around the source of the noise in which the DNL is greater than 75 dBA for aircraft, vehicle, and small arms range noise, and greater than 70 dBC for weapons systems larger than 20mm and demolitions. The noise level within Noise Zone III is considered so severe that noise-sensitive land uses should be excluded.

The noise zone criteria used in AR-200-1 were developed based on recommendations made by the Federal Interagency Committee on Urban Noise. The committee used existing social surveys that correlated A-weighted day-night average noise levels (ADNL) from transportation noise sources with the percentage of the population highly annoyed to develop guidelines for considering noise levels in land use planning (FICUN 1980). In addition to transportation noise sources, the ADNL is used to evaluate heavy equipment operations and small arms weapons firing (up to .50 caliber). For loud, short-duration impulsive sounds, the C-weighted day-night average noise level (CDNL) is used.

There are often existing noise-sensitive land uses defined as non-conforming within a noise zone. In most cases this is not a risk to community quality of life or mission sustainment. Long-term neighbors outside the installation boundary often acknowledge that they hear training and are not bothered. Average noise levels may be the best tool for long-term land use planning, but they may not adequately assess the probability of community noise complaints.

In many instances noise zones will indicate land use compatibility; however, noise complaints from impulsive events typically are attributable to a specific event rather than average noise levels. Peak levels are useful for estimating the risk of receiving a noise complaint from impulsive events, as they correlate with the receiver's perception of noise levels.

The FWA Installation Compatible Use Zone (ICUZ) Plan (USAG Alaska 2017a) lists the following additional criteria to assess complaint risks:

- People in an area experiencing peak noise levels between 115 and 130 dB may describe events as noticeable and distinct. From within such areas, the installation has a moderate risk of receiving noise complaints. The magnitude of the complaint risk is dependent upon the frequency of occurrence and factors such as the time of day the activity occurs, the propagation conditions under which the activity takes place, and the noise sensitivity of individuals in these areas.
- Peak sound pressure levels above 130 dB are generally objectionable and are often described as very loud and startling. These levels correlate with a high risk of noise complaints.
- If the operations that generate high peak sound pressure levels in the community are very infrequent, land use controls may not be warranted. However, prior public notification is important for mitigating complaint risk and for being good neighbors.
- Peak noise levels directly correlate with airborne vibration, which is the dominant cause of structural response from military training. Peak noise levels above 120

dB may rattle windows or loose ornaments (e.g., pictures on walls) and annoy occupants but will not cause structural damage. It is widely recognized that structural damage is improbable when peak noise levels do not exceed 140 dB.

Peak noise levels (PK) can vary significantly for the same activity dependent on weather conditions (met):

- Unfavorable Weather Conditions: PK15(met) is the peak noise level, factoring in the statistical variations caused by weather, that is likely to be exceeded only 15 percent of the time (i.e., 85 percent certainty that sound will be below this level). PK15(met) levels occur under unfavorable weather conditions, such as temperature inversions and upwind conditions, that enhance sound propagation.
- Neutral Weather Conditions: PK50(met) is the peak level that is expected 50 percent of the time. This level would be seen during neutral weather conditions. If activities take place under favorable weather conditions, such as the wind blowing away from the receiver, noise levels would be lower.

The unfavorable weather conditions [PK15(met)] complaint risk area is an established criteria for identifying areas that may periodically be exposed to high noise levels. When land use planning programs are implemented—such as real estate disclosure, a Joint Land Use Study, or the Army Compatible Use Buffer—the PK15(met) complaint risk areas can be used to delineate areas of focus. However, since the complaint risk areas are based on individual event levels and are not dependent on the number of events, planners should also consider frequency of operations when making land use decisions.

3.0 BASELINE CONDITIONS

3.1 YUKON TRAINING AREA

3.1.1 SMALL CALIBER WEAPONS

The YTA small caliber weapon (.50 caliber and below) facilities are listed in the 2017 ICUZ Plan (USAG Alaska 2017a). Small arms noise zones were developed for the Digital Multi-Purpose Training Range (DMPTR), the Infantry Platoon Battle Course, and

the Manchu Range activity. The Bravo Battery, Firebird, Grizzly Battle Course, Infantry Squad Battle Course, McMahon Combined Arms Live Fire Exercise, and R-2205/Stuart Creek facilities were not analyzed, as they are over 8 miles from noise sensitive land uses such as housing, schools, and medical facilities.

The noise zones in Figure 3.3-1 were developed using the ammunition that is utilized at each facility. Noise Zone III remains within the range area. Noise Zone II extends into undeveloped areas of Eielson AFB. The nearby land uses at Eielson AFB are compatible with the small caliber activity. Table 3.3-5 lists the acreage for each noise zone.

3.1.2 Demolition and Large Caliber Weapons

A three-year average of ammunition expenditure and range usage (for 2014, 2015, and 2016) was used for modeling inputs, as described in the 2017 ICUZ Plan Section 6.3.2. The YTA demolition and large caliber weapon facilities utilized in the noise contour development, including the DMPTR and Stuart Creek Impact Area, are listed in the 2017 ICUZ Plan (USAG Alaska 2017a). The nearby land uses at Eielson AFB are compatible with the large caliber activity at YTA since the noise zones remain within YTA. Table 3.3-6 indicates the acreage for each noise zone.

Figure 3.3-2 shows the demolition and large caliber weapons peak noise audibility for YTA under unfavorable weather conditions. Under unfavorable weather, peak noise levels above 115 dB from the DMPTR extend into an undeveloped area of Eielson AFB. Due to the size and isolated location of the Stuart Creek Impact Area, the individual demolition and large caliber events are unlikely to cause annoyance or generate noise complaints.

3.1.3 Aviation Activity

Due to its size and isolated facility locations, helicopter flights to the drop zones, landing zones, and airstrips within YTA are unlikely to cause annoyance. Aviation flight routes to YTA are discussed in Section 3.3.3.3.

3.2 DONNELLY TRAINING AREAS EAST AND WEST

This section assesses the noise generated by operations at these facilities and conditions around DTAE and DTAW, pertaining to recommended and non-recommended land uses. By determining the locations of the noise zones and applying the Army guidelines to these zones, present and future land use can be evaluated by acceptability for various types of activities.

DTA is divided into two main areas: DTAE and DTAW. Located between the two areas are Fort Greely and a parcel of non-military land. The area surrounding DTA is undeveloped except for Delta Junction, just north and northeast of DTAE. The non-military land contains a few scattered residences and oil pipeline facilities, but most of the area is undeveloped. There is a military family housing area on Fort Greely.

3.2.1 SMALL CALIBER WEAPONS

Small caliber weapons are used in several training areas and at multiple ranges, but due to the size and isolated location of many of the sites within DTA, only ranges that have the potential to impact a noise-sensitive land use were analyzed. The small caliber weapon (.50 caliber and below) facilities near Fort Greely are shown in the 2017 ICUZ Plan (USAG Alaska 2017a).

The noise zones for small arms firing activity in DTAW are shown in Figure 3.3-3. These noise contours represent a maximum small arms training scenario (all ranges actively firing). No ranges on DTAE engage in small arms firing activity, so DTAE has no modeled small caliber noise zones.

The noise from small caliber activity is compatible with nearby sensitive land uses. Noise Zone II does not encompass any noise-sensitive land uses. The Noise Zone II contour extends slightly into an undeveloped portion of the non-military parcel of land between DTAE and DTAW. Noise Zone III is entirely within the boundaries of DTAW. Table 3.3-7 lists the acreage for each noise zone.

3.2.2 DEMOLITION AND LARGE CALIBER WEAPONS

To account for variations in training levels and range usage, a three-year average (2014, 2015, 2016) was used to create the noise zones, as described in the 2017 ICUZ Plan Section 7.2.2. The assessment includes weapon activity by all DoD tenants, and transient users such as the USAF. The DTA demolition and large caliber weapon facilities used in the noise zones development are listed in the 2017 ICUZ Plan (USAG Alaska 2017a). Simulators used in the DTA were not included in the analysis because simulator activity occurs in isolated areas. Due to the size of the DTA, the noise zones do not extend beyond the ranges and impact areas. Table 3.3-8 indicates the total acreage for each noise zone.

Figure 3.3-4 shows the demolition and large caliber weapons peak noise audibility for DTAE and DTAW under unfavorable weather conditions. Peak noise levels between 115 and 130 dB extend into the Fort Greely cantonment area but do not encompass its noise-sensitive area. The peak noise levels are based on the loudest event at each facility or range and display all ranges at once, except for live bombs, which are shown separately.

Most individual events at DTA facilities are unlikely to cause annoyance or generate noise complaints due to their isolated locations.

3.2.3 AVIATION ACTIVITIES

Due to its size and the isolated locations of its impact areas, helicopter flights to drop zones, landing zones, and airstrips within DTA are unlikely to cause annoyance. However, during big exercises such as Arctic Anvil, the increased aircraft coming and going from all portions of DTAE would undoubtedly be noticed by the public and may generate complaints. Aviation flight routes to DTAE and DTAW are discussed in Section 3.3.3.3.

Per the 2000 USARAK 95-1 Aviation Flight Regulation, the following areas associated with DTA are deemed noise sensitive, and Army helicopters observe the following guidelines (USARAK 2000):

- The area south of Allen Army Airfield (AAF), consisting of the main post, is a no-fly area below 3,500 feet mean sea level (MSL).
- A three nautical mile radius of the Fox Farm (vicinity WF540160) is designated as a no-fly area below 4,000 feet MSL.
- Aircraft operating from Allen AAF will, whenever possible, avoid overflying residential areas at altitudes below 1,000 feet Above Ground Level (AGL).
- Aircraft must remain 500 feet AGL and 500 yards away from big game animals and avoid flying in a way that will frighten wild animals or people. Flights for government agencies involved with tracking animals are exempt from this restriction.

3.2.4 AVIATION OVERFLIGHTS

The flight corridors between facilities are not established in writing but are the habitual flight corridors used by the aviation units. Most of the flight corridors are in relatively remote locations and have low-density populations. In unpopulated areas, the minimum flight altitude is 500 feet AGL. When possible, aircraft overflying residential areas avoid flying at altitudes below 1,000 feet AGL. An exception to this policy would be an arrival or departure at the airfield.

FWA has two maintenance test overflight areas. The altitude within the maintenance test areas varies from 500 to 1,500 feet AGL. The first area is east of the airfield and consists of two sections: one near Lakloey Hill and another near Pleasant Valley. The Lakloey Hill section has a northern boundary of Chena Hot Springs Road, a southern boundary of Peede Road, and an eastern boundary of the 99 grid line. The Pleasant Valley section of test flight area includes an area north of Chena Hot Springs Road.

The second maintenance test overflight area is near DTA. It is located 1 mile north of Allen AAF (intersection of Jarvis Creek and the Richardson Highway). Its boundary runs south along the Richardson Highway to DTA's southern boundary, east along the DTA boundary, northeast along the DTA boundary (Granite Creek) and along the DTA boundary to the Alaska Highway to Jarvis Creek and the Richardson Highway.

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APPENDIX 4.0: ADDITIONAL AIR QUALITY DATA

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1.0 CLIMATE

1.1 REGIONAL OVERVIEW

The YTA and DTA lie within the Tanana River Valley, which is bordered by the Yukon Tanana Uplands to the north and the Alaska Range to the south. The climate in the area is influenced by the Tanana River Valley, which lies between the two northwest-southeast oriented mountain ranges. The Tanana River Valley is in interior Alaska, far from the moderating influence of Alaskan coastal waters. Due to its interior location, the climate in Fairbanks is continental, driven primarily by changes in solar heating throughout the year, and characterized by large daily and annual temperature ranges, low humidity, and relatively light and irregular precipitation. Thunderstorms typically occur every summer.

Maximum temperatures are typically recorded in June and July when the sun is above the horizon from 18 to 21 hours each day. The average freeze-free period in Fairbanks is about 114 days, extending from mid-May to early September. During summer, the uplands are a few degrees cooler than the city. The uplands are often warmer than Fairbanks in winter when temperature inversions are frequent. Inversions generally occur under clear skies and light winds, with extremely low surface temperatures. Significantly warmer temperatures occur only a few hundred feet above the surface. In some months, temperatures in the uplands will average more than 10 degrees warmer than Fairbanks.

Wintertime inversions over Fairbanks, in combination with the region's low-lying terrain, result in periods of stagnant air during which air pollutants, especially from low level sources such as vehicles and woodstoves, are trapped within the inversion, limiting their vertical dispersion. Consequently, Fairbanks experiences periods of diminished air quality during the winter (The Alaska Climate Research Center 2021).

The conditions that occur during inversion incidents also contribute to the formation of ice fog in the Fairbanks area when temperatures reach -20 °F or colder. The ice fog is shallow, almost always less than 300 feet deep, so that the surrounding uplands, having

warmer temperatures, are usually above the fog. Visibility in the ice fog can be low, hindering aircraft operations for as much as a day in severe cases. Cold snaps accompanied by ice fog generally last about a week but can last up to three weeks in unusual situations. (The Alaska Climate Research Center 2021).

Aside from the low visibility in winter ice fog, flying weather in the Fairbanks area is favorable, especially from February through May, when clear weather is common, and the length of daylight is rapidly increasing (The Alaska Climate Research Center 2021).

The prevailing wind direction at Fairbanks airport is from the north during most of the year, with the exception of June, July, and August, when Fairbanks experiences southwesterly winds. The average annual wind speed is 4.3 miles per hour (NOAA 2020). Localized topographic features can produce channeling effects and result in accelerated wind speeds.

During summer, Fairbanks occasionally experiences smoky periods caused by wildfires in the surrounding region. The smoky periods range from less than a day to several weeks, with their duration and severity depending on the characteristics and locations of the wildfires as well as prevailing winds and precipitation. Smoke increases levels of particulate matter (PM_{10} and $PM_{2.5}$), CO, and ozone precursors such as NO_X and VOCs that can severely affect air quality.

1.2 YUKON TRAINING AREA

The YTA is in east-central interior Alaska near Eielson AFB, east of the City of North Pole, 26 miles southeast of Fairbanks, 2 miles east of the Tanana River, and 110 miles south of the Arctic Circle. Rolling hills reach elevations up to 2,000 feet to the north and east of Fairbanks, including in the YTA. Climate data for Eielson AFB is available through 2011 (Western Regional Climate Center 2011). Extrapolated 30-year average climate data from 1991 through 2020 are available for Eielson AFB through the National Oceanic and Atmospheric Administration (NOAA) National Center for Environmental Information (NCEI 2021).

Normal monthly temperatures at Eielson AFB range from a low of -17.6 °F in January to a high of 71.6 °F in July. Summer temperatures are mild, with typical maximum

temperatures of 70.7 °F and 71.6 °F in June and July, respectively. The lowest temperatures are typically recorded between December and March due to the low amount of daylight. Average monthly winter temperatures are typically below 0 °F in December, January, and February and range from -9ºF to -0.1 ºF during those months.

Total annual precipitation averages 12.9 inches at Eielson AFB. Precipitation during the summer is in the form of rain showers, with maximum precipitation occurring in July. Total annual snowfall averages 67.7 inches. Blizzard conditions are rarely experienced in the area. A cover of snow is present on the ground for more than six months of the year, with the average maximum snow depth of 17 inches occurring in March. Due to terrain influences, prevailing winds measured at Eielson AFB differ from those measured at Fairbanks. The prevailing wind direction at Eielson AFB is northeast during the fall, winter, and spring and west-southwest from May through August.

1.3 DONNELLY TRAINING AREAS EAST AND WEST

The DTAE and DTAW are located south of Delta Junction. The most recent climatological data for Delta Junction/Fort Greely are available through 2021 from Big Delta airport on the east bank of the Delta River (NOAA 2011). Average monthly temperatures recorded at Big Delta range from -8.0 °F in January to 69.7 °F in July. Summer temperatures are mild, with maximums generally in the 65 °F to 70 °F range. Temperatures reach 90 °F on rare occasions. Average monthly winter temperatures vary from below 0 °F to 15 °F. The record extreme daily low of -63 °F occurred on January 30, 1947. Approximately 150 days having temperatures of 35 °F or less are recorded during the year. The highest recorded daily temperature of 92 °F occurred in June 1969. On average, temperatures higher than 90 °F are recorded one or fewer days per year.

Annual precipitation at Delta Junction/Fort Greely totals 10.3 inches. Precipitation during the summer is in the form of rain showers. The maximum rainfall occurs in July. Precipitation events of 0.01 inches or more per day occur on average 84 times during the summer. A decline in precipitation begins in September and continues through April. Total annual snowfall averages 48.1 inches. Snow covers the ground for more than six

months of the year. Wind direction at Delta Junction/Fort Greely is influenced by nearby terrain and prevails from the southeast from August through March and from the southwest during April, June, and July.

2.0 OTHER AIR QUALITY REGULATIONS

The CAA mandates that state agencies adopt state implementation plans (SIPs) that target the elimination or reduction of the severity and number of violations of the National Ambient Air Quality Standards (NAAQS). A SIP sets forth policies to expeditiously achieve and maintain attainment of the NAAQS. The ADEC air quality regulations have been approved by the U.S. EPA and are incorporated into Alaska's SIP for attaining and maintaining the NAAQS.

2.1 EMISSIONS REGULATIONS

Alaska's air quality regulations govern air quality emissions from industrial sources, commercial facilities, and residential development activities. Emissions sources are regulated by applying emissions standards and regulations and by issuing air permits, performing field inspections, and assisting industries in determining their compliance status with applicable requirements.

Open burning regulations specify the requirements for conducting open burning, firefighter training and controlled burning. Open burning during air quality advisories is prohibited by 18 AAC 50.065 (Open Burning).

2.2 REGIONAL HAZE

In January 2021, Alaska Department of Environmental Conservation (ADEC) published preliminary documents to support revisions to the State Implementation Plan (SIP) to address the second implementation period of the EPA's Regional Haze Rule. Alaska's second regional haze implementation period is from 2021 to 2028. The ADEC is in the process of drafting its second regional haze plan and is awaiting data from stationary sources to assist in analyzing potential control options needed for development of long-term strategies.

The January 2021 preliminary documents identify both FWA and Eielson AFB as sources to be included in the revised SIP. The direct and precursor pollutants that can impair visibility include SO_2, NO_X, PM_{10}, $PM_{2.5}$, VOCs, and ammonia. The withdrawn lands do not include stationary sources regulated under the existing or new regional haze SIP.

Once the plan is drafted, it will be submitted to federal land managing agencies for review. These managing agencies are allowed 120 days to review the plan and provide comments and edits to ADEC. Once these have been input, ADEC will provide the updated plan for public comment.

2.3 CONFORMITY

The 1990 amendments to the Clean Air Act (CAA) require federal agencies to ensure that their actions conform to the SIP in a nonattainment area or maintenance area. The EPA has developed two sets of conformity regulations: one for transportation projects and one for non-transportation projects. The Proposed Action is not a highway or transit project and, therefore, is not subject to transportation conformity requirements.

Non-transportation projects are governed by General Conformity regulations (40 CFR Parts 51 and 93), which are described in the final rule "Determining Conformity of General Federal Actions to State or Federal Implementation Plans" (published in the Federal Register on November 30, 1993). The General Conformity Rule requirements became effective January 31, 1994, and were updated effective March 24, 2010. Under Section 176(c) of the CAA, the General Conformity Rule became applicable 1 year after the $PM_{2.5}$ nonattainment designation became effective in Fairbanks North Star Borough (FNSB). Alaska's General Conformity Regulations (18 AAC 50.725-50.730) were repealed on April 17, 2015, although federal actions in nonattainment and maintenance areas remain potentially subject to the General Conformity requirements of 40 CFR Part 93. While the ROI includes nonattainment and maintenance areas, the withdrawn lands are located in attainment areas and are not subject to General Conformity rules.

2.4 SIP STATUS

Areas designated as nonattainment are areas that do not meet the federal primary or secondary ambient air quality standard for a specific pollutant. For $PM_{2.5}$, nonattainment areas are designated as either moderate or serious, depending on the severity of the NAAQS exceedance.

The portion of the Fairbanks area in which FWA is located was designated as a $PM_{2.5}$ moderate nonattainment area in December 2009. The State of Alaska was required to develop a SIP outlining the actions to be taken to achieve the $PM_{2.5}$ NAAQS. This plan was submitted to the EPA in December 2014 with an attainment date of December 31, 2015. The attainment date was not obtainable or practical for the levels of $PM_{2.5}$ recorded.

On April 28, 2017, the EPA reclassified the area from moderate to serious for the 2006 24-hour $PM_{2.5}$ NAAQS because the standard had not been attained by the December 31, 2015, deadline. This reclassification triggered the requirement to develop, submit, obtain EPA approval for, and implement a revised SIP to ensure attainment of the standard by December 31, 2019.

The ADEC adopted the SIP on November 19, 2019 (ADEC 2019a, ADEC 2019b, ADEC 2020), which became effective January 8, 2020. Some of the 2019 $PM_{2.5}$ SIP documents were amended or replaced, adopted on November 18, 2020, and incorporated into 18 AAC 50 on December 25, 2020. On December 15, 2020, ADEC submitted the amended $PM_{2.5}$ SIP documents to the EPA to meet the serious nonattainment area planning requirements for the FNSB $PM_{2.5}$ nonattainment area. The EPA approved parts of the SIP submitted by the State of Alaska to address CAA requirements for the 2006 24-hour $PM_{2.5}$ NAAQS in the FNSB $PM_{2.5}$ nonattainment area. However, at present, the EPA has not proposed action on the BACT requirements for point sources.

3.0 GREENHOUSE GASES

The greenhouse gases (GHGs) that enter the atmosphere because of human activities are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), fluorinated carbons (e.g., hydrofluorocarbons [HFCs], perfluorocarbons [PFCs]), and sulfur hexafluoride (SF_6). The GHGs emitted at FWA and the withdrawn lands are primarily CO_2, CH_4, N_2O, and SF_6 from power generation, heating, and mobile sources.

The Intergovernmental Panel on Climate Change developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of one kilogram of a trace substance relative to that of one kilogram of a reference gas. The reference gas used is CO_2. Therefore, GWP-weighted emissions are reported in tons of CO_2 equivalent (CO_2e). The GWP for CH_4 is 25 (which means that emissions of 1 ton of CH_4 are equivalent to emissions of 25 tons of CO_2), the GWP for N_2O is 298, and the GWP for SF_6 is 22,800. The EPA has codified the GWPs in 40 CFR 98.

On March 4, 2021, the Army issued a memorandum requiring Army installations to evaluate GHG emissions as part of NEPA reviews (ASA IE&E 2021).

4.0 AIR QUALITY ENVIRONMENTAL CONSEQUENCES – ADDITIONAL INFORMATION

4.1 WILDLAND FIRE

Wildland fires include wildfires, prescribed burns, and controlled burns for land clearing. Smoke from combustion of natural biomass is a complex mixture of particulate matter, carbon dioxide, water vapor, carbon monoxide, hydrocarbons and other organic chemicals, nitrogen oxides, and trace minerals. Smoke also impairs local visibility and can contribute to unsafe driving conditions, impaired health, and haze that obscures vistas. Particulate matter is the principal public health threat from short-and longer-term exposure to wildland fire. Smoke particles from wildfire smoke can vary in size, but

approximately 90% of total particle mass emitted from wildfires consists of fine particles (i.e., $PM_{2.5}$) (EPA 2019).

Wildfires also release carbon dioxide (CO_2) and other GHGs that contribute to climate change. The alteration of GHG concentrations in the atmosphere resulting from wildfire emissions and the contribution of wildfires to anthropogenic climate change are difficult to determine because wildfire emissions are part of the terrestrial carbon cycle (CARB 2020).

4.2 ANTHROPOGENIC EMISSIONS

As discussed under the No Action Alternative, the primary anthropogenic air pollution sources in the ROI include emissions from the nearby military bases, training activities and troop movements to, from, and within the training areas, fires from military training activities, prescribed burns for fire management, and controlled burns for land clearing. These emissions sources may result in periods of decreased local air quality in the training areas but typically have little impact on the larger ROI.

Since the issuance of the 1999 LEIS, the air quality impacts of various military projects in the ROI and at the training lands have undergone NEPA review. All of these projects were determined to have low to moderate impacts on air quality; none resulted in significant impacts.

Aircraft operations affecting air quality in the ROI are those that occur below the mixing height (i.e., during takeoffs and landings). The 1999 LEIS provided baseline emissions from aircraft operations for Eielson AFB, including major flying exercises and maintenance activities. The estimated aircraft emissions provided in the 1999 LEIS represent the Yukon 1 MOA, which is located within the YTA. The Yukon 1 MOA is a subset of aircraft operation in YTA, but this area's emissions were determined to represent a conservative estimate of aircraft emissions in the 1999 LEIS, as this area has high aircraft usage. Aircraft emissions were calculated using the Air Force's Air Conformity Applicability Model. A summary of aircraft emissions over the Yukon 1 MOA estimated from separate documentation is provided in Table 4.2-1.

Table 4.2-1. Aircraft Emissions for Eielson AFB (1999)

	Aircraft Emissions (tons per year)				
	CO	VOC	NO_X	PM_{10}	SO_2
1999 LEIS Aircraft Emissions	321.2	161.2	86.7	4.0	8.0

Source: USARAK 1999.

In the 2016 F-35A Beddown Final EIS (USAF 2016), emissions from operation of the beddown, or housing of F-35 fighter jets at Eielson AFB, were compared to emissions of the A-10 and F-16 squadrons formerly based at Eielson AFB. A comparison of the aircraft emissions from the A-10/F-16 squadrons and the F-35A squadrons is included in Table 4.2-2. Emissions increases due to the F-35A Beddown were considered minor (53.8 tons per year NO_X, 32.2 tons per year CO, and 4.3 tons per year -SO_2).

Table 4.2-2. Aircraft Emissions for Eielson AFB from F-35A Beddown Program

	Aircraft Emissions (tons per year)					
	CO	VOC	NO_X	PM_{10}	$PM_{2.5}$[2]	SO_2
2004 Aircraft Emissions[1]	203.9	17.2	64.3	33.5	-	8.0
2016 F-35A Beddown[3]	236.1	17.6	118.1	20.7	17.5	12.3
Incremental Change	+32.2	+0.4	+53.8	-12.8	-	+4.3

[1] Reflects operation of A-10 and F-16 aircraft. Source: USAF 2016, Table 3.4-3.

[2] In 2004, $PM_{2.5}$ emissions were not required to be quantified by U.S. EPA.

[3] Source: USAF 2016, Table 4.4-3.

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APPENDIX 5.0: STATE OF ALASKA WATER QUALITY CRITERIA

APPENDIX 5.0: STATE OF ALASKA WATER QUALITY CRITERIA

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Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(1) COLOR, FOR FRESH WATER USES (See note 8)	
(A) Water Supply (i) drinking, culinary, and food processing	May not exceed 15 color units or the natural condition, whichever is greater.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	Not applicable.
(A) Water Supply (iii) aquaculture	May not exceed 50 color units or the natural condition, whichever is greater.
(A) Water Supply (iv) industrial	May not cause detrimental effects on established water supply treatment levels.
(B) Water Recreation (i) contact recreation	Same as (1)(A)(i).
(B) Water Recreation (ii) secondary recreation	May not interfere with or make the water unfit or unsafe for the use.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Color or apparent color may not reduce the depth of the compensation point for photosynthetic activity by more than 10% from the seasonally established norm for aquatic life. For all waters without a seasonally established norm for aquatic life, color or apparent color may not exceed 50 color units or the natural condition, whichever is greater.

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(2) BACTERIA, FOR FRESH WATER USES (See note 1)	
(A) Water Supply (i) drinking, culinary, and food processing	In a 30-day period, the geometric mean may not exceed 20 fecal coliform/100 ml, and not more than 10% of the samples may exceed 40 fecal coliform/100 ml. For groundwater, the fecal coliform concentration must be less than 1 fecal coliform/100 ml, using the fecal coliform Membrane Filter Technique, or less than 3 fecal coliform/100 ml, using the fecal coliform most probable number (MPN) technique.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	In a 30-day period, the geometric mean of samples may not exceed 200 fecal coliform/100 ml, and not more than 10% of the samples may exceed 400 fecal coliform/100 ml. For products not normally cooked and for dairy sanitation of unpasteurized products, the criteria for drinking water supply, (2)(A)(i), apply.
(A) Water Supply (iii) aquaculture	For products normally cooked, the geometric mean of samples taken in a 30-day period may not exceed 200 fecal coliform/100 ml, and not more than 10% of the samples may exceed 400 fecal coliform/100 ml. For products not normally cooked, the criteria for drinking water supply, (2)(A)(i), apply.
(A) Water Supply (iv) industrial	Where worker contact is present, the geometric mean of samples taken in a 30-day period may not exceed 200 fecal coliform/100 ml, and not more than 10% of the samples may exceed 400 fecal coliform/100 ml.
(B) Water Recreation (i) contact recreation	In a 30-day period, the geometric mean of samples may not exceed 126 *Escherichia coli (E. coli*) colony forming units (CFU)/ 100ml, and not more than 10% of the samples may exceed a statistical threshold value (STV) of 410 *E. coli* CFU/100 ml.
(B) Water Recreation (ii) secondary recreation	In a 30-day period, the geometric mean of samples may not exceed 200 fecal coliform/100 ml, and not more than 10% of the total samples may exceed 400 fecal coliform/100 ml.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Not applicable.

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(3) DISSOLVED GAS, FOR FRESH WATER USES	
(A) Water Supply (i) drinking, culinary, and food processing	Dissolved oxygen (D.O.) must be greater than or equal to 4 mg/l (this does not apply to lakes or reservoirs in which supplies are taken from below the thermocline, or to groundwater).
(A) Water Supply (ii) agriculture, including irrigation and stock watering	D.O. must be greater than 3 mg/l in surface waters.
(A) Water Supply (iii) aquaculture	D.O. must be greater than 7 mg/l in surface waters. The concentration of total dissolved gas may not exceed 110% of saturation at any point of sample collection.
(A) Water Supply (iv) industrial	May not cause detrimental effects on established water supply treatment levels.
(B) Water Recreation (i) contact recreation	D.O. must be greater than or equal to 4 mg/l.
(B) Water Recreation (ii) secondary recreation	Same as (3)(B)(i).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	D.O. must be greater than 7 mg/l in waters used by anadromous or resident fish. In no case may D.O. be less than 5 mg/l to a depth of 20 cm in the interstitial waters of gravel used by anadromous or resident fish for spawning (see note 2). For waters not used by anadromous or resident fish, D.O. must be greater than or equal to 5 mg/l. In no case may D.O. be greater than 17 mg/l. The concentration of total dissolved gas may not exceed 110% of saturation at any point of sample collection.

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(4) DISSOLVED INORGANIC SUBSTANCES, FOR FRESH WATER USES	
(A) Water Supply (i) drinking, culinary, and food processing	Total dissolved solids (TDS) from all sources may not exceed 500 mg/l. Neither chlorides nor sulfates may exceed 250 mg/l.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	TDS may not exceed 1,000 mg/l. sodium adsorption ratio must be less than 2.5, sodium percentage less than 60%, and residual carbonate less than 1.25 milliequivalents/liter (see note 6).
(A) Water Supply (iii) aquaculture	TDS may not exceed 1,000 mg/l. A concentration of TDS may not be present in water if that concentration causes or reasonably could be expected to cause an adverse effect to aquatic life (see note 12).
(A) Water Supply (iv) industrial	No amounts above natural conditions that can cause corrosion, scaling, or process problems.
(B) Water Recreation (i) contact recreation	Not applicable.
(B) Water Recreation (ii) secondary recreation	Not applicable.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (4)(A)(iii).

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(5) PETROLEUM HYDROCARBONS, OILS AND GREASE, FOR FRESH WATER USES	
(A) Water Supply (i) drinking, culinary, and food processing	May not cause a visible sheen upon the surface of the water. May not exceed concentrations that individually or in combination impart odor or taste as determined by organoleptic tests.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	May not cause a visible sheen upon the surface of the water.
(A) Water Supply (iii) aquaculture	Total aqueous hydrocarbons (TAqH) in the water column may not exceed 15 µg/l (see note 7). Total aromatic hydrocarbons (TAH) in the water column may not exceed 10 µg/l (see note 7). There may be no concentrations of petroleum hydrocarbons, animal fats, or vegetable oils in shoreline or bottom sediments that cause deleterious effects to aquatic life. Surface waters and adjoining shorelines must be virtually free from floating oil, film, sheen, or discoloration.
(A) Water Supply (iv) industrial	May not make the water unfit or unsafe for the use.
(B) Water Recreation (i) contact recreation	May not cause a film, sheen, or discoloration on the surface or floor of the waterbody or adjoining shorelines. Surface waters must be virtually free from floating oils.
(B) Water Recreation (ii) secondary recreation	Same as (5)(B)(i).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (5)(A)(iii).

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(6) pH, FOR FRESH WATER USES (variation of pH for water naturally outside the specified range must be toward the range)	
(A) Water Supply (i) drinking, culinary, and food processing	May not be less than 6.0 or greater than 8.5.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	May not be less than 5.0 or greater than 9.0.
(A) Water Supply (iii) aquaculture	May not be less than 6.5 or greater than 8.5. May not vary more than 0.5 pH unit from natural conditions.
(A) Water Supply (iv) industrial	May not be less than 5.0 or greater than 9.0.
(B) Water Recreation (i) contact recreation	May not be less than 6.5 or greater than 8.5. If the natural condition pH is outside this range, substances may not be added that cause an increase in the buffering capacity of the water.
(B) Water Recreation (ii) secondary recreation	Same as (6)(A)(iv).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	May not be less than 6.5 or greater than 8.5. May not vary more than 0.5 pH unit from natural conditions.

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(7) RADIOACTIVITY, FOR FRESH WATER USES	
(A) Water Supply (i) drinking, culinary, and food processing	May not exceed the concentrations specified in Table I of the *Alaska Water Quality Criteria Manual* (see note 5) for radioactive contaminants and may not exceed limits specified in 10 C.F.R. 20 (see note 9) and National Bureau of Standards, *Handbook 69* (see note 10).
(A) Water Supply (ii) agriculture, including irrigation and stock watering	Same as (7)(A)(i).
(A) Water Supply (iii) aquaculture	Same as (7)(A)(i) except that concentration factors for organisms involved may not exceed maximum permissible limits for specific radioisotopes and unidentified mixtures as established by 10 C.F.R. 20 (see note 9) and National Bureau of Standards, *Handbook 69* (see note 10).
(A) Water Supply (iv) industrial	Same as (7)(A)(i).
(B) Water Recreation (i) contact recreation	Same as (7)(A)(i).
(B) Water Recreation (ii) secondary recreation	Same as (7)(A)(i).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (7)(A)(iii).

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(8) RESIDUES, FOR FRESH WATER USES: Floating solids, debris, sludge, deposits, foam, scum, or other residues (criteria are not applicable to groundwater) (See note 13)	
(A) Water Supply (i) drinking, culinary, and food processing	Residues are not allowed in surface waters of the state, in concentrations or amounts that have the following effects o may impair designated uses; o cause nuisance or objectionable conditions; o result in undesirable or nuisance species; or o produce objectionable odor or taste.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	Same as (8)(A)(i).
(A) Water Supply (iii) aquaculture	Same as (8)(A)(i)
(A) Water Supply (iv) industrial	Same as (8)(A)(i).
(B) Water Recreation (i) contact recreation	Same as (8)(A)(i).
(B) Water Recreation (ii) secondary recreation	Same as (8)(A)(i).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Residues are not allowed in surface waters of the state, in concentrations or amounts that have the following effects o may impair designated uses; o cause nuisance or objectionable conditions; or o result in undesirable or nuisance species.

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(9) SEDIMENT, FOR FRESH WATER USES (criteria are not applicable to groundwater)	
(A) Water Supply (i) drinking, culinary, and food processing	No measurable increase in concentration of settleable solids above natural conditions, as measured by the volumetric Imhoff cone method (see note 11).
(A) Water Supply (ii) agriculture, including irrigation and stock watering	For sprinkler irrigation, water must be free of particles of 0.074 mm or coarser. For irrigation or water spreading, may not exceed 200 mg/l for an extended period of time.
(A) Water Supply (iii) aquaculture	No imposed loads that will interfere with established water supply treatment levels.
(A) Water Supply (iv) industrial	Same as (9)(A)(iii).
(B) Water Recreation (i) contact recreation	Same as (9)(A)(i).
(B) Water Recreation (ii) secondary recreation	May not pose hazards to incidental human contact or cause interference with the use.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	The percent accumulation of fine sediment in the range of 0.1 mm to 4.0 mm in the gravel bed of waters used by anadromous or resident fish for spawning may not be increased more than 5% by weight above natural conditions (as shown from grain size accumulation graph). In no case may the 0.1 mm to 4.0 mm fine sediment range in those gravel beds exceed a maximum of 30% by weight (as shown from grain size accumulation graph) (see notes 3 and 4). In all other surface waters no sediment loads (suspended or deposited) that can cause adverse effects on aquatic animal or plant life, their reproduction or habitat may be present.

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(10) TEMPERATURE, FOR FRESH WATER USES	
(A) Water Supply (i) drinking, culinary, and food processing	May not exceed 15° C.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	May not exceed 30° C.
(A) Water Supply (iii) aquaculture	May not exceed 20° C at any time. The following maximum temperatures may not be exceeded, where applicable: Migration routes 15° C Spawning areas 13° C Rearing areas 15° C Egg & fry incubation 13° C For all other waters, the weekly average temperature may not exceed site-specific requirements needed to preserve normal species diversity or to prevent appearance of nuisance organisms.
(A) Water Supply (iv) industrial	May not exceed 25° C.
(B) Water Recreation (i) contact recreation	Same as (10)(A)(ii).
(B) Water Recreation (ii) secondary recreation	Not applicable.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (10)(A)(iii).

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(11) TOXIC AND OTHER DELETERIOUS ORGANIC AND INORGANIC SUBSTANCES, FOR FRESH WATER USES	
(A) Water Supply (i) drinking, culinary, and food processing	The concentration of substances in water may not exceed the numeric criteria for drinking water and human health for consumption of water and aquatic organisms shown in the *Alaska Water Quality Criteria Manual* (see note 5). Substances may not be introduced at concentrations that cause, or can reasonably be expected to cause, either singly or in combination, odor, taste, or other adverse effects on the use.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	The concentration of substances in water may not exceed the numeric criteria for drinking and stockwater and irrigation water shown in the *Alaska Water Quality Criteria Manual* (see note 5). Substances may not be introduced at concentrations that cause, or can reasonably be expected to cause, either singly or in combination, odor, taste, or other adverse effects on the use.
(A) Water Supply (iii) aquaculture	Same as (11)(C).
(A) Water Supply (iv) industrial	Concentrations of substances that pose hazards to worker contact may not be present.
(B) Water Recreation (i) contact recreation	The concentration of substances in water may not exceed the numeric criteria for drinking water shown in the *Alaska Water Quality Criteria Manual* (see note 5). Substances may not be introduced at concentrations that cause, or can reasonably be expected to cause, either singly or in combination, odor, taste, or other adverse effects on the use.
(B) Water Recreation (ii) secondary recreation	Concentrations of substances that pose hazards to incidental human contact may not be present.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	The concentration of substances in water may not exceed the numeric criteria for aquatic life for fresh water and human health for consumption of aquatic organisms only shown in the *Alaska Water Quality Criteria Manual* (see note 5), or any chronic and acute criteria established in this chapter, for a toxic pollutant of concern to protect sensitive and biologically important life stages of resident species of this state. There may be no concentrations of toxic substances in water or in shoreline or bottom sediments, that, singly or in combination, cause, or reasonably can be expected to cause, adverse effects on aquatic life or produce undesirable or nuisance

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
	aquatic life, except as authorized by this chapter. Substances may not be present in concentrations that individually or in combination impart undesirable odor or taste to fish or other aquatic organisms, as determined by either bioassay or organoleptic tests.
(12) TURBIDITY, FOR FRESH WATER USES (criteria are not applicable to groundwater)	
(A) Water Supply (i) drinking, culinary, and food processing	May not exceed 5 nephelometric turbidity units (NTU) above natural conditions when the natural turbidity is 50 NTU or less, and may not have more than 10% increase in turbidity when the natural turbidity is more than 50 NTU, not to exceed a maximum increase of 25 NTU.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	May not cause detrimental effects on indicated use.
(A) Water Supply (iii) aquaculture	May not exceed 25 NTU above natural conditions. For all lake waters, may not exceed 5 NTU above natural conditions.
(A) Water Supply (iv) industrial	May not cause detrimental effects on established water supply treatment levels.
(B) Water Recreation (i) contact recreation	May not exceed 5 NTU above natural conditions when the natural turbidity is 50 NTU or less, and may not have more than 10% increase in turbidity when the natural turbidity is more than 50 NTU, not to exceed a maximum increase of 15 NTU. May not exceed 5 NTU above natural turbidity for all lake waters.
(B) Water Recreation (ii) secondary recreation	May not exceed 10 NTU above natural conditions when natural turbidity is 50 NTU or less, and may not have more than 20% increase in turbidity when the natural turbidity is greater than 50 NTU, not to exceed a maximum increase of 15 NTU. For all lake waters, turbidity may not exceed 5 NTU above natural turbidity.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (12)(A)(iii).

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(13) COLOR, FOR MARINE WATER USES (see note 8)	
(A) Water Supply (i) aquaculture	May not exceed 50 color units or the natural condition, whichever is greater.
(A) Water Supply (ii) seafood processing	May not exceed 15 color units or the natural condition, whichever is greater.
(A) Water Supply (iii) industrial	Not applicable.
(B) Water Recreation (i) contact recreation	Same as (13)(A)(ii).
(B) Water Recreation (ii) secondary recreation	Surface waters must be free of substances that produce objectionable color.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Color or apparent color may not reduce the depth of the compensation point for photosynthetic activity by more than 10% from the seasonally established norm for aquatic life. For all waters without a seasonally established norm for aquatic life, color or apparent color may not exceed 50 color units or the natural condition, whichever is greater.
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	Same as (13)(C).

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(14) BACTERIA, FOR MARINE WATER USES, (see note 1)	
(A) Water Supply (i) aquaculture	For products normally cooked, the geometric mean of samples taken in a 30-day period may not exceed 200 fecal coliform/100 ml, and not more than 10% of the samples may exceed 400 fecal coliform/100 ml. For products not normally cooked, the geometric mean of samples taken in a 30-day period may not exceed 20 fecal coliform/100 ml, and not more than 10% of the samples may exceed 40 fecal coliform/100 ml.
(A) Water Supply (ii) seafood processing	In a 30-day period, the geometric mean of samples may not exceed 20 fecal coliform/100 ml, and not more than 10% of the samples may exceed 40 fecal coliform/100 ml.
(A) Water Supply (iii) industrial	Where worker contact is present, the geometric mean of samples taken in a 30-day period may not exceed 200 fecal coliform/100 ml, and not more than 10% of the samples may exceed 400 fecal coliform/100 ml.
(B) Water Recreation (i) contact recreation	In a 30-day period, the geometric mean of samples may not exceed 35 enterococci CFU/100 ml, and not more than 10% of the samples may exceed a statistical threshold value (STV) of 130 enterococci CFU/100 ml.
(B) Water Recreation (ii) secondary recreation	In a 30-day period, the geometric mean of samples may not exceed 200 fecal coliform/100ml, and not more than 10% of the samples may exceed 400 fecal coliform/100ml.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Not applicable.
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	The geometric mean of samples may not exceed 14 fecal coliform/100 ml; and not more than 10% of the samples may exceed; - 43 MPN per 100 ml for a five-tube decimal dilution test; - 49 MPN per 100 ml for a three-tube decimal dilution test; - 28 MPN per 100 ml for a twelve-tube single dilution test; - 31 CFU per 100 ml for a membrane filtration test (see note 14).

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(15) DISSOLVED GAS, FOR MARINE WATER USES	
(A) Water Supply (i) aquaculture	Surface dissolved oxygen (D.O.) concentration in coastal water may not be less than 6.0 mg/l for a depth of one meter except when natural conditions cause this value to be depressed. D.O. may not be reduced below 4 mg/l at any point beneath the surface. D.O. concentrations in estuaries and tidal tributaries may not be less than 5.0 mg/l except where natural conditions cause this value to be depressed. In no case may D.O. levels exceed 17 mg/l. The concentration of total dissolved gas may not exceed 110% of saturation at any point of sample collection.
(A) Water Supply (ii) seafood processing	Not applicable.
(A) Water Supply (iii) industrial	Not applicable.
(B) Water Recreation (i) contact recreation	Same as (15)(A)(i).
(B) Water Recreation (ii) secondary recreation	Same as (15)(A)(i).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (15)(A)(i).
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	Same as (15)(A)(i).
(16) DISSOLVED INORGANIC SUBSTANCES, FOR MARINE WATER USES	
(A) Water Supply (i) aquaculture	Human-induced alteration may not cause a change in the water's isohaline patterns of more than $\pm$ 10% of the natural variations.
(A) Water Supply (ii) seafood processing	Not applicable.
(A) Water Supply (iii) industrial	No amounts above natural conditions that can cause corrosion, scaling, or process problems.
(B) Water Recreation (i) contact recreation	Not applicable.
(B) Water Recreation (ii) secondary recreation	Not applicable.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Maximum allowable variation above natural salinity: Natural Salinity* — Human-Induced Salinity* 0.0 to 3.5 — 1 Greater than 3.5 to 13.5 — 2 Greater than 13.5 to 35.0 — 4 * parts per thousand

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	Same as (16)(A)(i) or (16)(C), whichever is more stringent.
(17) PETROLEUM HYDROCARBONS, OILS AND GREASE, FOR MARINE WATER USES	
(A) Water Supply (i) aquaculture	Total aqueous hydrocarbons (TAqH) in the water column may not exceed 15 µg/l (see note 7). Total aromatic hydrocarbons (TAH) in the water column may not exceed 10 µg/l (see note 7). There may be no concentrations of petroleum hydrocarbons, animal fats, or vegetable oils in shoreline or bottom sediments that cause deleterious effects to aquatic life. Surface waters and adjoining shorelines must be virtually free from floating oil, film, sheen, or discoloration.
(A) Water Supply (ii) seafood processing	May not cause a film, sheen, or discoloration on the surface or floor of the waterbody or adjoining shorelines. Surface waters must be virtually free from floating oils. May not exceed concentrations that individually or in combination impart odor or taste as determined by organoleptic tests.
(A) Water Supply (iii) industrial	May not make the water unfit or unsafe for the use.
(B) Water Recreation (i) contact recreation	May not cause a film, sheen, or discoloration on the surface or floor of the waterbody or adjoining shorelines. Surface waters must be virtually free from floating oils.
(B) Water Recreation (ii) secondary recreation	Same as (17)(B)(i).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (17)(A)(i).
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	May not exceed concentrations that individually or in combination impart undesirable odor or taste to organisms as determined by bioassay or organoleptic tests.
(18) **pH, FOR MARINE WATER USES** (variation of pH for waters naturally outside the specified range must be toward the range)	
(A) Water Supply (i) aquaculture	May not be less than 6.5 or greater than 8.5, and may not vary more than 0.2 pH unit outside of the naturally occurring range.
(A) Water Supply (ii) seafood processing	May not be less than 6.0 or greater than 8.5.

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(A) Water Supply (iii) industrial	May not be less than 5.0 or greater than 9.0.
(B) Water Recreation (i) contact recreation	May not be less than 6.0 or greater than 8.5. If the natural pH condition is outside this range, substances may not be added that cause any increase in buffering capacity of the water.
(B) Water Recreation (ii) secondary recreation	Same as (18)(A)(iii).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (18)(A)(i).
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	Same as (18)(A)(ii).
(19) RADIOACTIVITY, FOR MARINE WATER USES	
(A) Water Supply (i) aquaculture	May not exceed the concentrations specified in Table I of the *Alaska Water Quality Criteria Manual* (see note 5) for radioactive contaminants. Concentration factors for organisms involved may not exceed maximum permissible limits for specific radioisotopes and unidentified mixtures as established in 10 C.F.R. 20 (see note 9) and National Bureau of Standards, *Handbook 69* (see note 10).
(A) Water Supply (ii) seafood processing	May not exceed the concentrations specified in Table I of the *Alaska Water Quality Criteria Manual*, (see note 5) for radioactive contaminants and may not exceed limits specified in 10 C.F.R. 20 (see note 9) or National Bureau of Standards, *Handbook 69* (see note 10).
(A) Water Supply (iii) industrial	Same as (19)(A)(ii).
(B) Water Recreation (i) contact recreation	Same as (19)(A)(ii).
(B) Water Recreation (ii) secondary recreation	Same as (19)(A)(ii).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (19)(A)(i).
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	Same as (19)(A)(i).

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(20) RESIDUES, FOR MARINE WATER USES: Floating solids, debris, sludge, deposits, foam, scum, or other residues (See note 13)	
(A) Water Supply (i) aquaculture	Residues are not allowed in surface waters of the state, in concentrations or amounts that have the following effects o may impair designated uses; o cause nuisance or objectionable conditions; o result in undesirable or nuisance species; or o produce objectionable odor or taste.
(A) Water Supply (ii) seafood processing	Same as (20)(A)(i).
(A) Water Supply (iii) industrial	Same as (20)(A)(i).
(B) Water Recreation (i) contact recreation	Same as (20)(A)(i).
(B) Water Recreation (ii) secondary recreation	Same as (20)(A)(i).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Residues are not allowed in surface waters of the state, in concentrations or amounts that have the following effects o may impair designated uses; o cause nuisance or objectionable conditions; or o result in undesirable or nuisance species.
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	Same as (20)(A)(i).
(21) SEDIMENT, FOR MARINE WATER USES	
(A) Water Supply (i) aquaculture	No imposed loads that will interfere with established water supply treatment levels.
(A) Water Supply (ii) seafood processing	Below normally detectable amounts.
(A) Water Supply (iii) industrial	Same as (21)(A)(i).
(B) Water Recreation (i) contact recreation	No measurable increase in concentration of settleable solids above natural conditions, as measured by the volumetric Imhoff cone method (see note 11).
(B) Water Recreation (ii) secondary recreation	May not pose hazards to incidental human contact or cause interference with the use.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (21)(B)(i).
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	Not applicable.

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(22) TEMPERATURE, FOR MARINE WATER USES	
(A) Water Supply (i) aquaculture	May not cause the weekly average temperature to increase more than 1° C. The maximum rate of change may not exceed 0.5° C per hour. Normal daily temperature cycles may not be altered in amplitude or frequency.
(A) Water Supply (ii) seafood processing	May not exceed 15° C.
(A) Water Supply (iii) industrial	May not exceed 25° C.
(B) Water Recreation (i) contact recreation	Not applicable.
(B) Water Recreation (ii) secondary recreation	Not applicable.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (22)(A)(i).
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	Same as (22)(A)(i).

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(23) TOXIC AND OTHER DELETERIOUS ORGANIC AND INORGANIC SUBSTANCES, FOR MARINE WATER USES	
(A) Water Supply (i) aquaculture	Same as (23)(C).
(A) Water Supply (ii) seafood processing	The concentration of substances in water may not exceed the numeric criteria for aquatic life for marine water shown in the *Alaska Water Quality Criteria Manual* (see note 5). Substances may not be introduced that cause, or can reasonably be expected to cause, either singly or in combination, odor, taste, or other adverse effects on the use.
(A) Water Supply (iii) industrial	Concentrations of substances that pose hazards to worker contact may not be present.
(B) Water Recreation (i) contact recreation	There may be no concentrations of substances in water, that alone or in combination with other substances, make the water unfit or unsafe for the use.
(B) Water Recreation (ii) secondary recreation	Concentrations of substances that pose hazards to incidental human contact may not be present.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	The concentration of substances in water may not exceed the numeric criteria for aquatic life for marine water and human health for consumption of aquatic organisms only shown in the *Alaska Water Quality Criteria Manual* (see note 5), or any chronic and acute criteria established in this chapter, for a toxic pollutant of concern, to protect sensitive and biologically important life stages of resident species of this state. There may be no concentrations of toxic substances in water or in shoreline or bottom sediments, that, singly or in combination, cause, or reasonably can be expected to cause, adverse effects on aquatic life or produce undesirable or nuisance aquatic life, except as authorized by this chapter. Substances may not be present in concentrations that individually or in combination impart undesirable odor or taste to fish or other aquatic organisms, as determined by either bioassay or organoleptic tests.
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	Same as (23)(C).

Water Quality Standards for Designated Uses	
POLLUTANT & WATER USE	**CRITERIA**
(24) TURBIDITY, FOR MARINE WATER USES	
(A) Water Supply (i) aquaculture	May not exceed 25 nephelometric turbidity units (NTU).
(A) Water Supply (ii) seafood processing	May not interfere with disinfection.
(A) Water Supply (iii) industrial	May not cause detrimental effects on established levels of water supply treatment.
(B) Water Recreation (i) contact recreation	Same as (24)(A)(i).
(B) Water Recreation (ii) secondary recreation	Same as (24)(A)(i).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	May not reduce the depth of the compensation point for photosynthetic activity by more than 10%. May not reduce the maximum secchi disk depth by more than 10%.
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	Same as (24)(C).

Notes:

1. Wherever bacteria criteria are provided in this section, bacteria enumeration must be determined by the membrane filter technique or most probable number procedure according to any edition of *Standard Methods for the Examination of Water and Wastewater*, adopted by reference in (c)(1) of this section, and adopted by reference, or in accordance with other standards approved by the department and the United States Environmental Protection Agency (EPA). Bacteria results reported as "too numerous to count" (TNTC) is considered an exceedance for comparison to water quality standards. Analysis and reporting of the method recommended dilution of the sample is required.

2. Wherever criteria for dissolved oxygen (DO) are provided in this chapter, dissolved oxygen (DO) concentrations in interstitial waters of gravel beds will be measured using the technique found in *Variations in the Dissolved Oxygen Content of Intragravel Water in Four Spawning Streams of Southeastern Alaska*, by William J. McNeil, United States Department of the Interior, United States Fish and Wildlife Service, Special Scientific Report - Fisheries No. 402, February 1962, adopted by reference.

3. Wherever criteria for fine sediments are provided in this chapter, fine sediments must be sampled by the method described in *An Improved Technique for Freeze Sampling Streambed Sediments*, by William J. Walkotten, United States Department of Agriculture, United States Forest Service, Forest Service Research Note PNW-281, October 1976, adopted by reference, or by the technique found in *Success of Pink Salmon Spawning Relative to Size of Spawning Bed Materials*, by William J. McNeil and W.H. Ahnell, United States Department of the Interior, United States Fish and Wildlife Service, Special Scientific Report - Fisheries No. 469, January 1964, pages 1 - 3, adopted by reference.

4. Wherever criteria for fine sediments are provided in this chapter, percent accumulation of fine sediments will be measured by the technique found in the *Manual on Test Sieving Methods, Guidelines for Establishing Sieve Analysis Procedures*, by the American Society for Testing and Materials (ASTM), STP 447A, 1972 edition,

5. Wherever cited in this subsection, the *Alaska Water Quality Criteria Manual* means the *Alaska Water Quality Criteria for Toxic and Other Deleterious Organic and Inorganic Substances*, dated December 12, 2008, adopted by reference in this subsection.

6. *The Report of the Committee on Water Quality Criteria*, United States Department of the Interior, Federal Water Pollution Control Administration, Washington, D.C., April 1, 1968, is adopted by reference.

7. Samples to determine concentrations of total aromatic hydrocarbons (TAH) and total aqueous hydrocarbons

(TAqH) must be collected in marine and fresh waters below the surface and away from any observable sheen; concentrations of TAqH must be determined and summed using a combination of: (A) EPA Method 602 (plus xylenes) or EPA Method 624 to quantify monoaromatic hydrocarbons and to measure TAH; and (B) EPA Method 610 or EPA Method 625 to quantify polynuclear aromatic hydrocarbons listed in EPA Method 610; use of an alternative method requires department approval; the EPA methods referred to in this note may be found in Appendix A of 40 C.F.R. 136, Appendix A, as revised as of July 1, 2003 and adopted by reference.

8. Color is as measured in color units on the platinum-cobalt scale according to any edition of *Standard Methods for the Examination of Water and Wastewater,* adopted by reference in (c)(1) of this section.

9. Wherever cited in this chapter, 10 C.F.R. 20 means the Standards for Protection Against Radiation, revised as of January 1, 2014, and adopted by reference.

10. Wherever cited in this chapter, National Bureau of Standards, *Handbook 69* means *Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and Water for Occupational Exposure*, United States Department of Commerce, National Bureau of Standards Handbook 69, August 1963, adopted by reference

11. Volumetric measurements of settleable solids must be determined according to the following procedure:
    (A) first, an Imhoff cone must be filled to the one-liter mark with thoroughly mixed sample;
    (B) second, the sample must settle for 45 minutes;
    (C) third, the sides of the cone must be gently stirred with a rod or by spinning;
    (D) fourth, the sample must settle 15 minutes longer, and the volume of settleable matter in the cone must be recorded as milliliters per liter;
    (E) fifth, if the settled matter contains pockets of liquid between large settled particles, the volume of these pockets must be estimated and subtracted from the volume of settled matter.

12. If a permit applicant proposes to raise the total dissolved solids (TDS) levels in the receiving water to result in a concentration in the waterbody between 500 mg/l and 1,000 mg/l for all sources or above 110 mg/l for the potassium ion, the department will require a permit applicant to provide information that the department identifies as necessary to determine if the proposed TDS level will cause or can reasonably be expected to cause an adverse effect to aquatic life; based on its analysis, the department will limit the TDS level in the waterbody as necessary to prevent an adverse effect, and will set permit effluent limits accordingly; the burden of proof to demonstrate no adverse effect is on the permit applicant; implementation of the "no adverse effect" criterion is not subject to 18 AAC 70.235.

13. Considerations in deciding what constitutes a nuisance or an objectionable condition, an undesirable or nuisance species, or objectionable odor or taste, include whether the presence of residue

    (A) results in complaints from existing users; or

    (B) is consistent with the intended use of the area as designated in a land use or other resource management plan adopted by a federal, state or local government:

14. When fecal coliform are monitored in waters designated as state approved shellfish harvesting and growing waters, these waters are also subject to 18 AAC 34.010(19).

(c) Water quality must be analyzed according to

(1) *Standard Methods for the Examination of Water and Wastewater*, 18th edition, 1992, 19th edition, 1995, 20th edition, 1998, or 21st edition, 2005 published jointly by the American Public Health and American Water Works Associations, and the Water Environment Federation; the editions of *Standard Methods for the Examination of Water and Wastewater* listed in this paragraph are adopted by reference, except for analytical methods where the most recently EPA approved version is required under (c)(3) of this section and later versions of those methods are not adopted by reference and are not approved;

(2) *Methods for Chemical Analysis of Water and Wastes*, March 1983, Environmental Monitoring and Support Laboratory, Office of Research and Development, United States Environmental Protection Agency, Technical Report No. EPA 600/4-79-020, adopted by reference;

APPENDIX 6.0: SPECIES DESCRIPTIONS

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1.0 SPECIES INFORMATION

1.1 MOOSE

Moose are the largest members of the deer family, with fully grown adults standing almost 6 feet tall at the shoulder, weighing between 800 and 1,600 pounds, and surviving in the wild for up to 16 years. Approximately 6,000 to 8,000 moose are harvested in a typical year by Alaska residents and non-residents. Statewide statistics available from ADFG indicate 8,508 moose were harvested in 2019.

Recently burned areas along the major rivers and timberland plateaus of south central and interior Alaska where new (re-establishing) willow, birch, and aspen growth is abundant are the preferred habitat of moose. Moose will also graze sedges, grasses, and emergent vegetation in shallow ponds. This species can be found throughout most of the withdrawn lands.

1.2 CARIBOU

Caribou (*Rangifer tarandus*) are members of the deer family weighing between approximately 175 and 400 pounds depending on the animal's sex. Caribou in Alaska are estimated to total 950,000 animals distributed among 32 populations (herds). Alaska residents and non-residents harvest approximately 22,000 caribou on average annually. The reported statewide harvest in 2019 was 5,940 caribou. Different herds utilize their own calving area but may mix while in winter ranges in the boreal forests. A few hunts for caribou are available in GMU 20.

Herds of caribou move throughout their summer tundra range browsing leaves of willows, sedges, flowering tundra plants, and mushrooms. When herds move to winter boreal forest ranges, they switch to browsing lichens, dried sedges, and small shrubs later in September.

1.3 PLAINS BISON

Plains bison (*Bison bison bison*), an introduced, non-native species to Alaska, are the smaller of two subspecies of North American bison. Fully grown adult bulls stand approximately 6 feet at the shoulder and can weigh more than one ton. Plains bison range freely in the state, with four herds totaling an estimated 900 animals. Hunting helps to manage the size of the herds, with approximately 90 animals harvested annually on average. Low numbers observed in a population will force hunting to close. In 2019, the reported statewide harvest was 121 bison. The largest herd, the Delta herd, is established near Delta Junction, with a management goal of approximately 360 bison.

Bison are migratory animals with a home range and seasonal ranges. They graze Alaskan meadows, areas surrounding lakes and rivers, and recent burn areas consuming grasses, sedges, and forbs. They also will browse silverberry, birch, and willow. Wildfire can often rejuvenate habitats and improve the quality of forage.

1.4 GRIZZLY (BROWN) BEAR

Grizzly (brown) bears (*Ursus arctos*) are larger than black bear and can weigh up to 1,500 pounds. Females weigh half to three quarters as much as males. Brown bears are found throughout most of Alaska in healthy population numbers, including within the withdrawn lands. It is estimated that about 30,000 brown bears occur statewide. Brown bears are hunted in Alaska, mainly for their quality hides. The statewide reported harvest in 2019 was 503 brown bears.

Brown bears, other than mating pairs, mothers with cubs, or in areas where they congregate for a food source, are usually solitary animals that hibernate in alpine and subalpine dens and spend the remainder of the year roaming various Alaskan habitats for food. Their diet includes berries, grasses and sedges, roots, fish, ground squirrels, moose, and caribou.

1.5 BLACK BEAR

Black bears (*Ursus americanus*) are the smallest of the North American bear species and weigh between 180 and 350 pounds. It is estimated that approximately 100,000

black bears inhabit the forested areas of the state and are the most widely distributed and abundant North American bear species. The reported statewide harvest in 2019 was 1,815 black bears.

As opportunistic feeders, they will kill newborn moose calves, feed on salmon in the summer, and scavenge animals killed by winter, but they primarily feed on berries, grubs, other insects, and palatable vegetation much of the year. They hibernate during the winter in forest dens across a variety of habitats and elevations.

1.6 DALL SHEEP

Dall sheep (*Ovis dalli dalli*) is a hoofed mammal usually weighing less than 300 pounds. Hunting for dall sheep requires much effort due to the steep and remote terrain these animals inhabit. Statewide, 823 dall sheep were harvested in 2019. ADFG estimated the statewide dall sheep population at 45,010 as of 2010, the latest year for which population estimates are available (ADFG 2014).

Dall sheep inhabit relatively dry and open high-country alpine ridges, meadows, and steep slopes in the mountain ranges of Alaska where they have access to rugged terrain such as rock cliffs for protection from predators. These animals consume a wide variety of plants in the summer and dry and frozen grasses and sedge stems or even lichen and mosses in the winter.

1.7 WOLVES

Wolves (*Canis lupus*) are an extremely adaptable animal found in about 85 percent of Alaska’s land area. Alaskan wolves can range in color from black to nearly all white. Males may weigh as much as 145 pounds while females are smaller by 10 to 15 pounds on average. Wolves are classified as big game in Alaska hunting regulations and as furbearers in trapping regulations. Approximately 1,200 wolves are harvested statewide annually from a population estimated at up to 11,000 individuals.

Wolves are pack animals and usually remain in territories maintained by pack members while occasionally overlapping into territories of other packs. Their diet varies by the area of Alaska they inhabit. They primarily consume moose, caribou, and Sitka black-

tailed deer, and supplement with dall sheep, small mammals, and occasionally fish or birds.

1.8 SMALL GAME SPECIES

In Alaska, small game species fall under their own set of regulations and include the species that may occur within the withdrawn lands listed in Table 1.8-1.

Table 1.8-1. Small Game Species with Ranges that Overlap the Withdrawn Lands

Group	Species
Grouse	• Ruffed grouse (*Bonasa umbellus*) • Spruce grouse (*Falcipennis canadensis*) • Sharp-tailed grouse (*Tympanuchus phasianellus*)
Ptarmigan	• Willow ptarmigan (*Lagopus lagopus*) • Rock ptarmigan (*Lagopus muta*) • White-tailed ptarmigan (*Lagopus leucurus*)
Hare	• Snowshoe hare (*Lepus americanus*) • Alaska hare (*Lepus othus*)

Source: ADFG 2021f

ADFG conducts annual surveys for ruffed grouse throughout Alaska. The Army formerly supplemented ADFG's data set by conducting ruffed grouse drumming surveys and qualitative habitat (deciduous tree) surveys in the YTA, DTAE, and DTAW, but has discontinued doing so. The Army has collected data from established study routes in DTAE and DTAW since 2009 and in YTA since 2012. Decreases in relative abundance were recorded in field surveys, but were consistent with the cyclic declines detected throughout interior Alaska (Welch et al. 2020). Despite yearly or cyclic variations as compared to data from previous years, the overall trend is that DTAE and DTAW consistently yield more ruffed grouse detections every year.

2.0 REFERENCES

Alaska Department of Fish and Game (ADFG). 2014. Sheep Populations, Hunters, and Harvest: A Summary on Current Status and Trends. Prepared by Alaska Department of Fish and Game, Anchorage, AK.

ADFG. 2021f. Species Information. Accessed: August 2021.https://www.adfg.alaska.gov/index.cfm?adfg=species.main.

Welch, J.H., K.B. Rozell, T. Obritschkewitsch, A.K. Prichard, J.C Seigle, and A.E. and Gall. 2020. “Wildlife Surveys on Fort Wainwright Training Lands, Alaska, 2018-2019. Final Report.” U.S. Army Fort Wainwright Alaska, ABR, Inc.

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APPENDIX 7.0: BLM ANILCA SECTION 810 ANALYSIS

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Appendix XX.

ANILCA § 810 EVALUATION OF SUBSISTENCE IMPACTS

USAG Alaska is proposing to request that Congress extend the current withdrawal of certain federal public lands in Alaska for continued military use for 25 years or more, or assign control of the lands to the Secretary of the Army until such time as the Department of the Army determines it no longer needs the lands for military purposes. The Draft Legislative Environmental Impact Statement (LEIS) has one action alternative: Alternative 1, extend the Public Law 106-65 Withdrawal for 25 Years or More, or Assign Control of the Lands to the Secretary of the Army. The U.S. Army is the Lead Agency, and the Bureau of Land Management is a cooperating agency. These include 869,862 acres of land which comprise the Yukon Training Area (YTA), Donnelly Training Area East (DTAE), and Donnelly Training Area West (DTAW) and will collectively be referred to here as *training lands*. Federal subsistence regulations do not apply to military training lands, as specified in those regulations (50 CFR § 100.3(d)). The term Federal public lands is used here to refer to Federal lands on which Federal subsistence regulations apply and qualified rural residents are allowed to engage in subsistence activities, including hunting and fishing.

Chapters 3 (Affected Environment) and 4 (Environmental Consequences) of the Draft Legislative Environmental Impact Statement for the Public Law 106-65 Land Withdrawal Extension provide a detailed description of both the affected environment of the Planning Area and the potential effects of the various alternatives to subsistence. This appendix uses the detailed information presented in the Draft Legislative EIS and some supporting information (existing harvest data and published reports) to evaluate the potential impacts to subsistence pursuant to Section 810(a) of the Alaska National Interest Land Conservation Act (ANILCA).

Subsistence Evaluation Factors

Section 810(a) of ANILCA requires that an evaluation of subsistence uses and needs be completed for any federal determination to –withdraw, reserve, lease, or otherwise permit the use, occupancy or disposition of public lands. As such, an evaluation of potential impacts to subsistence under ANILCA § 810(a) must be completed for the Draft Legislative EIS. ANILCA requires that this evaluation include findings on three specific issues:

- The effect of use, occupancy, or disposition on subsistence uses and needs;
- The availability of other lands for the purpose sought to be achieved; and
- Other alternatives that would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes (16 USC § 3120).

The evaluation and findings required by ANILCA § 810 are set out for both alternatives considered in the Draft Legislative EIS.

A finding that the proposed action may significantly restrict subsistence uses imposes additional requirements, including provisions for notices to the State of Alaska and appropriate regional and local subsistence committees, a hearing in the vicinity of the area involved, and the making of the following determinations, as required by Section 810(a)(3):

- Such a significant restriction of subsistence uses is necessary, and consistent with sound management principles for the utilization of the public lands.
- The proposed activity will involve the minimal amount of public lands necessary to accomplish the purposes of use, occupancy, or other disposition; and
- Reasonable steps will be taken to minimize adverse effects upon subsistence uses and resources resulting from such actions.

To determine if a significant restriction of subsistence uses and needs may result from either of the alternatives discussed in the Draft Legislative EIS, including their cumulative effects, the following three factors in particular are considered:

- The reduction in the availability of subsistence resources caused by a decline in the population or amount of harvestable resources;

- Reductions in the availability of resources used for subsistence purposes caused by alteration of their normal locations and distribution patterns; and
- Limitations on access to subsistence resources, including from increased competition for the resources.

A significant restriction to subsistence may occur in at least two instances: 1) when an action substantially reduces populations or their availability to subsistence users, and 2) when an action substantially limits access by subsistence users to resources

A subsistence evaluation and findings under ANILCA § 810 must also include a Cumulative Impacts analysis. This evaluation begins with evaluations and findings for both alternatives discussed in the Draft Legislative EIS. Finally, the most intensive cumulative case, as discussed in Chapter 4 (Environmental Consequences) of the Draft Legislative EIS, is evaluated.

When analyzing the effects of each alternative, particular attention is paid to those rural communities that have the potential to be most directly impacted by the proposed actions—Delta Junction and adjacent communities, Healy Lake, Dry Creek and Dot Lake. These communities are nearest the training lands, are located within Game Management Unit (GMU) 20D, and available information indicates that community subsistence use areas include or extend near the Army training lands.

ANILCA § 810(a) Evaluations and Findings for All Alternatives and the Cumulative Case

The following evaluations are based on information relating to the environmental and subsistence consequences of the Action Alternative 1 and the No Action Alternative, and the cumulative case as presented in Chapter 4 (Environmental Consequences) of the Draft Legislative EIS.

1. Evaluation and Findings for the No Action Alternative

Under the No Action Alternative, the withdrawal will not be renewed and the lands would be returned to the public domain for management by BLM and would be considered public lands for subsistence purposes and land uses and access would likely be managed similarly to other general BLM public lands. It is assumed that the lands in question would be opened to general uses in stages. Portions of the withdrawn lands that are currently open to recreation would likely be returned to the public domain first. Existing closure areas (e.g., impact areas) would become available for public use after completion of any necessary cleanup and decontamination. Chapter 3 of the LEIS describes the Affected Environment for Biological Resources, Recreation, Subsistence, and Socioeconomics and Environmental Justice. Large mammals and fish (primarily salmon) made up the bulk of subsistence harvest for most rural communities (Table 3.17-4). Fish are not very available in the Training Areas, and therefore this analysis will focus on large mammals.

Evaluation of the Effect of Use, Occupancy, or Disposition on Subsistence Uses and Needs

Resource abundance and availability.

As discussed in the LEIS (Sections 4.17 Subsistence and 4.13.1.3 Wildlife), the cessation of military activities may result in both benefits and detriments to subsistence species. Disturbance of wildlife from military activities would no longer occur. Fewer mechanized surface disturbances in native habitats would likely occur. However, some wildlife species, such as moose and bison, may benefit from some types of vegetation disturbance, including fire, as well as direct wildlife habitat management activities, by providing earlier successional habitats. As a result, decline in habitats could occur for those species.

Access to resources.

The No Action Alternative would make 869,862 acres eventually available to rural residents for subsistence purposes. Some of this land is relatively accessible and supports high-value subsistence species—including caribou and moose. As discussed in the LEIS (Section 4.17), the No Action Alternative may allow subsistence users to shift some harvest from GMU 13, to the more local training lands. It may also provide additional subsistence opportunity on those training lands, following relinquishment of the withdrawal. The availability of high density moose populations in southern GMU 20D (Bruning 2018) and much of GMU 20A could potentially substitute for or supplement more distant and smaller-bodied caribou and other resources.

Temporary and permanent closures for impact areas and military training would no longer be in place, although access to impact areas and contaminated areas would remain closed until decontaminated. Public access for recreation and subsistence hunting, fishing, and gathering would likely no longer require a permit. Reduced restrictions to access, such as permanent and temporary closures, registration and check-in requirements and fewer complicated rules will result in greater use by Federal subsistence users. Maintenance of roads would no longer be conducted by the military and may result in some loss of hunting access. BLM management and funding would determine the quality and extent of the road and trail network.

Access to wildlife resources may be improved through less restrictive harvest regulations. In areas that are relatively accessible by highway and off-highway vehicles, game managers frequently find ways to slow or limit the harvest and meet population objectives, such as through limited random drawings for permits, antler point restrictions, motor vehicle restrictions, hunt boundaries shifted away from roads, and limited season lengths. As an example, moose harvest in the Delta Junction Management Area, which includes much of the Donnelly Training Area East, is conducted by drawing permit (DM790). In 2021 only 1% of applicants received a permit. Federal subsistence hunts typically involve a more limited pool of hunters, in which case fewer constraints are necessary to keep harvest within goals.

Federal subsistence hunting seasons often provide greater harvest opportunities for rural residents, such as through longer or alternate season dates, more liberal harvest limits, or less restrictive sex and antler size limitations. Longer seasons provide more opportunities to hunt at traditional times, when migrations make animals more available, or when large numbers of non-local hunters are not present, and also to fit subsistence among other activities. In interviews of Upper Tanana rural communities (, Marcotte 1988) the impacts of non-local hunters on subsistence activities were common themes. Dry Creek community members noted that the ADFG prohibition of motorized vehicles for hunting on the Macomb Plateau adjacent to their community was important for their ability to meet their harvest needs by minimizing the number non-local hunters (Holen et al 2012).

Little Federal subsistence opportunity is currently available to rural residents in the Game Management Units in which the Training Lands are located (GMUs 20A, 20B, 20D) because Federal public lands currently available for subsistence activities in those are very limited. They are found mostly in small, scattered parcels or in the mostly remote area of mountains and glaciers along the edge of GMU 13B (see Figure 1below). As a result, most Federal subsistence seasons for large mammals in these areas currently match the State season or there is no Federal open season, and so little to no Federal subsistence priority exists in these GMUs. Currently, there is no Federal open season for caribou or Dall sheep in any of these subunits and none for moose in unit 20D, meaning that all such hunting is done under state regulations. Under the No Action Alternative, Training Lands would add substantially to local subsistence opportunities.

In recent years, a large proportion (92%) of caribou harvest by Delta Junction residents has occurred in GMU 13B (Table 4-17.1), where more extensive Federal public lands exist. This likely reflects the Federal subsistence opportunities provided to rural residents by Federal public lands and subsistence management, as well as the presence of the large, relatively road-accesible Nelchina caribou herd. The relative value of Federal subsistence opportunities in this situation is supported by the observation that nearly a third of moose harvest by Delta Junction residents also occurred in Unit 13B, despite large moose populations more proximate to that community. Also supporting the role of Federal public lands is the observation that, more than 95% of both caribou and moose harvest in Unit 13 by Delta Junction residents occurred under Federal subsistence regulations (and on Federal public lands), when all such users could have chosen to hunt on any lands under state regulations.

The changes in regulations that could occur during the No Action Alternative would benefit federally qualified subsistence users through extended seasons or limits and may contribute to increased resilience of subsistence communities regarding food security and sustainability of subsistence practices and traditions.

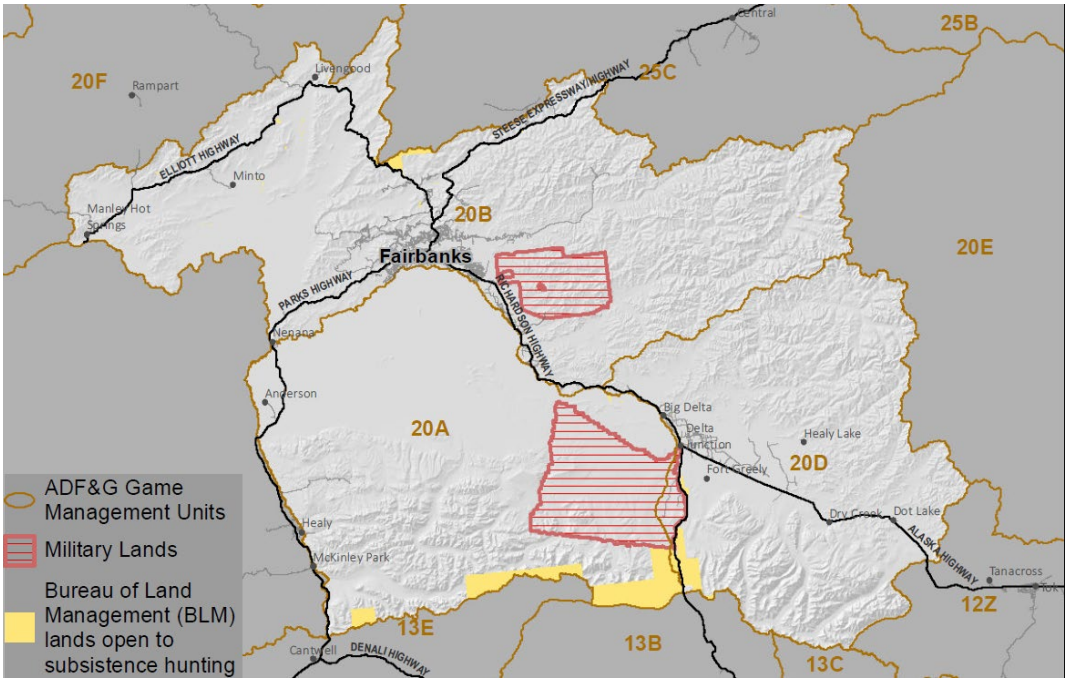

Figure 1. Federal public lands available for subsistence (in yellow) within Game Management Units 20A, 20B, and 20D.

Evaluation of the Availability of Other Lands for the Purpose Sought to Be Achieved

The No Action Alternative would remove Military Training from these areas, which would eliminate the need to evaluate availability of other lands for those purposes as part of this analysis.

Evaluation of Other Alternatives that would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

The No Action Alternative would cease military training and thus would reduce the use and occupancy of public lands needed for subsistence purposes. Therefore, other alternatives to eliminate this use and occupancy were not investigated.

Findings

The No Action Alternative would not significantly restrict subsistence uses and needs. Cessation of military training would have a net benefit for subsistence use and access.

2. Evaluation and Findings for Action Alternative 1

Under Action Alternative 1, the withdrawn lands would continue to be withdrawn for a period of 25 years or more from all forms of appropriation under the public land laws, or would be assigned to the control of the Secretary of the Army until such time as the Army determines it no longer needs the lands for military purposes. These lands would be reserved for use by the Army for military maneuvering, training, equipment development and testing, and other defense related purposes. If the withdrawal period is extended or control is assigned to the Secretary of the Army, the Secretary of the Interior would continue to manage the lands subject to conditions and restrictions necessary to permit the military use of these lands. Management of these lands would follow all existing, applicable management plans and policies. The Secretary of the Army would close any road, trail, or portion of the lands to public use as needed for public safety, military operations, or national security. The Secretary of the Interior would issue a lease, easement, right-of-way, or authorization for non-military use of these lands with the concurrence of

the Secretary of the Army. Hunting, fishing, and trapping on these lands would be permitted in accordance with the provisions of 10 USC § 2671. The Army is proposing that Congress only extend the period of use of the existing withdrawn areas, not expand or add impact areas on the withdrawn lands. Military activities conducted on the withdrawn lands would be consistent with those conducted since the previous withdrawal in 1999. Training actions would include those that were evaluated in a previous LEIS and additional training and management programs that have been evaluated in subsequent NEPA documents.

Evaluation of the Effect of Use, Occupancy, or Disposition on Subsistence Uses and Needs

The analysis of the effects of Action Alternative 1 on subsistence is presented in Section 4.17 (Subsistence). At issue in this evaluation are the differences between the No Action Alternative and Action Alternative 1, and whether these differences would be significant enough to cause a substantial impact to the populations of subsistence species, or to limit access to subsistence activities and resources by subsistence users under Action Alternative 1. The evaluation of the No Action Alternative described differences between the two alternatives in effects on resources and effects on users. That analysis, and limited supporting information, will be utilized here in evaluating effects of Action Alternative 1.

Resource abundance and availability.

As noted in the LEIS, and in the evaluation of the No Action Alternative (above), the continuation of military activities may result in both benefits and detriments to subsistence species. Continued vegetation and soil disturbance may negatively affect some native habitat. On the other hand, some military surface disturbing and wildlife habitat management activities likely benefit some species such as moose, by providing earlier successional habitats and improved quality or quantity of forage. Military activities may result in at least short-term avoidance and/or changes in habitat use by some species. No more than minor effects on abundance and availability of subsistence species is expected.

Access to resources.

The approximately 870,000 acres of training lands would continue to be unavailable to rural residents for Federal subsistence purposes. Currently 206,000 acres are permanently closed to public access while the remaining lands (664,000 acres) are open for all residents for recreation and hunting, subject to temporary closures. No acres are considered Federal public lands available for Federal subsistence purposes, and therefore there is no subsistence priority for rural residents. In Action Alternative 1 this will not change, and Federal public lands will continue to be very limited in extent and distribution in the Game Management Units in which the training lands are located. Permanent and temporary closures will continue to limit access to wildlife resources by local rural residents. Relative to the No Action Alternative, local rural residents will continue to be limited in access to and ability to harvest subsistence resources and practice subsistence lifestyles.

In addition, opportunities for local rural residents will continue to be limited by hunting regulations necessary to limit harvest to sustainable levels—due to hunting pressure from hunters throughout the state as well as non-residents. Those may include drawing permit hunts with little chance to obtain a permit, hunts that may close suddenly when harvest quotas are met, hunts that are limited in duration or occur at non-ideal time periods, restrictions on motor vehicle access, and harvest limits and sex or age and antler size limitations. Constraints on access will include competition and interference by other hunters, crowding, and potentially safety concerns.

Under Action Alternative 1, Federally qualified subsistence users would not benefit from extended seasons or limits, better availability to harvest permits, or reduced harvest restrictions. While these lands have been not available for federal subsistence, the current and reasonably foreseeable limits on adjacent harvest areas and quotas, subsistence communities would experience relatively lower resilience regarding food security than the No Action Alternative.

Evaluation of the Availability of Other Lands for the Purpose Sought to Be Achieved

The Training Lands analyzed in the LEIS were withdrawn and established as military training areas in the 1950s and have been utilized consistently since then. Considerable investment in infrastructure has been made during that time. The No Action Alternative would result in cessation of training on these lands. The LEIS did not evaluate the availability of other lands for military training.

Evaluation of Other Alternatives that would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

Procedures and policies for minimizing impacts from military activities on vegetation and wildlife and fish habitats as well as impacts on public users are included in management plans described in the LEIS. These serve to minimize the negative effects of Action Alternative 1 on subsistence resource and abundance.

Although hunting, fishing, and gathering of firewood and vegetation such as berries, is allowed on most of the withdrawn lands, implementation of subsistence regulations is not allowed by federal regulation 50 CFR 100.3(d) which states that "The regulations contained in this part apply on all other public lands, other than to the military, U.S. Coast Guard, and Federal Aviation Administration lands that are closed to access by the general public, including all non-navigable waters located on these lands.". A change to this regulation was not considered as an alternative which would improve subsistence opportunities. Public access over most of the training lands (including hunting and fishing) is currently allowed with a free permit. Hunting and fishing under the same conditions, could potentially be allowed under Federal subsistence management and regulations.

Findings

Action Alternative 1 (renewal of the withdrawal and continuation of military training activities) will have both positive and negative effects on abundance and availability of subsistence species relative to the No Action Alternative, but will not result in significant reductions in abundance or availability,

Relative to the No Action Alternative, renewal of the withdrawal and continuation of military training activities (Action Alternative 1) may result in significant reductions in access to subsistence resources by rural communities in Game Management Unit 20D, including Dot Lake, Dry Creek, Healy Creek, and Delta Junction area communities.

3. Evaluation and Findings for the Cumulative Case

The goal of the cumulative analysis is to evaluate the incremental impact of the Action Alternative 1 in conjunction with all past, present, and reasonably foreseeable future actions in or near the Planning Area.

Evaluation of the Effect of Such Use, Occupancy, or Disposition on Subsistence Uses and Needs

Section 4.18.3 of the LEIS contains a description of past, present, and reasonably foreseeable future actions and Section 4.18.4.15 describes potential cumulative effects for subsistence. No significant cumulative effects were identified related to subsistence under Action Alternative 1, but three factors were identified that could affect subsistence resources or opportunities.

The population of Alaska has shown long term growth since before statehood, including a 3% increase from 2010 to 2020. Continued population growth could lead to increased competition and conflict between users of subsistence resources and may result in reduced abundance or more restrictive harvest regulations.

Fish and wildlife may suffer short or long-term population declines, resulting in community resource shortages, such as those seen in recent years in Yukon River communities and continuing in 2022 with closures of the Yukon River to all salmon fishing. Shortages in one resource could increase needs in other resources. In some Upper Tanana communities, salmon are more important than big game in terms of quantity of subsistence meat harvest. Salmon populations in the Copper River, where most Upper Tanana residents harvest salmon (Holen et al 2012), are not currently in a similar long-term decline. Climate change may result in long-term changes in subsistence resource abundance.

Some Native corporations have taken steps to prohibit some types of access or uses and require payment for others.

Ahtna regional corporation currently prohibits hunting (other than predator hunting) by non-shareholders and has implemented fee collection for other recreational access. Implementing such restrictions on more lands in the State could result in redistribution of resource users to Federal public lands which would increase competition, conflict, and resource shortages.

These cumulative effects may be additive and increase the probability that Action Alternative 1 may result in significant restrictions to subsistence uses for rural communities in Game Management Unit 20D and potentially also for communities more distant from the training lands.

Evaluation of the Availability of Other Lands for the Purpose Sought to Be Achieved

The Training Lands analyzed in the LEIS were withdrawn and established as military training areas in the 1950s and have been utilized consistently since then. Considerable investment in infrastructure has since been made. The No Action Alternative would result in cessation of training on these lands. The LEIS did not evaluate the availability of other lands for military training.

Evaluation of Other Alternatives that would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

Procedures and policies for minimizing impacts from military activities on vegetation and wildlife and fish habitats as well as impacts on public users are included in management plans described in the LEIS. These serve to minimize the negative effects of Action Alternative 1 on subsistence resource abundance.

Although hunting, fishing, and gathering of firewood and vegetation such as berries, is allowed on most of the withdrawn lands, implementation of subsistence regulations is not allowed by federal regulation 50 CFR 100.3(d) which states that "The regulations contained in this part apply on all other public lands, other than to the military, U.S. Coast Guard, and Federal Aviation Administration lands that are closed to access by the general public, including all non-navigable waters located on these lands.". A change to this regulation was not considered as an alternative which would improve subsistence opportunities. Public access over most of the training lands (including hunting and fishing) is currently allowed with a free permit. Hunting and fishing under the same conditions, could potentially be allowed under Federal subsistence management and regulations.

Findings

The cumulative case, as presented in this analysis, may result in a reasonably foreseeable and significant restriction of subsistence use for the communities in Game Management Unit 20D, including Dot Lake, Dry Creek, Healy Creek, and Delta Junction area communities, due to a restriction on access to subsistence resources. This is the same finding presented for Action Alternative 1.

Literature Cited

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