Chapter 1
Purpose and Need for the Proposed Actions

1.0 PURPOSE AND NEED FOR THE PROPOSED ACTIONS

The *Environmental Impact Statement for the Modernization and Enhancement of Ranges, Airspace, and Training Areas in the Joint Pacific Alaska Range Complex in Alaska* (the *JPARC Modernization and Enhancement EIS*) is prepared pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code [U.S.C.] 4321 *et seq*.); the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500–1508); Executive Orders (EO) 11514 and 11991; and the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 *et seq*.).

The U.S. Departments of Army and the Air Force are the joint lead Federal agencies for this Environmental Impact Statement (EIS). The Environmental Analysis of Army Actions (32 CFR 651) and the Air Force Environmental Impact Analysis Process (32 CFR 989) have been used to prepare this EIS, in addition to the NEPA and CEQ regulations noted above. The Federal Aviation Administration (FAA) is a cooperating agency based in part on the U.S. Department of Defense (DoD) FAA Memorandum of Understanding (MOU) found in Appendix 7 of FAA Order 7400.2 that states, "When the DoD proposes that the FAA establish, designate, or modify SUA [Special Use Airspace], the FAA shall act as a cooperating agency for the evaluation of environmental impacts."

The Army and Air Force organizations in Alaska responsible for the preparation of this EIS include U.S. Army Alaska (USARAK) and the 11th Air Force (11th AF), as coordinated by the Alaskan Command (ALCOM). ALCOM is a regional military command of the United States Armed Forces focusing on the State of Alaska and is a sub-unified command of the U.S. Pacific Command (PACOM).

The DoD Service components based within the State of Alaska face an exceptional challenge to meet compelling and increasingly urgent needs borne out of fighting wars. The Service unit include the U.S. Air Force, Army, Coast Guard, Marine Reserves, and Navy. In an era of persistent combat operations, the DoD Services continue to generate new technologies, learn from battlefield experiences, update tactics, and train intensively to face a committed and agile enemy. Each of these challenges drives the purpose and the need for modernization and enhancements to the range and airspace infrastructure that replicate the modern battlefield for training and testing in Alaska – termed the Joint Pacific Alaska Range Complex (JPARC).

1.1 SCOPE OF THIS ENVIRONMENTAL IMPACT STATEMENT

JPARC is composed of Alaska's military air, land, and sea areas. It must replicate realistic conditions for relevant combat training and testing of military systems to meet the requirements of the DoD units in Alaska. The vision for JPARC is a live-virtual-constructive[1] range for all Services that leverages Alaska's unique attributes of space, air, land, and water to enable a full spectrum of 21st century Joint Interagency, Intergovernmental, and Multinational (JIIM) training while meeting current and future testing requirements. With these enhancements, JPARC can guarantee Service members in Alaska

[1] Live-virtual-constructive refers to three modes of delivering training. Live training is actual on-the-ground or in-the-air training using the actual vehicles and equipment used in combat, and, in some cases, involves other live participants. Virtual training provides military personnel with a simulated experience using a computer or simulated environment to practice individual responses and skills. Constructive training is also a simulated environment that involves participants in the layers of command and control experienced in the battlefield environment.

critical training and testing in a manner that maximizes modern battlespace realism. The *JPARC Modernization and Enhancement EIS* will evaluate the reasonably foreseeable projects associated with this vision.

Figure 1-1 and Figure 1-2 show the location of the existing DoD Service bases, training areas, ranges, and SUA assets within the JPARC planning area. Most of the JPARC enhancements being proposed in this EIS are associated with the different types of SUA that are established within the National Airspace System for supporting military training activities. Figure 1-3 provides a graphic depiction of the different SUA types that currently exist in Alaska along with a definition of each and their relationship to the JPARC airspace proposals. As noted in this figure, the *JPARC Modernization and Enhancement EIS* proposes changes or additions to Military Operations Areas (MOAs), Controlled Firing Areas (CFAs), and Restricted Areas. No changes are proposed for the Military Training Route (MTR) or offshore Warning Areas boundaries. Appendix D, *Airspace Management*, includes additional information pertaining to military training airspace uses.

The *JPARC Master Plan, August 2011* (*JPARC Master Plan*) prepared by the Army and Air Force provides a strategic framework for JPARC enhancement and modernization, including a spectrum of enhancements from immediate and well-defined to future and conceptual. From this framework, this EIS focuses on enhancements that would provide Service-specific and joint training and testing objectives to meet immediate needs. The Master Plan and the screening process used to select proposed actions for this EIS are covered in more depth in Sections 1.4 and 1.5, respectively. Specific proposals, which represent a subset of actions identified in the Master Plan, are described in more detail in Chapter 2.0.

Because the proposed actions analyzed in this EIS are in various stages of development and have varying timelines for implementation, this EIS has two levels of decisions—programmatic and definitive.

Definitive (i.e., specific, project-level) decisions will be included in the Record of Decision (ROD) for proposed actions that have sufficient definition to allow detailed EIS analysis of potential discrete impacts. Decisions may incorporate specific measures identified in the analysis to avoid, reduce, or mitigate impacts. This EIS will serve to support the decisions for this class of actions.

Programmatic decisions will be included in the ROD for proposed actions that have adequate detail for analysis of a general capability, but have flexibility relative to project definition, location, timing, programming, funding, or level of use. Also, actions that are currently not identified for funding or that would take many years to implement may also be decided programmatically. This class of decisions would form the basis for "tiering" future environmental analyses once actions are more fully defined or are closer to the time of implementation.

The ROD for this EIS will include decisions on each proposed action, supported by analysis of implementing the proposed action either on its own or in combination with the other proposed actions.

This EIS does not include several objectives in the Master Plan that are not yet fully defined. While it is important to include all requirements (either known or conceptual) in planning the future vision for JPARC, it is premature to include projects in this EIS if there is not enough information to analyze their impacts. As these concepts gain more definition and traction, they will undergo an environmental impact analysis process in the future. Other projects in the Master Plan, generally smaller in scope, are currently undergoing evaluation and will be considered in separate NEPA documents with decisions expected prior or coincident to the completion of this EIS. These projects are considered in the cumulative impacts analysis in Chapter 4.0, Cumulative Impacts and Secondary Effects.

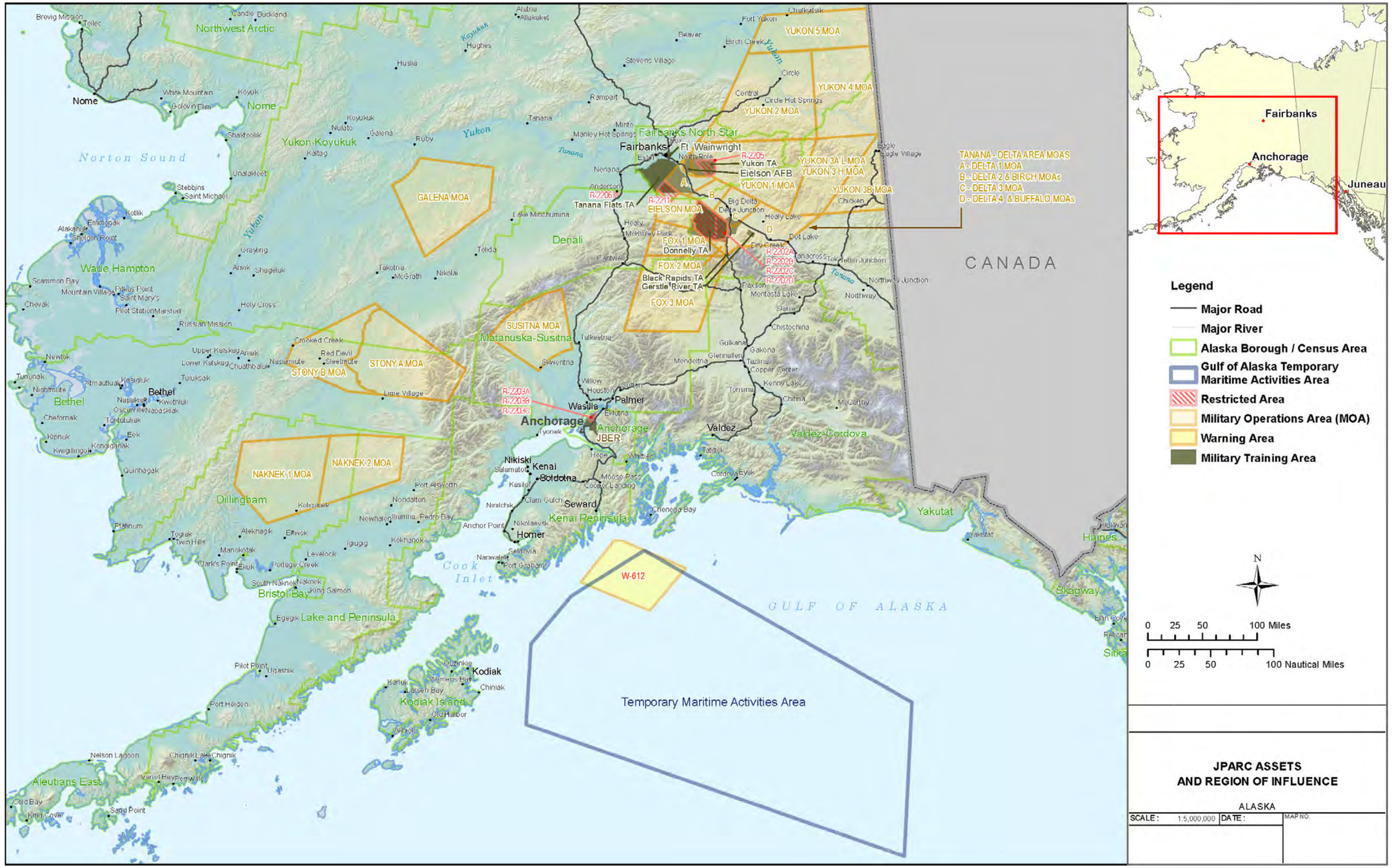

Figure 1-1. Joint Pacific Alaska Range Complex Assets and Region of Influence

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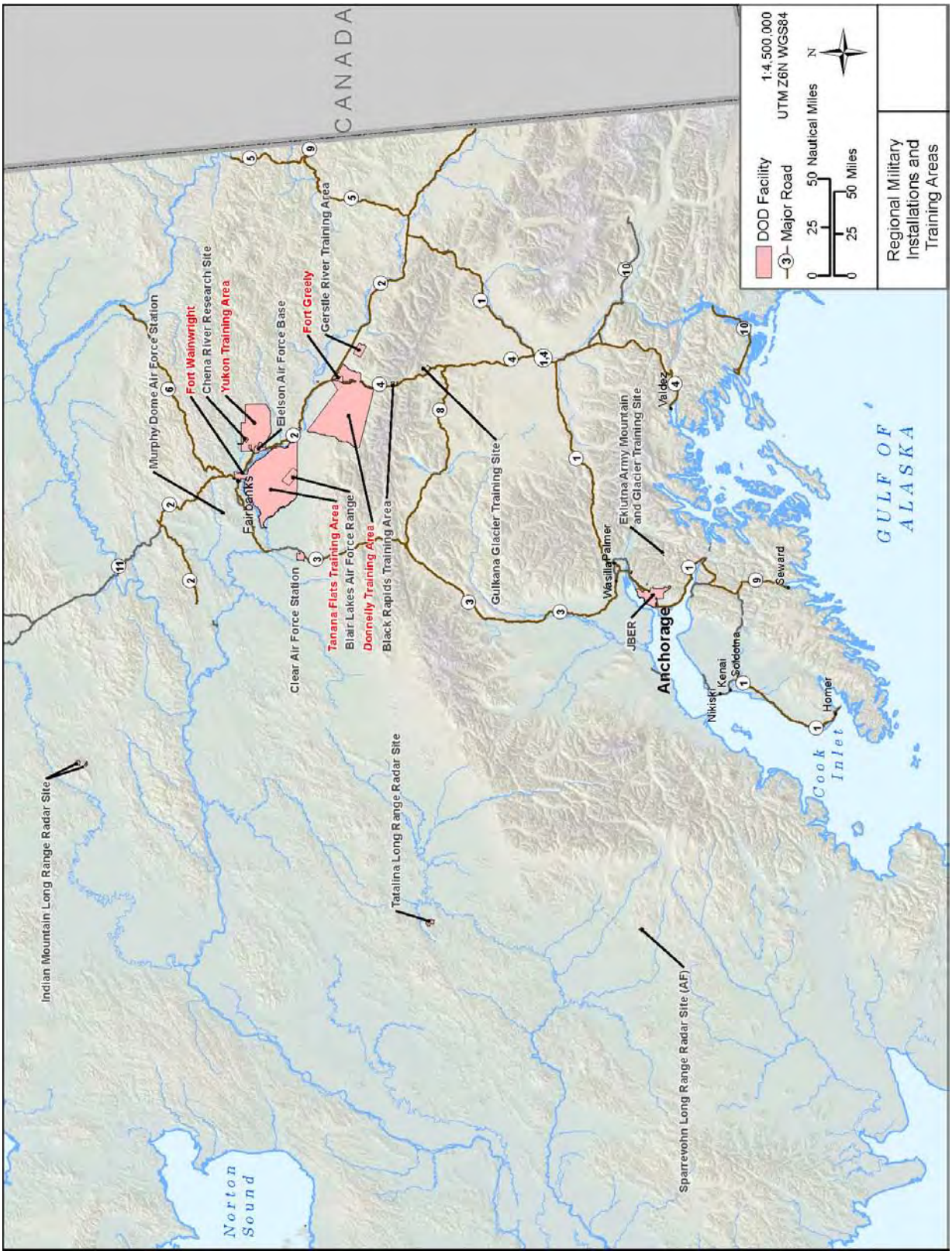

Figure 1-2. Regional Military Installations and Training Areas

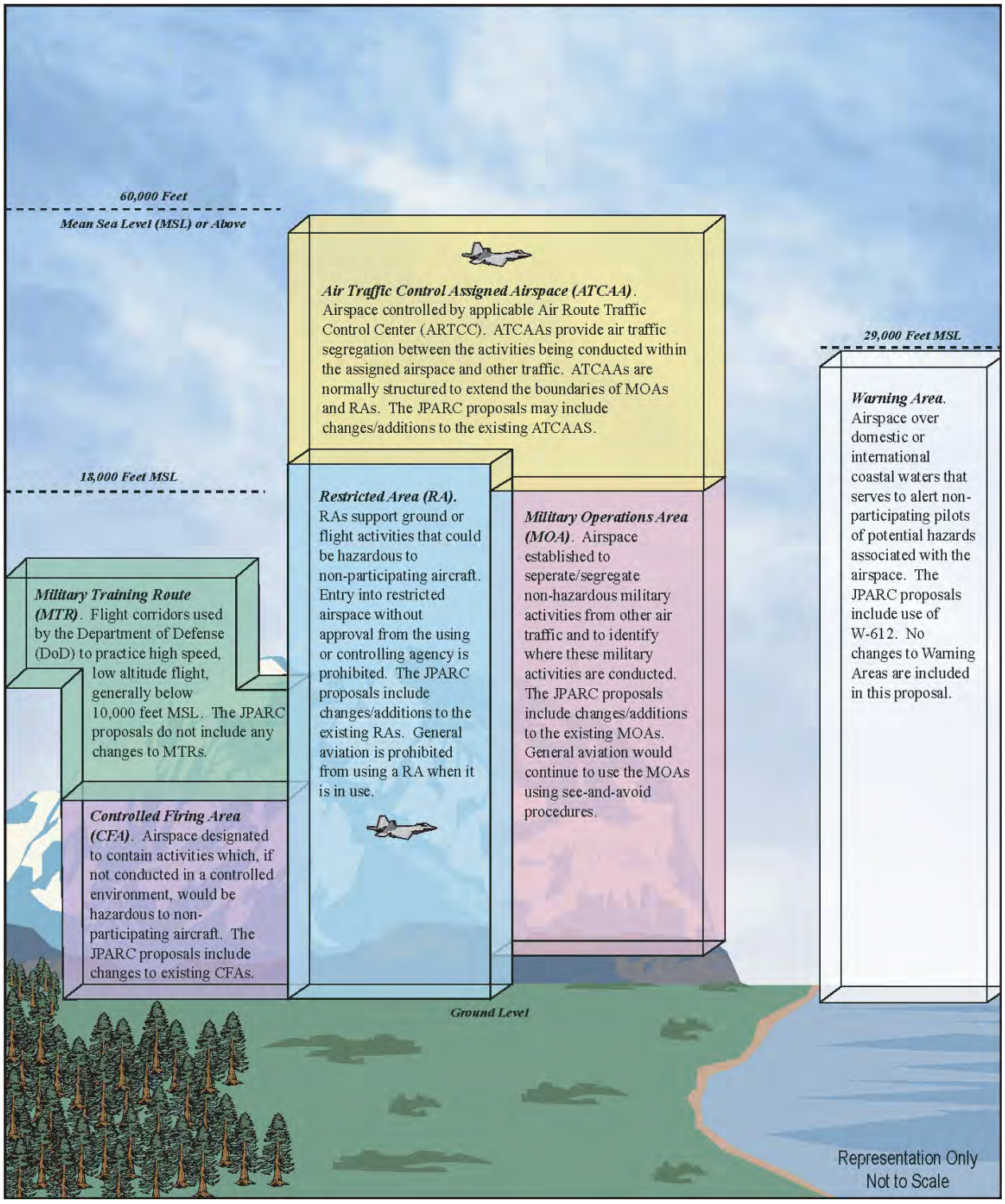

Figure 1-3. Description of Military Training Airspace Types in Alaska

1.1.1 Regional Initiatives Contributing to Training and Testing

The Master Plan references a number of recent and ongoing initiatives to meet the needs of various Services in the JPARC region. Table 1-1 lists actions that are incorporated into the baseline or considered in the cumulative impacts analysis for this EIS (see Chapter 4.0), depending on how recent the action was

implemented. This list includes recent major decisions for the Delta MOA by the Air Force, for stationing and training USARAK aviation assets, and for Navy and joint force training in the Gulf of Alaska (GOA).

Table 1-1. Recent DoD Actions in the JPARC Region

Title	Reference	Status	Date	Ranges/Installations Affected
F-22 Plus-Up Environmental Assessment (EA) Joint Base Elmendorf-Richardson, Alaska	Air Force 2011-1	Final	July 2011	Joint Base Elmendorf-Richardson
Resumption of Year-Round Firing Opportunities at Fort Richardson, Alaska EIS	USARAK 2010-1	Draft	January 2010	Joint Base Elmendorf-Richardson
GOA Navy Training Activities EIS/Overseas EIS	Navy 2011	Final	May 2011	GOA Temporary Maritime Activities Area
Range Complex Training Land Upgrades, Final Finding of No Significant Impact and Programmatic EA	USARAK 2010-2	Final	March 2010	Army ground training areas near Joint Base Elmendorf-Richardson and Fort Wainwright
Stationing and Training of Increased Aviation Assets Within USARAK EIS	USARAK 2009-1	Final	September 2009	All military lands and installations in Alaska and other lands and airspace in Alaska that could be affected
Establish the Delta MOA Complex EA	Air Force 2010	Final	January 2010	Fairbanks Area of Interest
Grow the Army Force Structure Realignment EA	USARAK 2008-1	Final	September 2008	Joint Base Elmendorf-Richardson, Fort Wainwright, DTA
DTA-East Mobility and Maneuver Enhancement EA/FONSI	USARAK 2008-2	Final	May 2008	DTA-East
Management of Nike Site Summit, Fort Richardson EA/FONSI	USARAK 2008-3	Final	February 2008	Site Summit
Relocation of the ANG 176th Wing to Elmendorf AFB, Alaska, EA	Air Force 2007-1	Final	September 2007	Joint Base Elmendorf-Richardson
Eielson AFB Infrastructure Development in Support of RED FLAG–Alaska EA	Air Force 2007-2	Final	August 2007	Eielson AFB
Construction and Operation of a Railhead Facility and Truck Loading Complex, Fort Wainwright, Alaska, EA	USARAK 2007-1	Final	August 2007	Fort Wainwright
Integrated Natural Resources Management Plan EA for U.S. Army Garrison Alaska	USARAK 2007-2	Final	January 2007	Fort Wainwright Main Post, TFTA, YTA, DTA, GRTA, BRTA, and Whistler Creek Training Area; Joint Base Elmendorf-Richardson North Post, South Post and other small parcels
Final EIS for the Construction and the Operation of a BAX and a Combined Arms Collective Training Facility Within U.S. Army Training Lands in Alaska	USARAK 2006-1	Final	June 2006	Eddy Drop Zone at DTA-East

Table 1-1. Recent DoD Actions in the JPARC Region *(Continued)*

Title	Reference	Status	Date	Ranges/Installations Affected
F-22 Beddown at Elmendorf AFB Alaska, EA/FONSI	Air Force 2006-1	Final	June 2006	Joint Base Elmendorf-Richardson and regional airspace
EA, Conversion of the Airborne Task Force to an Airborne Brigade Combat Team, Fort Richardson, Alaska	USARAK 2005-1	Final	September 2005	Joint Base Elmendorf-Richardson
Integrated Training Area Management Plan USARAK EA	USARAK 2005-2	Final	June 2005	Joint Base Elmendorf-Richardson Fort Wainwright
Transformation of USARAK Final EIS	USARAK 2004-1	Final	2004	Fort Wainwright Joint Base Elmendorf-Richardson
C-17 Beddown Elmendorf AFB, Alaska, EA	Air Force 2004-1	Final	September 2004	Joint Base Elmendorf-Richardson
Alaska Army Lands Withdrawal Renewal Legislative EIS	USARAK 1999-1	Final	1999	YTA, DTA-East DTA-West
Construct a CALFEX Range Facility at Fort Greely, Alaska	USARAK 1999-2	Final	May 1999	Fort Greely
Final Alaska MOA EIS	Air Force 1997-1	Final	April 1997	Alaska MOAs (Special Use Airspace)

Key: AFB=Air Force Base; ANG=Air National Guard; BAX=Battle Area Complex; BRTA=Black Rapids Training Area; CALFEX=Combined Arms Live-Fire Exercises; DoD=U.S. Department of Defense; DTA=Donnelly Training Area; EA=environmental assessment; EIS=environmental impact statement; FONSI=Finding of No Significant Impact; GOA=Gulf of Alaska; GRTA=Gerstle River Training Area; JPARC=Joint Pacific Alaska Range Complex; MOA=Military Operations Area; TFTA=Tanana Flats Training Area; USARAK=U.S. Army Alaska; YTA=Yukon Training Area.

1.2 PURPOSE OF THE PROPOSED JPARC ACTIONS

This EIS describes and analyzes the potential environmental effects associated with the Air Force and Army proposals to modernize and enhance the JPARC in Alaska to best support current and future military exercises in and near Alaska.

JPARC modernizations and enhancements would enable the Army, Navy, and Air Force in Alaska to train both realistically and jointly, enabling military personnel the best chance of success in their mutually supportive roles in actual combat.

At present, the JPARC consists of all land, air, and sea training areas used by the Army, Navy, and Air Force (the Services) in Alaska. The Department of Defense (DoD) Directive 1322.18, *Military Training*, and Commander PACOM, Joint Training Program of Excellence, mandate that ALCOM, as DoD's regional joint headquarters in Alaska, develop, in coordination with the Services, a joint strategy to identify joint training opportunities in Alaska, maximize the utilization of training resources, and improve joint training.

The military currently uses the JPARC to conduct testing and unit-level training and to support various joint exercises and mission rehearsals. The JPARC was originally developed to support older and in some cases now-obsolete weapons and tactics. Its current configuration cannot fully meet the training requirement for military forces and exercises conducted in Alaska. The JPARC requires a more contemporary and versatile design and improved infrastructure to meet the present and future needs of the military. The proposed JPARC modernization and enhancements would enable realistic joint training and testing to support emerging technologies, respond to recent battlefield experiences, and train with tactics and new weapons systems to meet combat and national security needs.

The Alaska air, land, and maritime training areas were originally developed to support World War II and Cold War weapons, tactics, and techniques. As joint war fighting doctrine has developed since the end of the Cold War and after September 11, 2001, as new weapons systems and platforms come on-line, and as joint context training has evolved, JPARC, under its current configuration, can no longer fully meet the training and testing requirements for forces stationed in, and exercises occurring in and near, Alaska.

The proposed locations of the *JPARC Master Plan* objectives addressed in this EIS are shown in Figure 1-4.

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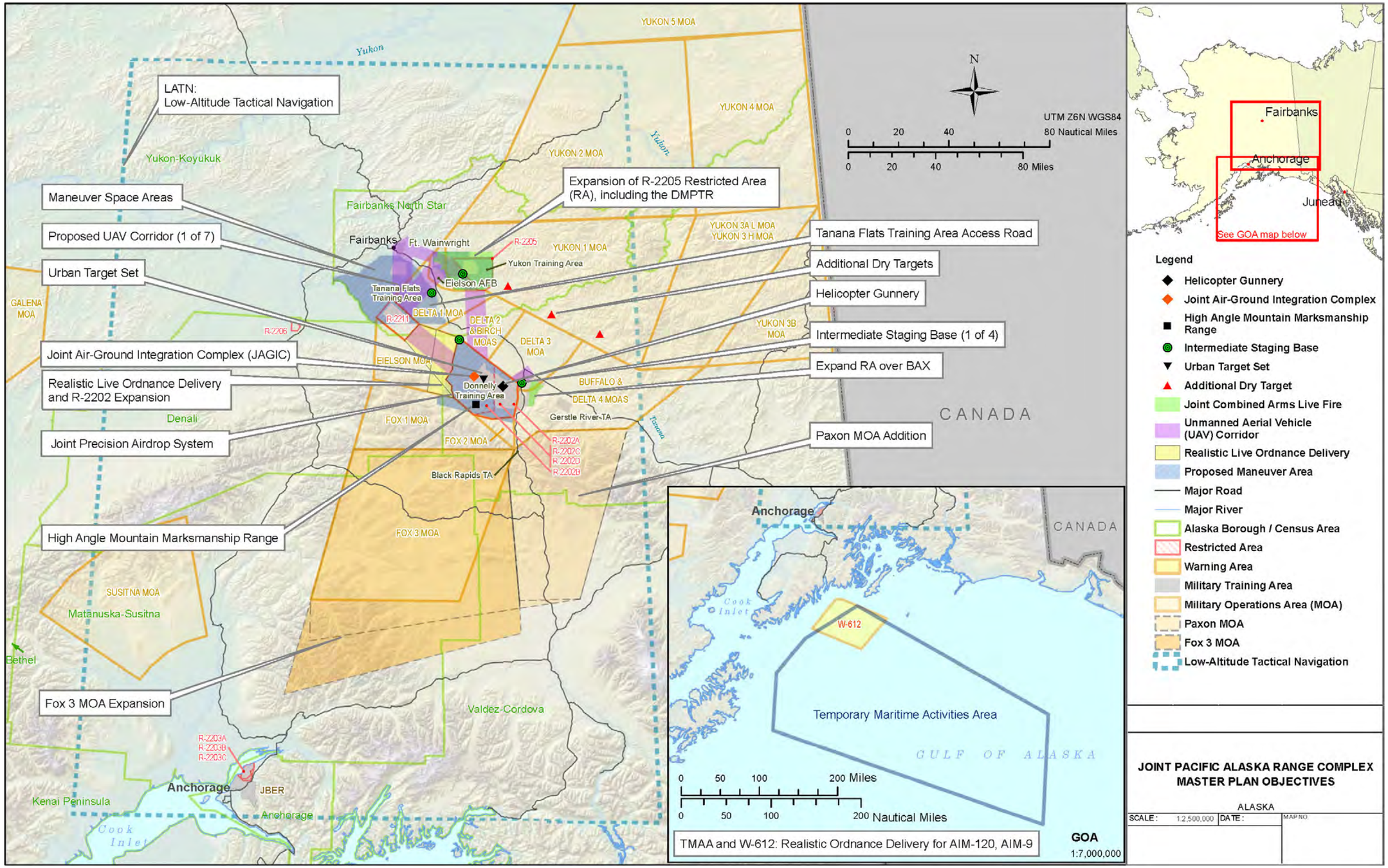

Figure 1-4. JPARC Master Plan Objectives

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1.3 NEED FOR ACTION

The four factors driving the need for enhanced and modernized training and testing facilities at JPARC are (1) technological advances, (2) advances in combat tactics and techniques and combat lessons learned, (3) the need to achieve diversified, realistic training in an efficient manner, and (4) the potential for synergy in meeting the physical needs of various Services and joint training. Each of these factors is described below.

1.3.1 Technological Advances

Technological advances in lethality, survivability, communications networks, and sensor capabilities continue to make Service members training in Alaska safer and more effective. These same advances stress the training infrastructure due to the extended weapons ranges and larger safety zones, increased demand for nighttime training, and expanded ground-maneuver and training space.

1.3.1.1 Increasing Demand for Large Operational Footprints

Due to advances in propulsion, guidance, and sensor capabilities, weapons currently in the inventory require longer distances and larger safety zones than are currently available. Training with new and current inventory weapons uses larger safety zones and footprints, excluding other activities in the surrounding airspace and on the ground. Technological advances increase the demand for large impact airspace, target/impact areas, and training areas for multiple, concurrent uses.

1.3.1.2 Aircraft and Threat Systems

Technological upgrades to aircraft, weapons, and command and control systems require modernization and enhancements of the facilities and assets that support training. These include adequate airspace, improved training target capabilities, new communications, and networking capabilities for "smarter," more capable weapons. For example, current and emerging bombs and ordnance have ranges that exceed 100 nautical miles (NM) to engage ground threats, and air-to-air radars have more than doubled their coverage distance over the last few decades. Airmen and Soldiers need to be able to train in new air and ground vehicles, using weapons and equipment designed to address emerging threats. They also need to practice new tactics for identifying and engaging or addressing threats. The current arrangement of airspace and targets funnels aircraft into narrow areas, limiting the possible range of engagement scenarios and reducing the variety and realism for aircrew training. To create a training environment that mirrors combat, additional airspace that realistically integrates new threats and targets with modern aircraft and communication systems is required. Experience has demonstrated that the most realistic training provides pilots the ability to conduct multiple attacks from low altitudes and diverse directions.

1.3.1.3 Increasing Use of Unmanned Aerial Vehicles for Combat and Mission Support Roles

Unmanned aerial vehicles (UAVs) and remotely piloted aircraft (RPAs) have become a constant and critical component of modern combat operations. While UAVs and RPAs refer to the same or similar type of aircraft, UAV is a term generally used by the Army and RPA is a term generally used by the Air Force. This EIS will use UAV throughout the document, in accordance with Joint Publication 1-02, Department of Defense Dictionary of Military and Associated Terms, As Amended Through 15 January 2012 (DoD 2010). UAVs must be integrated into the training so operators, commanders, and ground personnel are proficient in their operation, control, and employment of UAVs. UAVs are launched from outside restricted airspace via an FAA-approved Certificate of Authorization (COA). Otherwise, UAVs are confined to launch sites within a restricted area and have limited ability to transit to a noncontiguous military airspace where they are needed to train with and support realistic, joint training.

1.3.1.4 Advances in Night Vision Capabilities and Equipment

Enemy forces frequently use darkness to hide their activity. Advanced night vision capabilities and equipment has been developed to support combat operations. Supporting night flying operations during major joint forces exercises is critical. While night vision equipment capabilities have advanced, the available time to conduct such training has been reduced for the Air Force in Alaska. The ROD for the *Final Environmental Impact Statement, Alaska Military Operations Areas* (*Final Alaska MOA EIS*), issued in 1997, allows the Air Force a maximum of two night training major flying exercises (MFEs) from February through March and October through November (Air Force 1997-1). It must be noted, however, that the Army in Alaska is in no way restricted from conducting air or ground training exercises anywhere in JPARC during nighttime hours. The 1997 ROD described above applies only to Air Force night flying exercises.

Air Force night aircraft training in JPARC is conducted currently during October, using nautical twilight as the requirement with the restrictions that MOA operations would cease before 10:00 p.m., and aircraft would land before 11:00 p.m., local time. The Energy Policy Act of 2005 extended daylight saving time from the first Sunday in April through the last Sunday in October to the second Sunday of March through the first Sunday in November. During these periods, the act shifts time forward an hour making sunset an hour later. This time shift effectively takes away an hour of darkness in March and October because the 1997 ROD still limits Air Force flying after 10:00 p.m. These factors, along with Alaska's geographic location and extended daylight lengths, limit the ability of the Air Force to conduct effective night MFEs between March 14 and October 10.

Additionally, pilots are required to keep night flight training current every 6 months. Currently, pilots must annually train in the Lower 48 or Hawaii to maintain night flying proficiency during the summer or fall months. If local pilots can maintain night flying proficiency locally in March, then they would still be qualified to fly at night in October without needing to train elsewhere.

1.3.1.5 Testing of New Weapons Systems

Advances in military technology first appear on test ranges. New technology must be proved on test ranges prior to being used by operational forces for training or combat. All of the technological advancements listed in the previous sections must be tested to ensure they are safe and perform as designed. Consequently, test mission technological advances are constantly pushing the boundaries of range and airspace capabilities. Responding quickly to these test program requirements benefits the warfighter, who will train with the technology within the ranges, training land, and airspace once it is available.

1.3.2 Advances in Combat Tactics and Techniques and Lessons from Combat

The DoD refines military tactics in response to lessons learned in training and combat operations, new equipment, and new tactics developed by current and potential adversaries.

1.3.2.1 New Tactics and Battlefield Operations Requirements

Training must mirror actual combat to the greatest extent possible. Airspace and ranges need to provide the opportunity for realistic, effective training. Lessons learned from recent combat operations show that battlefield engagement requires joint operation between air and ground forces. Preparing for this type of combat initially requires individual-unit training, followed by successively more-complex levels of joint training. Joint training with multiple Services requires large operational areas that replicate the size of a real battle area with all command and control arenas and layered levels included. This allows full

replication of command and control functions within the largest area of influence. Currently, the configuration of training airspace and target areas and the lack of year-round ground access within JPARC constrain this type of training for full-scale, complex joint force exercises with ground and air participants.

1.3.2.2 Training for New Tactical Threats for Fighter Aircraft

The F-22s based currently at Joint Base Elmendorf-Richardson (JBER) are the most advanced aircraft weapons systems in the world. Military pilots stationed in Alaska must train to defend against tactics specifically designed to defeat the F-22. Lessons learned from training show a need for high-altitude F-22s to train against low-level attacks from unanticipated directions. New tactics require engaging threat aircraft flying at low altitudes while F-22s maneuver at high altitudes. The lateral and/or lower altitude limitations of the existing MOAs and long distances from JBER do not provide the airspace environment required by JBER F-22 aircrews to practice realistic low-altitude threat engagements and avoidance tactics.

1.3.2.3 Training for Weapons Delivery

Lessons learned from recent combat operations demonstrate that addressing a target or participating in engagements from a limited number of directions places attacking forces at risk. Defending forces quickly become aware of attack angles and more capable of preventing a successful attack. The current JPARC airspace configuration results in repetitious, predictable, and rote execution of training that does not prepare attacking pilots for the unknowns and quick responses needed in combat. Proposed airspace permits a wider range of ingress and egress to practice a broader range of combat scenarios.

1.3.2.4 Complex Training in Urban Operations

Based on lessons learned in Iraq and Afghanistan, troops need more training in urban environments and situations, including the complex aspects of social interactions. The need for complex terrain goes beyond the limitations of a Military Operations on Urban Terrain (MOUT) site or a live-fire range. While necessary to train for the hazardous operations of actual combat, these facilities do not provide ground forces the training needed to face the challenges of actually operating among a human population that works and lives in a given area of operations.

1.3.2.5 Joint Training

Perhaps the most beneficial lesson learned is the value of joint training. Joint operations is the concept where different Services—Air Force, Army, Navy, and Marine Corps—work together to accomplish a battlefield mission. In the past, each Service trained separately, using its own funding and authority. However, complex conflicts are requiring more joint operations that necessitate training together prior to conducting actual combat operations.

1.3.3 Efficient Realistic Training

Realistic training with new tactics and weapon systems, which possess longer-range sensing and attack capabilities, allows fewer assets to cover larger areas. Concurrent with the requirement to cover larger areas is the need to reduce inefficient training activities such as transiting or excessive delays between active training. Realistic training must be efficient to achieve readiness within real-world resources constraints.

1.3.3.1 Efficient Use of Resources

Efficient use of resources is important for all military training, especially for the training engagements between the F-22s from JBER and the F-16s from Eielson Air Force Base (AFB). Current operable airspace for realistic threat engagement training is much further from JBER, which means more time and fuel are used for transiting from JBER and less time and fuel are available for the training event, thus limiting the effective mission time for aircrews from both staging bases.

1.3.3.2 Configuration of Training Airspace

Airspace is structured and scheduled in large blocks and does not allow flexibility to schedule smaller elements for concurrent uses (including non-military access). Also, training is currently event-driven and generally planned for discrete use of airspace and facilities at each of the training areas. Lack of interconnections between airspace elements and lack of a flexible structure limit opportunities for integrated, joint use of air and ground training assets in both discrete and large areas of operation. Expanding the existing airspace with the proposed new airspace would provide greater flexibility for scheduling use of this airspace for training and exercise activities. To maximize the efficient use of this airspace, these areas would be subdivided laterally and vertically, as appropriate, so that only those subareas and altitude strata are scheduled for use as required to support individual mission activities.

1.3.3.3 Extending Time-on-Range and Access to Training Areas

Time-on-range is directly related to length of time spent traveling from the staging location (e.g., cantonment, airfield, or Intermediate Staging Base [ISB] to the training location). Time spent in transit subtracts from time available at the training site. Currently, the single ISB serving JPARC is located in the Donnelly Training Area (DTA) and is composed of relocatable facilities with limited functionality for billeting, operations and maintenance support, and mission planning. The current location only serves a small portion of JPARC training area assets. Ideally, ground troop staging areas are within 20 miles or a 2-hour commute of training areas. Longer commute distances result in less time-on-range to perform the required training activities.

1.3.4 Synergies

1.3.4.1 Common Infrastructure and Services

There are synergies to be gained by planning common infrastructure for the units and exercises in Alaska. Common communications networks, roads, and utilities lower the overall cost of operations and enhance the opportunities to train and test jointly. The principles of joint training can also be applied to Coalition Forces training. U.S. and Allied Forces must be able to integrate their combined strengths to defeat the enemy on the battlefield. It is critical to develop these integration skills in a controlled training environment. JPARC will provide a premier location to practice and perfect this skill set.

1.3.4.2 Replicating the Combat Environment

There is significant training value in replicating the joint, interagency, intergovernmental, multinational environment of combat. Interagency and intergovernmental operations refer to the coordinated efforts of multiple Federal organizations such as the Federal Bureau of Investigation working in conjunction with the DoD. Creating an environment where military servicemen and women have the opportunity to work with all of the same partners with whom they will go to combat is an important training tool.

1.3.4.3 Expanded Linked Training Opportunities

Because of the fully integrated nature of combat, it is important that units separated by geography are able to work together in training. This integrated training can be executed through a live-virtual-constructive environment described above. This environment allows real people executing operations (live) to interact with real people executing simulated operations (virtual) and completely simulated operations (constructive). This capability allows units to train with simulated units or geographically separated units as though they were conducting actual combat operations together.

1.4 JPARC MASTER PLAN

The *JPARC Master Plan* developed by the participation and interest of numerous military and non-military stakeholders, is a living document that will continue to respond to the evolving nature of military requirements in Alaska. The *JPARC Master Plan*:

- Identifies the joint benefits and synergies that would accrue to all planning participants involved in test and training operations in Alaska.
- Identifies the many actions regularly undertaken to enhance individual Service capabilities; these actions should continue and be integrated into joint capabilities, as required.
- Recommends ways that the individual Services and other involved proponents could avoid conflicting or duplicative exercises and training requirements in order to optimize collective Interservice efforts.
- Provides a means to coordinate and consolidate most of the training and testing requirements for military units and DoD-sponsored exercises in the State of Alaska; and
- Provides a strategy to coordinate and deconflict military range and airspace use, modernization, and enhancements.

Based on these testing and training requirements, the *JPARC Master Plan* identified, described, and approved 21 distinct objectives for the modernization and enhancement of JPARC. These objectives include existing planning efforts, new actions, or the identification of potential future actions that require additional planning.

Table 1-2 identifies the various military and non-military stakeholders involved with or expressing interest in the JPARC master planning process either as a user, a stakeholder, or as a potentially affected entity. It is anticipated these organizations will continue to participate in the NEPA process for the *JPARC Modernization and Enhancement EIS*.

Table 1-2. Key JPARC Stakeholders

Area	Military	Non-military
Federal	Office of the Secretary of Defense Joint Chiefs of Staff – Air Force, Army, Navy, Marine Corps Special Operations Command U.S. Strategic Command Army Forces Command Army Training and Doctrine Command U.S. Fleet Forces Command Air Combat Command Air Mobility Command U.S. Army Test and Evaluation Command North American Aerospace Defense Command (NORAD) U.S. Army Corps of Engineers, Alaska District U.S. Army Installation Management Command (IMCOM) Missile Defense Agency, Space and Missile Defense Command	State of Alaska U.S. Congressional Delegation U.S. Federal Aviation Administration (FAA) U.S. Department of Homeland Security U.S Environmental Protection Agency (EPA), Region 10 U.S. Fish and Wildlife Service National Marine Fisheries Service National Oceanic and Atmospheric Administration U.S. Forest Service U.S. Department of the Interior Bureau of Indian Affairs Bureau of Land Management National Park Service Advisory Council on Historic Preservation Federal Emergency Management Agency (FEMA), Region 10
Pacific Region	U.S. Pacific Command Pacific Air Force 13th Air Force U.S. Army IMCOM, Pacific Commander, U.S. Third Fleet Commander, U.S. Pacific Fleet U.S. Marine Forces Pacific U.S. Special Operations Command Pacific U.S. Army Pacific U.S. Coast Guard Pacific Area	Not applicable
State/Local	11th Air Force: 611th Air Support Group, 3rd Wing, 673rd Air Base Wing at Joint Base Elmendorf-Richardson (JBER) 354th Fighter Wing at Eielson Air Force Base 11th Air Force/Alaskan NORAD Region U.S. Army Alaska U.S. Army Garrison Fort Greely U.S. Army Garrison Fort Wainwright U.S. Army Cold Regions Test Center Alaska National Guard Bureau Alaska Air National Guard Alaska Army National Guard 100th Missile Defense Brigade U.S. Marine Corps Reserve Unit/JBER U.S. Coast Guard District 17	Governor of Alaska Anchorage Air Route Traffic Control Alaska State Historic Preservation Officer Alaska Department of Environmental Conservation (ADEC) Alaska Department of Natural Resources Alaska Department of Fish and Game Federal Aviation Administration, Alaska Region Alaska Department of Military and Veterans Affairs Alaska Department of Transportation Alaska Railroad Corporation Alaska Division of Homeland Security and Emergency Management Alaska Native Tribes Alaska Boroughs

1.5 ACTIONS IDENTIFIED DURING THE PLANNING PROCESS

The *JPARC Master Plan* outlines a process designed to bring together the various military and civilian stakeholders in Alaska to conduct a thorough investigation of JPARC baseline conditions, identify Army and Air Force training requirements, develop a long-term vision for JPARC, and conduct a collaborative approach for the identification of and approval for the JPARC modernization and enhancement strategies and objectives.

The following criteria were used to identify objectives guiding JPARC future development:

- Universal Joint Task Lists for exercises and Mission Essential Task List/Ready Aircrew Program for units
- Future critical capabilities required at JPARC identified and developed via the master planning process
- Physical space and time elements needed to accomplish training tasks for current requirements and future critical capabilities
- Projects to modernize and enhance the training environment for comprehensive and complete joint-use capability

1.5.1 List and Description of Master Plan Actions

The following sections briefly describe the discrete objectives identified in the Master Plan.

1.5.1.1 Fox 3 Military Operations Area Expansion

Modification to the Fox 3 MOA through expanding and lowering the airspace is needed to increase the operational arena for several purposes. This Air Force proposal addresses two of the Master Plan objectives: (1) to improve the low-altitude threat training for fifth-generation fighters and (2) to lower the energy costs for aerial training. As the fifth generation of U.S. fighters (F-22s and F-35s) are developed, fielded, and deployed into combat, pilots will need to practice skills and tactics in these aircraft. Experience has shown that a critical tactic for combat success is acquiring threat aircraft maneuvering at low altitudes. This proposal would also provide a functional airspace that is closer to JBER for training by the Air Force, allowing aircrews to spend more time executing their training objectives and less time in transit. It also provides the benefit of lower fuel consumption and lower energy costs by centralizing training between 3rd Wing defensive aircraft from JBER and aggressor aircraft from the 354th Fighter Wing at Eielson AFB. This new structure would enhance the realism of the training by allowing both the defensive and aggressor aircraft to replicate tactics expected from adversaries during actual combat missions.

1.5.1.2 Paxon Military Operations Area Addition

This action is being proposed in conjunction with the proposed Fox 3 MOA expansion described in Section 1.5.1.1. This Air Force proposal addresses the *JPARC Master Plan* objective of enhanced air-to-ground flexibility. This proposal would provide additional airspace in support of RED FLAG–Alaska exercises, increasing maneuverability and dry target sites for conducting more-realistic training scenarios. This proposal will enhance pilot training by providing multiple approaches to target areas used during MFEs. The proposed Paxon MOA, located east of the Fox 3 MOA and south of the Yukon and Delta MOAs, could be used in conjunction with the current and proposed Fox MOAs to provide capacity and flexibility for current and future training maneuvers and opportunities for multiple, concurrent uses. This new structure would provide a central location for enhanced training between aircraft from JBER and Eielson AFB.

1.5.1.3 Realistic Live Ordnance Delivery

The Realistic Live Ordnance Delivery (RLOD) proposal would expand restricted airspace, R-2202 and establish controlled access to underlying land for intermittent use as a weapon danger zone (WDZ) to accommodate larger safety footprints associated with new Air Force fighter aircraft and munitions with a wider employment range for current munitions. This capability would increase realism and provide diversity for practicing deliveries of a variety of ordnance using several release profiles that are currently

constrained by the existing restricted airspace. The use of live and inert ordnance for air-to-ground munitions training would be executed as part of both individual pilot training and joint training with other air and ground units, including MFEs. Existing targets would be utilized within existing ordnance impact areas to allow participation with other units on the ground and to provide a more-realistic, combined-arms training experience in Alaska.

This Air Force proposal requires a multi-axis approach from a MOA to a restricted area of sufficient size to contain the WDZ and release point. This airspace would also provide UAV access and a loiter area clear of the run-in lines for the targets. The target set requires only a few acres within a current impact area on existing DoD land used for this purpose. When the restricted airspace is active, the user must be able to exclude nonparticipating persons and aircraft. The location of this target set would minimize flying distance to and from both JBER and Eielson AFB, because aircraft from both installations require this type of training, as do participants in MFEs.

1.5.1.4 Joint Combined Arms Live Fire

The Joint Combined Arms Live Fire (JCALF) concept is a critical component of Army training. This exercise activity involves multiple combat units operating together to accomplish the same mission objectives. For example, armed reconnaissance helicopters, such as OH-58Ds, and ground forces practice maneuvering together against the same objectives. Also, Air Force A-10s could provide joint support during the JCALF training exercises. This type of joint training is a critical step between individual and small-unit training and operational capability within a joint team structure.

This Army proposal would use the Battle Area Complex (BAX)/Combined Arms Collective Training Facility located in DTA-East and the Digital Multi-Purpose Training Range (DMPTR) located in the Yukon Training Area (YTA) near existing restricted areas. It is noted also that both proposals will remain entirely within existing Army lands withdrawn for military use. Each will be individual and independent proposed actions in this EIS to modernize and otherwise enhance JCALF capability in response to military requirements. This proposal would build on existing facilities and would expand restricted areas to allow ground and air forces to work together. Existing use of the BAX and DMPTR areas is currently very constrained in terms of the types, levels, and intensity of training that can be undertaken. For instance, such constraints preclude the Army from being able to fully conduct helicopter gunnery training, fire on existing targets at longer ranges, or integrate all types of current weapons during the same exercise.

1.5.1.5 Night Joint Training

In combat situations, conducting Air Force flight operations during nighttime hours of limited visibility using advanced night vision technology gives the U.S. military a distinct advantage. Training with this equipment can only be conducted at night. As described in Section 1.3.1.4, previous decisions and daylight savings limit the capability to conduct night MFEs during the exercise season. This Air Force proposal will allow an increase in night training opportunities.

1.5.1.6 Unmanned Aerial Vehicle Access

Restricted areas or other FAA-designated airspace are required by the Army and Air Force to transit UAVs from their launch points to the individual range areas in which they must operate. The UAVs have emerged as a critical tool for reconnaissance information gathering, surveillance, and other activities within conflict zones. It is essential to integrate them with other forms of military activities to ensure seamless operations. All Services operate with UAVs in combat every day from small hand-launched platforms like the Raven, to globally operated intelligence platforms like the RQ-4 Global Hawk.

Proficiency training for operators and employment training for strategists is increasingly important as UAVs assume a greater role in military operations. UAVs have been used by the Army to a limited extent during recent RED FLAG–Alaska exercises. It is planned that UAV participation during the large force exercises (LFEs) in Alaska by the Army and Air Force will increase as new UAV platforms are brought on-line for use in JPARC and become an integral part of MFEs and other training activities.

UAV access would provide flexibility for use of JPARC by all types of aircraft, including emerging unmanned aircraft, which will be more prevalent in all aspects of military operations in the future. UAV access into these areas and long ranges would allow Service members to train in the same manner as they would operate in a deployed environment. This access is also required for the Cold Regions Test Center (CRTC) to fully test UAVs.

1.5.1.7 Enhance Ground Maneuver Space

This objective is to enhance Army maneuver space and achieve expanded capabilities by creating year-round road access and improving internal circulation routes for training areas near Fort Wainwright. The Army training requirements stipulate a brigade-sized maneuver exercise. As advances in weapon systems occur, the mobility and range of weapons increases, the required land space for safe, effective training also increases. Due to lack of year-round access to ground training areas, deploying units must travel to training areas outside of Alaska to conduct large scale combined arms training. Providing an area with adequate maneuver space, within existing JPARC ground training areas, will meet current and future needs for combined arms exercises, save transportation costs and increase pre-deployment family time.

The USARAK brigade equivalents include the Stryker Brigade Combat Team (SBCT), Airborne Brigade Combat Team (ABCT), Combat Aviation Brigade, and Engineer Brigade (EB). While the current focus of each brigade is to support Army Force Generation for current operations, all of the brigades have training requirements for a brigade-sized maneuver exercise. As technology drives the mobility and effective range of systems farther, the operational footprint of each of these brigades will continue to increase. Providing access to maneuver space within existing JPARC ground training areas would meet current and future needs for Joint Service training. Additional maneuvers within existing JPARC ground training space would allow for larger full-scale exercises with ground combat troops located in nodes across several training areas within a wide, networked operational arena. Currently, USARAK units must deploy to other parts of the United States to conduct training on a large scale prior to deployment because the available Alaska ground maneuver areas are not accessible by road year-round. Improving year-round road access to existing training areas, along with internal circulation networks, would effectively enhance the maneuver space available to USARAK.

One of the first actions that would be required for achieving expanded capabilities is to improve road access to training areas proximate to Fort Wainwright. Access to other parts of Tanana Flats Training Area (TFTA), DTA, and YTA will also require additional study. A programmatic evaluation of the environmental resources and training requirements will identify corridors for road access and circulation throughout these existing JPARC ground training areas.

1.5.1.8 Tanana Flats Training Area Roadway Access

This Army objective would provide year-round road access to the TFTA to support its planned use as a joint live-fire and maneuver training area. U.S. Army Garrison Fort Wainwright, Alaska (USAG-FWA) conducted the *Range and Training Area Feasibility Study for Tanana Flats and Donnelly Training Areas, Fort Wainwright, Alaska, December, 2009* (HDR 2009) and a *Geotechnical Feasibility Study, Tanana Flats Training Area, Fort Wainwright, Alaska, September, 2009* (Shannon and Wilson 2009). These studies were undertaken to support the planning and feasibility of developing TFTA, under the

jurisdiction of USAG-FWA, into a joint live-fire and maneuver training complex for year-round training operations. The overall goal of these project efforts were to assist USAG-FWA with the necessary planning, programming, and estimating documents for the development of the training areas.

The initial emphasis is on transportation, with a focus on identifying realistic access routes to the training areas. The primary purpose of the feasibility study and geotechnical data collection efforts was to assist in the selection of preferred travel routes to provide access from the Tanana River Bridge over the Tanana River in the Salcha area to the high ground around Blair Lakes in TFTA. The Alaska Railroad Corporation is the responsible organization for the construction of the bridge. When construction is completed, the bridge will connect the highway system to extensive military training grounds south of the river. It is part of the larger Northern Rail Extension project.

Access routes to the training areas will be studied along a spine following the proposed Northern Rail Extension project alignment from the Tanana Crossing toward the southeast, along the Tanana River to the corner of DTA at the Little Delta River. From the spine, routes were considered to various training areas to the south including a spur to the west for a ground corridor to Blair Lakes, continuing on to TFTA and Blair Lakes Impact Area.

The primary purpose of the road is to provide year-round training access to the Blair Lakes area. The desired road-top width is 35 feet with an aggregate-surface, to allow two Stryker vehicles to pass. The Strykers are a family of eight-wheeled all-wheel-drive vehicles with a gross weight on the order of 36 to 41 kips or more, depending on equipment and armoring (kips are a non-SI [International System of Units] unit of force that equals 1,000 pounds-force used primarily by architects and engineers to measure engineering loads).

1.5.1.9 Complex Urban Terrain

Complex urban terrain training incorporates the physical attributes of training for combat in an urban environment with human interactions. While the terrain used in MOUT training needs to be relevant, the significant aspect of the complex urban terrain are human interactions. Operating within the domain of supporting, indifferent, and opposing human networks and the associated civil affairs and information operations is critical for ground forces. MOUT sites enhanced with human networks would increase training realism and fill a growing training gap in this environment. One concept for meeting this need is to use realistic urbanized areas in training events. A simple event may involve a convoy of vehicles leaving a training area (such as an existing BAX), transiting through a non-military landscape (on preselected roads) and re-entering the training area to complete the mission. Another concept could involve role-playing civilians to enact the activity and random interface of a civilian community.

1.5.1.10 Joint Air–Ground Integration Complex

The digitally integrated Joint Air–Ground Integration Complex (JAGIC) is the capstone capability for joint and combined live training. This Army facility is planned to be an enhanced Digital Air–Ground Integration Range to allow the full spectrum of Army combined-arms training capabilities to train with the Air Force, Navy, and Marine air-to-air and air-to-ground units, along with Special Operations Forces. It is noted that facility design and construction guidelines will be based on Training Circular 25-8, *Training Ranges*, May 2010 (Army 2010). The proposed facility would provide a year-round, comprehensive, and realistic aviation training range facility for seven combat maneuver battalions training 10 to 14 days annually. The primary focus of the range is to train rotary-wing aviation units and crews on the skills necessary to detect, identify, and effectively engage stationary and moving infantry and/or armor targets that have been strategically placed in a tactical arrangement. Company Combined

Arms Live-Fire Exercises and fully integrated advanced ordnance may be fired by mechanized infantry and armor crews and units.

The JAGIC would provide adequate airspace and controlled-access land for the safety buffers needed to train with a full range of munitions that may be used in combat. The JAGIC would require additional targets to support Air Force, Navy, and Marine aviation elements during joint training exercises. The facility includes service roads, range support buildings, parking area, range tower, convoy live-fire route, urban centers, and an area for Service rocket training. Most of the targets, the convoy live-fire route, and the urban facilities would be concentrated in a 9-by-12-kilometer (km) area within the range. Unlike a Digital Air–Ground Integration Range, this range would support aerial target engagements with onboard aircraft weapons, aerial reconnaissance, joint tactical engagements, door gunnery training, convoy operations, and training against targets located in an urban environment. Mock urban village centers and adjacent rural areas would be configured to permit simultaneous, integrated operations by air and ground-based forces.

The JAGIC would combine several capabilities and training requirements in urban areas to meet the training needs emerging from lessons learned from global combat zones. Increasing capacity to serve this need is critical for success in modern combat. It would support integrated joint training within and across the Services and increase training effectiveness.

1.5.1.11 Intermediate Staging Bases

Reducing travel distances between Army staging locations and training locations would allow more effective on-range training time and lower energy costs for transiting to remote JPARC ground maneuver areas, especially for units that must convoy vehicles and equipment. In addition, for maximizing training time for Soldiers, travel time to training areas is a key factor. This is particularly important for units that convoy their vehicles and equipment from billeting areas (military living quarters) to various training ranges and maneuver areas around Fairbanks and Delta Junction. Locating ISBs near key insertion points will place Soldiers closer to their training. Distributed ISBs will also allow more maintenance and logistics support without the need to return to the main cantonment area. ISBs are needed with a combined capacity for up to 2,500 Soldiers at four locations, one ISB supporting 1,000 Soldiers and three ISBs supporting 500 Soldiers. They would support large-scale exercises and other training involving combinations of units, including Brigade Combat Teams, Engineer Brigades, and functional brigades.

Strategic placement of ISBs would greatly increase time spent on the range during combat maneuver training, vastly improving the effectiveness of training. The ISBs would also serve as key locations for accommodating surges in personnel numbers during large exercises.

1.5.1.12 Missile Live-Fire for AIM-9 and AIM-120

Live-fire activities using the AIM-9 and AIM-120 missiles would be executed as part of both individual pilot training, MFEs, and joint training with other air and ground units. The Air Force currently trains in the GOA airspace; however, the proposed action would permit Air Force fighter aircraft to fire these missiles in the GOA, as is currently done by the Navy. This would involve about 100 events annually for live missile system deliveries. Currently, Air Force pilots must be deployed to Florida to conduct such training.

1.5.1.13 Low-Altitude Tactical Navigation Training

Advances in night vision technology allow aircrews to operate more safely at lower altitudes to avoid being shot down by enemy air defenses. To train more effectively with this technology, it is proposed

that the floor of the existing low-altitude tactical navigation (LATN) area be lowered from 1,000 feet above ground level (AGL) to 400 feet AGL for night operations (except over Denali National Park). This would greatly improve training effectiveness by allowing aircrews to use their night vision equipment to its full capacity.

1.5.1.14 Urban Target Set

The urban target set is a specific target set for pilot training to the specialized targeting procedures and tactics associated with conducting Close Air Support in an urban environment. The target set would need to be sturdy enough to absorb impacts from inert munitions and sized to present the appropriate tactical challenge of discriminating targets among background clutter, such as foliage or urban areas. Additionally, the target set would need to present the tactical flexibility to the pilots approaching from a wide range of run-in headings. The target set would be used by aircraft from Fort Wainwright, Eielson AFB and JBER and should be centrally located. There may be additional training value for ground controllers to observe and direct the bombing from the ground. The urban target set must be within a restricted area because of the live drops from the aircraft. The restricted area covering the target would need to be large enough or have adjoined MOAs to provide multidirectional approach. The range requires about 30 acres for construction of a mock-urban environment of about 75 buildings and additional acres for the WDZ. The entire footprint for the urban target set will be developed as future planning and development is completed.

1.5.1.15 Helicopter Gunnery

A helicopter gunnery range supports mandatory gunnery training for Army and Air Force aircrews to participate in larger exercises and rehearse and validate the operational readiness of the helicopter weapons systems. The Army and Air Force would use this facility to conduct such exercises during RED FLAG–Alaska and NORTHERN EDGE and for aircrew proficiency training. Currently, USARAK units routinely deploy outside Alaska to other Army ranges to conduct this type of training.

1.5.1.16 Additional Dry Targets

Dry targets are approximately 1-acre sites where Air Force pilots can practice bombing tactics without releasing any ordnance. The sites usually contain a static replica or nonfunctional threat vehicle, along with a functioning air defense threat emitter, such as a simulated ground-based missile. Dry targets are used during a variety of military training exercises, including LFEs and joint context home station training. The dry targets emit high-fidelity threat signals to aircrews, replicating combat conditions. Engagement scenarios provide aircrews with realistic situations while meeting their individual crew training requirements. Dry threats are used during RED FLAG–Alaska and NORTHERN EDGE and by the 3rd Wing. The projected utilization for dry targets would be six times annually, 10 days each. The targets must be integrated into the working airspace (i.e., restricted area or MOA) so as to fit into the tactical scenario of RED FLAG–Alaska and NORTHERN EDGE. These targets would supplement live drop targets but would not completely replicate their training value. The targets would be placed in a central location to the Fox and Yukon MOAs. Placement near the current live drop targets in YTA or DTA would negate any training value.

1.5.1.17 Joint Precision Airdrop System Drop Zones

The Joint Precision Airdrop System (JPADS) is a system of global positioning system (GPS) receivers and steerable parachutes that is revolutionizing the way the military executes aerial resupply. JPADS are dropped from large Air Force cargo aircraft such as the C-17 Globemaster III and descend into dangerous or remote landing zones to resupply ground troops. JPADS is capable of hitting specified drop zones

(DZs) from higher altitudes than is currently allowable at JPARC with critical resupply payloads. Pilots will need training under realistic and varied conditions. While still in development, these systems are being used to resupply troops conducting combat operations in the field. As they develop, regular training will continue to be critical to success in combat.

1.5.1.18 High Angle Mountain Marksmanship Range

Recent conflicts in mountainous terrain have demonstrated the Soldiers' need to effectively fire small arms and indirect fire weapons systems in mountainous terrain. In a mountain combat scenario, Soldiers employing common small arms must account for drastic differences between the altitude of the firing point and the target. This is unusual training for most Soldiers and must be conducted prior to deployment. High Angle Mountain Marksmanship Range (HAMMR) training includes the ability to shoot at elevated and depressed muzzle angles of approximately 45 degrees. The HAMMR would provide the type of training necessary for small arms and indirect fire battles in mountainous terrain. The Army typically trains for this scenario in 7- to 10-day intervals, ranging from individual to collective live-fire exercises. The Army will continue to use available mountainous terrain under restricted airspace to support training for individual and collective live-fire exercises.

1.5.1.19 Digital Range Connectivity

The live-virtual-constructive architecture is dependent on data links to the ranges where the training will take place. It is necessary that support infrastructure for ground ranges (e.g., ISBs) and support infrastructure for airspace (e.g., scoring equipment, threats, and air combat maneuvering instrumentation [ACMI]) are connected digitally. This objective highlights the importance of creating and/or maintaining the data links between all of the ranges, maneuver areas, and support areas.

Table 1-3 summarizes the projects and their relationship to JPARC needs discussed in Section 1.3, Need for Action.

Table 1-3. Projects As They Relate to JPARC Needs

Proposed Action	Technological Advances	Advances in Combat Tactics/Techniques	Training Efficiency	Synergies
Fox 3 Military Operations Area Expansion	Not applicable	Realistic threat tactics	Centralizes aerial training against aggressors	Replicates operational environment
Paxon Military Operations Area Addition	Not applicable	Provides operational flexibility for major flying exercises	Centralizes aerial training against aggressors	Replicates operational environment
Realistic Live Ordnance Delivery	Responds to extended weapons ranges	Allows aircraft to train with longer standoff distances	Allows units to stay within the JPARC to train	Allows joint training in single location
Battle Area Complex Restricted Area Addition	Not applicable	Allows units to conduct fully integrated training	Allows units to stay within the JPARC to train	Allows joint training in single location

Table 1-3. Projects As They Relate to JPARC Needs *(Continued)*

Proposed Action	Technological Advances	Advances in Combat Tactics/Techniques	Training Efficiency	Synergies
Expand Restricted Area R-2205	Not applicable	Allows units to conduct fully integrated combined arms training	Allows units to stay within the JPARC to train	Allows joint training in single location
Night Joint Training	Responds to the advances in night vision devices	Not applicable	Allows units to stay in JPARC to train	Not applicable
Unmanned Aerial Vehicle Access	Responds to the advances in UAVs	Allows units to train with UAVs prior to combat	Creates airspace for UAVs to participate in multiple events	Replicates operational environment
Enhanced Ground Maneuver Space	Not applicable	Allows units to operate across greater distances	Allows units to stay within the JPARC to train	Benefits capability for integrated joint training with networked nodes of operations spanning greater distances
Tanana Flats Training Area Roadway Access	Not applicable	Allows units direct, year-round access to ground training areas across the Tanana River	Allows units to stay within the JPARC to train on a year-round basis	Benefits capability for integrated joint training with networked nodes of operations spanning greater distances on a year-round basis
Complex Urban Terrain	Not applicable	Allows units to train within realistic cities prior to combat	Allows units to stay in Alaska	Not applicable
Joint Air–Ground Integration Complex	Not applicable	Allows units to conduct fully integrated training	Allows units to stay within the JPARC to train	Not applicable
Intermediate Staging Bases	Not applicable	Allows training for extended logistical support	Provides greater training time by reducing travel and administrative time	Improves logistics and time-on-range potential for all ground-based troops for training and exercises
Low-Altitude Tactical Navigation	Responds to the advances in night vision devices	Provides accurate and safer night mission rehearsal	Allows units to stay in Alaska	Not applicable
Missile Live-Fire	Not applicable	Not applicable	Allows units to stay within the JPARC to train	Not applicable

Table 1-3. Projects As They Relate to JPARC Needs *(Continued)*

Proposed Action	Technological Advances	Advances in Combat Tactics/Techniques	Training Efficiency	Synergies
Urban Target Set	Not applicable	Allows units to conduct fully integrated training	Not applicable	Not applicable
Helicopter Gunnery	Not applicable	Allows units to conduct fully integrated training	Allows units to stay within the JPARC to train	Not applicable
Additional Dry Targets	Not applicable	Allows units to conduct fully integrated training	Not applicable	Expands operations area and allows more diverse scenarios for exercises and joint training
Joint Precision Airdrop System Drop Zones	Responds to the advances in JPADS technology	Not applicable	Not applicable	Not applicable
High Angle Mountain Marksmanship Range	Not applicable	Allows units to conduct training in mountainous terrain	Allows units to stay within the JPARC to train	Not applicable
Digital Range Connectivity	Not applicable	Not applicable	Allows units to stay within the JPARC to train	Necessary for LVC training

Key: JPADS=Joint Precision Airdrop System; JPARC=Joint Pacific Alaska Range Complex; LVC=live-virtual-constructive; UAV=unmanned aerial vehicle.

1.5.2 Screening Criteria to Categorize JPARC Master Plan Actions for this EIS

The *JPARC Master Plan* contains all known independent Army and Air Force or joint projects that could be identified for the foreseeable future. The degree of information for these projects varies from substantial detail to a concept that is thought to generally benefit joint training at JPARC if implemented. Four criteria were developed as a tool to gauge which projects would be considered as definitive and which would be considered programmatic for this EIS analysis. This tool also served to identify projects that were independent from this EIS but important to evaluate for overall cumulative impact purposes. These criteria are intended to serve as a flexible tool for the decision maker, not a rigid requirement. The screening criteria are specificity, dependence, definition, and ripeness for decisionmaking. Each criterion is described below.

1.5.2.1 Specificity

The *JPARC Master Plan* objective must lead to a specific action that requires a decision in accordance with the NEPA process. Objectives describing a general capability or desired future state are not specific enough to lead to a definitive or programmatic decision. Projects that lack specificity are screened out and not addressed in this EIS.

1.5.2.2 Dependence

The *JPARC Master Plan* analysis generated a list of needed capabilities based on a set of joint requirements. The strategies and objectives are based on the *JPARC Master Plan Requirements Analysis*. Some of the objectives predate the master plan as independently planned or funded actions at JPARC specifically for the Army or Air Force. One of the values of the *JPARC Master Plan* is the coordination achieved by presenting all of the current plans and future requirements of the Army and Air Force in the same document, thus creating an opportunity to eliminate potential project timing, development, or programming conflicts. The independent projects are included in the *JPARC Master Plan* to coordinate them with all of the other actions. These independent actions are addressed in separate environmental analyses rather than in this EIS. Only projects that are dependent on the *JPARC Master Plan Requirements Analysis* will be considered in this EIS. The independent projects will be included in the cumulative impacts analysis presented in this EIS in Chapter 4.0, Cumulative Impacts and Secondary Effects.

1.5.2.3 Definition

Some of the *JPARC Master Plan* actions are lacking in sufficient definition regarding when, where, or how they would be executed. *JPARC Master Plan* actions that are unclear or that would require other extensive actions to occur before alternatives may be established have been screened out and will not be analyzed in this EIS. However, projects that lack definition will be included in the cumulative impacts analysis to the extent of their known potential to be a potential source of cumulative impacts.

1.5.2.4 Ripeness

Some of the *JPARC Master Plan* projects are ready immediately for definitive environmental analysis in the *JPARC Modernization and Enhancement EIS,* in accordance with the NEPA process.

Projects considered not yet ripe for decision will be addressed programmatically in this EIS. These projects will benefit from a programmatic evaluation and decision, as they are not yet ready for specific implementation in the JPARC ROD. These projects are waiting for completion on either additional planning, development, design, or funding. This EIS will address these projects programmatically and cumulatively so that the project proponent may continue to proceed with further planning, programming, design, or funding acquisition. Changes in military requirements, the environmental baseline (including lack of baseline data), funding, or design may impact the original programmatic decision on how or when the project would be implemented. In that event, further or additional NEPA analysis would be tiered from this EIS in a separate environmental impact document. This approach would inform each decisionmaker of the potential environmental consequences of the No Action Alternative, as well as each programmatic component of the proposed actions within this EIS. Each decisionmaker would take into account technical, economic, environmental, and social issues, as well as each proposed action's ability to meet the purpose and need and associated objectives when a decision is made to undertake a separate NEPA document tiered from the JPARC EIS.

1.5.3 Application of Screening Criteria

Table 1-4 evaluates the *JPARC Master Plan* projects with the screening criteria.

Table 1-4. Comparison of JPARC Master Plan Projects with the Screening Criteria

JPARC Master Plan Project	Specificity	Dependence	Definition	Ripeness	Level of Analysis
Fox 3 Military Operations Area Expansion	Yes	Yes	Yes	Yes	Definitive
Paxon Military Operations Area Addition	Yes	Yes	Yes	Yes	Definitive
Realistic Live Ordnance Delivery	Yes	Yes	Yes	Yes	Definitive
Battle Area Complex Restricted Area Addition	Yes	Yes	Yes	Yes	Definitive
Expand Restricted Area R-2205	Yes	Yes	Yes	Yes	Definitive
Night Joint Training	Yes	Yes	Yes	Yes	Definitive
Unmanned Aerial Vehicle Access	Yes	Yes	Yes	Yes	Definitive
Enhance Ground Maneuver Space	Yes	Yes	No	No	Programmatic
Tanana Flats Training Area Roadway Access	Yes	Yes	Yes	No	Programmatic
Complex Urban Terrain	Yes	Yes	No	No	None
Joint Air–Ground Integration Complex	Yes	Yes	Yes	No	Programmatic
Intermediate Staging Bases	Yes	Yes	Yes	No	Programmatic
Missile Live-Fire for AIM-9 and AIM-120	Yes	Yes	Yes	No	Programmatic
Low-Altitude Tactical Navigation	Yes	No	Yes	Yes	Cumulative
Urban Target Set	Yes	No	Yes	Yes	Cumulative
Helicopter Gunnery	Yes	No	Yes	Yes	Cumulative
Additional Dry Targets	Yes	No	Yes	Yes	Cumulative
Joint Precision Airdrop System Drop Zones	Yes	Yes	Yes	No	Programmatic
High Angle Mountain Marksmanship Range	Yes	No	Yes	Yes	Cumulative
Digital Range Connectivity	Yes	Yes	No	No	None

1.5.3.1 Actions Well-Defined and Ripe for Decision

Based on the JPARC EIS Screening Criteria analysis, the following projects will be analyzed definitively for a decision in the JPARC Final EIS and ROD. The actions' proponents are identified in parentheses:

- Fox 3 MOA Expansion (Air Force)
- Paxon MOA Addition (Air Force)
- RLOD (Air Force)
- BAX Restricted Area Addition (Army)
- R-2205 Expansion, including the DMPTR (Army)
- Night Joint Training (NJT) (Air Force)
- UAV Access (Army)

1.5.3.2 Programmatic Actions

The following projects require additional planning, programming, or development. Action proponents are identified in parentheses. During this extended process, new information about requirements, the

environmental baseline, and financial resources will continue to emerge. The overall planning process for these projects would benefit from the environmental evaluation of the potential impacts in this EIS and a programmatic decision on how the proponent should move the project forward. The programmatic documentation in this EIS will provide baseline information, project site selection and development criteria, and outline a process from which additional studies may be undertaken or tiered from the *JPARC Modernization and Enhancement EIS* to allow additional, site-specific NEPA analyses to be undertaken, based on the best available information.

- Enhancement of Ground Maneuver Space (Army)
- TFTA Roadway Access (Army)
- JAGIC (Army)
- ISBs (Army)
- Missile Live-Fire for AIM-9 and AIM-120 (Air Force)
- JPADS (Air Force)

Figure 1-5, *JPARC Modernization and Enhancement EIS* Proposed Actions, provides a map depicting the general locations of each definitive and programmatic proposed action to be evaluated in this EIS.

1.5.3.3 JPARC Master Plan Objectives Independent of this EIS

The projects listed below are included in the *JPARC Master Plan*. These projects are independently required and will be analyzed for decisions in separate NEPA analyses. These projects will be evaluated on a cumulative basis and will be included in Chapter 4.0, Cumulative Impacts and Secondary Effects.

- LATN Training (Air Force)
- Urban Target Set (Army)
- Additional Dry Targets (Air Force)
- HAMMR (Army)
- Helicopter Gunnery (Army)

1.5.3.4 Actions Considered But Not Carried Forward

Digital Range Connectivity. Digital range connectivity is a general requirement rather than a specific action. It describes an objective that applies to all projects rather than a specific or programmatic decision for any single project or group of projects. Connections and infrastructure will be incremental, and will be included over time as needed to support ranges and new facilities.

Complex Urban Terrain. The Army is only beginning to understand how to train for this critical challenge to current operations. As doctrine, funding, and risk mitigation are developed, this training will become central to deploying forces into combat. Until then, decisions on where to conduct this training are premature.

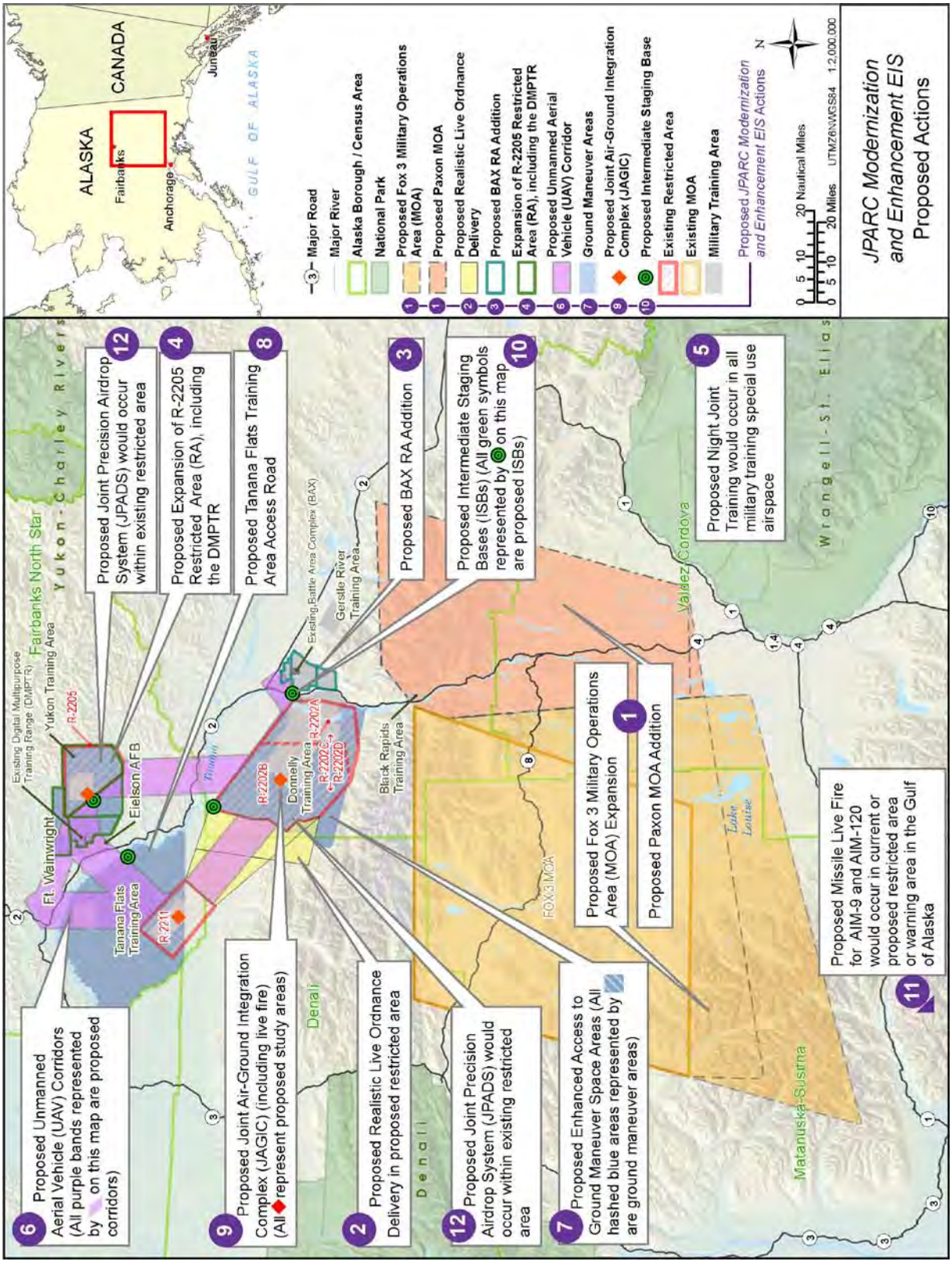

Figure 1-5. *JPARC Modernization and Enhancement EIS* Proposed Actions

1.5.3.5 Actions Considered Under Cumulative Impacts

See Chapter 4.0 for Cumulative Impacts and Secondary Effects.

1.6 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

1.6.1 National Environmental Policy Act Process

The *JPARC Modernization and Enhancement EIS* has been prepared in accordance with NEPA (42 U.S.C. 4321 *et seq*.). NEPA is the basic national statute for identifying environmental consequences of major Federal actions, and it ensures that environmental information is available to the public, agencies, interested stakeholders, and the decisionmaker before decisions are made and before actions are taken.

The *JPARC Modernization and Enhancement EIS* will satisfy the NEPA requirements for the Air Force and Army as the joint lead agency proponents of the JPARC proposals and the FAA as a cooperating agency in accordance with its legal jurisdiction of the U.S. airways to be in line with FAA Order 7400.2 Section 2, 1-2-1 that states, "The navigable airspace is a limited national resource that Congress has charged the FAA to administer in the public interest as necessary to ensure the safety of aircraft and its efficient use." Hence, the EIS shall be developed in accordance with CEQ regulations (40 CFR 1500–1508) and with 32 CFR 989 *et seq*. (Air Force) and 32 CFR 651 (Army) NEPA procedures. Additionally, the joint lead agencies will ensure the EIS complies with Service-specific and Cooperating Agency NEPA implementing regulations. Respective NEPA regulations are listed in Table 1-5. Other relevant statutes, regulations, and guidelines applicable to implementing the proposal are presented in Appendix B, *Definition of the Resources and Regulatory Settings*, of the EIS. The FAA's Federal actions also depend on a subsequent SUA Aeronautical Proposal.

Table 1-5. Applicable NEPA Regulations and Other Requirements

Governing Agency	Citation	Title
Council on Environmental Quality	40 *Code of Federal Regulations* (CFR) 1500–1508	"Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act"
U.S. Department of Defense	32 CFR 989 *et seq*.	"Environmental Impact Analysis Process" (EIAP) (Formerly known as Air Force Instruction 32-7061)
	32 CFR 651	"Environmental Analysis of Army Actions" (Army Regulation 200-2)
Federal Aviation Administration	Order JO 7400.2, Change 2	"Procedures for Handling Airspace Matters"
	Order 1050.1E, Change 1	"Environmental Impacts Policies and Procedures"

Key: CFR=Code of Federal Regulations; EIAP=Environmental Impact Analysis Process.

An EIS is prepared as a tool for compiling information about a Federal action and providing a full and fair discussion of environmental impacts on the natural and human environment. Reasonable and practicable alternatives to the proposed action as well as the No Action Alternative are also evaluated in an EIS. The No Action Alternative refers to the choice to make none of the modifications or additions to JPARC stipulated in the proposed actions identified in this EIS. The No Action Alternative, which describes the baseline military training operations and facilities at JPARC, includes recently approved actions as listed in Table 1-1.

Compliance with NEPA guidance for preparation of an EIS involves several critical steps, as depicted in Figure 1-6 and summarized below.

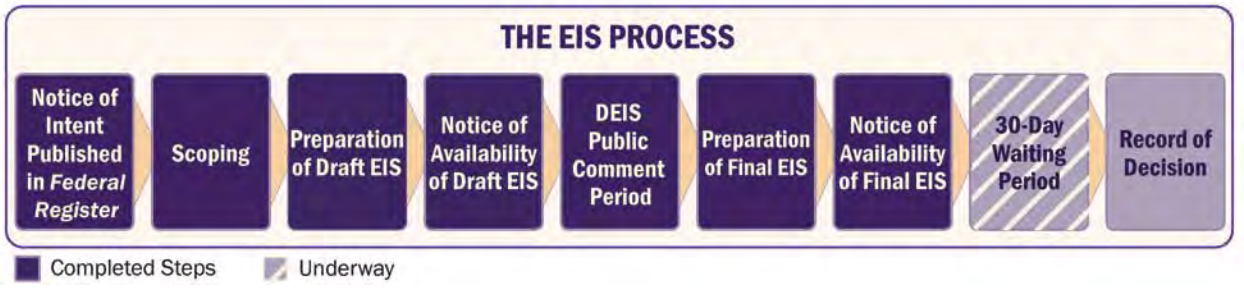

Figure 1-6. Sequence of Environmental Impact Statement Process

Announce that an EIS will be prepared. For the *JPARC Modernization and Enhancement EIS*, a Notice of Intent (NOI) to prepare an EIS was published in the *Federal Register* on December 8, 2010.

Conduct scoping. Scoping is an open public comment process that involves members of the public, communities, organizations, and Federal and State agencies in EIS preparations through mailings, notifications, and scoping meetings. This is the first major step toward identifying the relevant issues to be analyzed in depth in the EIS and eliminating issues that are not relevant (see Section 1.6.7). At a minimum, pursuant to Air Force Instruction (AFI) 32-7061 (Air Force 2003), scoping must last 30 days from the publication of the NOI.

Prepare a draft EIS. Based on the expertise of the lead agencies and issues raised by the public during scoping, the Army and the Air Force, as the joint lead agencies for the *JPARC Modernization and Enhancement EIS*, prepare a draft EIS. During preparation of the draft EIS, the consideration of all reasonable and practicable proposal alternatives is required by NEPA. All of the alternatives must meet the purpose and need of the project. If an alternative does not meet the purpose and need, or if it is clearly not reasonable, practicable or feasible, it is dropped from further consideration. Regulations require that an EIS consider the "no action" (also called no build) alternative as well as "action" or "build" alternatives. The resulting draft EIS provides a discussion of the reasonable alternatives, a description of the affected environment, an analysis of potential effects on resource areas under each alternative, and, if possible, a description of mitigation measures developed to avoid or minimize significant adverse impacts during the impact assessment process.

Conduct Draft EIS Public Comment Period. The draft EIS is also a comprehensive document for public and agency review. The public is then provided an opportunity to provide comments on the draft EIS. This opportunity includes a series of public hearings held during the comment period. The hearings give the public, agencies, and other interested stakeholders, such as the JPARC Ad Hoc Working Groups formed after the *JPARC Modernization and Enhancement EIS* scoping process, an opportunity to orally comment on the draft EIS after they have had the opportunity to review and evaluate the document in a formal manner. The hearings provide direct feedback to the EIS joint lead agencies from the public and external agencies. All substantive comments received during the public comment period are incorporated into the final EIS, along with responses provided by the Army and Air Force. Comments on the draft EIS must be provided by the specified due date to ensure they are reflected in the final EIS. Oral and written comments submitted at public hearings and those received through the mail or on the website are given equal consideration in the preparation of the final EIS.

Prepare a final EIS. The final EIS is prepared following the formal public comment period on the draft EIS. Comments submitted during the public comment period or presented at public hearings that address matters within the scope of the EIS are addressed by the Army and Air Force in the final EIS. All written

comments received are included in appendices to the final EIS. The final EIS is a revision of the draft EIS to reflect public and agency comments, the proponents' responses, and additional information received from reviewers, as applicable. The final EIS provides the decisionmakers with a comprehensive review of the potential environmental consequences of selecting the proposals evaluated, alternatives, or combinations of the proposals.

Issue a Record of Decision. The final step in the NEPA process is approval of the ROD, setting forth final decisions. The Army and the Air Force, with support from ALCOM, are the final decisionmakers. The EPA's *Federal Register* publication of final EIS receipt begins a 30-day waiting period before the ROD can be signed. The ROD identifies those actions selected by the decisionmakers and the management actions or mitigation measures that would be implemented to avoid, minimize, or mitigate adverse impacts on the environment, as practicable, or explains why such measures were rejected. The ROD specifies the entities responsible for implementing mitigations and the source of funds for those mitigations.

1.6.2 Analysis of Combined and Cumulative Effects

Both the Air Force and Army have guidance for preparing NEPA documents and analyzing the impacts of Federal actions. This guidance complies with CEQ regulations and direction to ensure a level of consistency in evaluating impacts and comparing impacts across the two Services that will help with decisionmaking. It also includes a process for focusing analysis on areas where impacts are most likely to occur, considering the type of actions involved in a geographic context.

For this EIS, cumulative impacts are also evaluated to account for impacts of all aspects of the proposed actions and alternatives, impacts in a broader (local and regional) context, and impacts of the proposed actions and alternatives in combination with other major past, present, and future actions in the JPARC region. This EIS will also consider how these proposals overlap, geographically or operationally, so that analysis can account for their combined or specific implementation. An analysis of combined effects is provided for each resource area in Chapter 3.0, Environmental Consequences, where applicable.

1.6.3 Tiering from a Programmatic EIS

This broad-scope EIS addresses proposed projects and activities with varying degrees of specificity. The proposed surface actions include several new facilities, new capabilities, or changes in surface activities/uses, without specific details on location or their implementation. Alternatively, airspace actions are evaluated with definitive levels of detail in their location, use, and structure. Both types of actions are analyzed broadly to cover the type of impacts that may result from such activities and to identify the types of mitigation measures that could reduce or mitigate impacts.

It is noted also that the JPARC EIS No Action and the Action Alternatives incorporate by reference the environmental analyses listed in the NEPA documents in Chapter 1.0, Table 1-1, Recent DoD Actions in the JPARC Region.

The CEQ advises agencies to tier environmental documents to eliminate repetition and to focus the decisionmaking process on the salient issues at each level of review. Some decisions from this EIS are "programmatic," requiring consideration of specific actions as they are further defined. These future evaluations can tier from and use information from this EIS. Tiering is defined as the process by which general topics are evaluated in broader-scope documents (i.e., "programmatic" documents), and the scope is subjected to narrowing in subsequent documents (project, activity, or site-specific documents). Narrower-scope documents still address broader scope topics, based on the programmatic document

baseline and analysis, but restrict the focus to specific issues. Other decisions as to implementation of an action may require no further evaluation.

As the programmatic actions are more fully defined (closer to implementation), they may require additional environmental evaluation. The appropriate level of NEPA documentation—record of environmental consideration or categorical exclusion, environmental assessment (EA), or EIS—will depend on the degree to which these actions incorporate measures to limit possible impacts (as identified through this EIS), avoid sensitive locations, or correspond to previously analyzed or excluded actions. The programmatic EIS can help streamline subsequent NEPA requirements for specific projects that are covered in a programmatic decision. For example, the programmatic EIS analysis can identify measures that would reduce expected impacts of the various proposals. Planning for these future projects can incorporate a siting process or specific conservative practices designed to avoid or limit impacts, and thereby limit any follow-on NEPA analysis to an EA or record of environmental consideration, rather than an EIS.

1.6.4 Lead, Cooperating, and Participating Agencies

This section describes agencies and organizations invited to be cooperating or participating agencies. Agencies or organizations can accept the responsibilities of cooperating agencies or can choose to be participating agencies. Table 1-6 lists relevant correspondence regarding cooperating agency status during this EIS process. Copies of agency correspondence, including agency correspondence regarding concerns about the proposed JPARC enhancements and modernizations are contained in Appendix A, *Public Scoping Summary*.

1.6.4.1 Lead Agencies.

The Air Force and Army are joint lead agencies for this Federal action. They will both make decisions based on this EIS and will supervise the EIS process. As joint lead agencies, instructions and regulations of both agencies will apply and, where they differ, the more-restrictive or -inclusive position will be used to guide the EIS process and analysis.

1.6.4.2 Cooperating Agencies.

Cooperating agencies have specific responsibilities in the preparation of the EIS. A cooperating agency is any Federal agency, other than a lead agency, that has jurisdiction by law over, or special expertise with respect to any environmental impact involved in, a proposal (or a reasonable alternative) for legislation or other major Federal action significantly affecting the quality of the human environment (40 CFR 1508.5). The regulations also state the following: "A State or local agency of similar qualifications…may by agreement with the lead agency become a cooperating agency."

Cooperating agencies have specific responsibilities in the preparation of the EIS. Cooperating agencies assume responsibility for the development of information and the preparation of environmental analyses at the request of the lead agency (40 CFR 1501.6(b)(3)). Cooperating agencies are required to devote staff resources early in the NEPA process, primarily in the scoping and draft EIS preparation stages, as well as in the EIS review stages (40 CFR 1501.6).

1.6.4.3 Participating Agencies.

Federal, State, Tribal, regional, and local government agencies that may have an interest in the project can be invited to serve as participating agencies. Participating agencies are responsible to identify, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts. This early and meaningful coordination and input can help determine the range of alternatives to

be analyzed in the EIS. A participating agency's role includes timely review of, and comment on, environmental documents.

1.6.4.3.1 Federal Agencies with Jurisdiction by Law.

Federal agencies with jurisdiction by law include the FAA, the U.S. Department of the Interior (DOI) Bureau of Land Management (BLM), the U.S. Fish and Wildlife Service (USFWS) and the U.S. Environmental Protection Agency (EPA). The FAA officially became a cooperating agency on March 10, 2011. The BLM declined to become a cooperating agency on February 10, 2011, explaining that it had no permitting, authorizing, or financing role for any of the actions proposed under the alternatives presented during the scoping process for the JPARC Modernization and Enhancement EIS. The BLM explained further that if the actions in the alternatives were modified such that the Bureau would have a permitting, authorizing, or financing role, it would reconsider becoming a cooperating agency. The BLM, USFWS and EPA chose to be involved in the JPARC Modernization and Enhancement EIS as participating agencies, in accordance with their respective consultation and coordination mandates regarding the NEPA process.

Federal Aviation Administration. Congress has charged the FAA with administering all navigable airspace in the public interest as necessary to ensure the safety of aircraft and the efficient use of such airspace. The FAA is the agency with jurisdiction by law and special expertise with respect to those portions of the JPARC proposal regarding changes in the configuration of the airspace and establishment of new airspace. No charted airspace decision has been made or will be made prior to a complete environmental review.

The aeronautical proposal will be submitted by the Air Force to the FAA for the JPARC proposals that affect public airspace. The FAA will review the proposal in accordance with FAA policies and procedures. According to FAA environmental policies and procedures, including Order 1050.1 (with changes) and in accordance with 40 CFR 1506.3, the FAA can adopt the final EIS in whole or in part as an official environmental analysis supporting the airspace proposal. Upon acceptance, the FAA would issue its own determination and provide notification to EPA of the adoption. Charting of any airspace modification would be performed by the FAA. The Army and Air Force goal in its cooperative effort with the FAA is for this EIS to fulfill the NEPA requirements of each agency.

U.S. Department of the Interior (DOI) Bureau of Land Management (BLM). The DOI/BLM has responsibility for managing public lands in the national and public interest in a manner that is sustainable for future generations. The BLM is the agency with jurisdiction by law and special expertise with respect to lands within the JPARC region of influence (ROI), regarding changes in use of those lands or use of airspace above those lands that may affect public use and productivity. Decisions affecting surface use of BLM lands may require changes to current management plans and/or implementation of Memoranda of Understanding, leases, access, or acquisition. In accordance with 40 CFR 1506.3, the DOI/BLM can adopt the final EIS in whole or in part as an official environmental analysis supporting the JPARC proposal.

United States Fish and Wildlife Service. The USFWS is a Federal agency within DOI dedicated to the management of fish, wildlife, and habitats. This includes management of the National Wildlife Refuge system, large acreages of which are located in Alaska. The mission of the USFWS is to work with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats. The USFWS also manages and administers Section 7 consultation for NEPA actions and the Federal Endangered Species Act (ESA), the Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act. Section 7 consultation correspondence is summarized in Table 1-6.

U.S. Environmental Protection Agency. Like other Federal agencies, EPA prepares and reviews NEPA documents. However, EPA has a unique responsibility in the NEPA review process. Under Section 309 of the Clean Air Act, EPA is required to review and publicly comment on the environmental impacts of

major Federal actions, including actions that are the subject of EISs. If EPA determines that the action is environmentally unsatisfactory, it is required by Section 309 to refer the matter to CEQ.

Also, in accordance with a Memorandum of Agreement between EPA and CEQ, EPA carries out duties associated with administrative aspects of the EIS filing process. The Office of Federal Activities in EPA has been designated the official recipient in EPA of all EISs prepared by Federal agencies.

1.6.4.3.2 Federal Agencies with Special Expertise

Federal agencies that have special expertise with respect to environmental resources involved in the proposed JPARC enhancements include the Alaska National Guard Bureau, Navy, National Marine Fisheries Service, Bureau of Indian Affairs (BIA), National Park Service, Advisory Council on Historic Preservation, U.S. Army Corps of Engineers (USACE), and the U.S. Forest Service (USFS).

Alaska National Guard. The Alaska National Guard provides strategically positioned, relevant, and ready military forces capable of rapid deployment and joint operations while maintaining the capability to provide emergency services to the State of Alaska. The Air National Guard and the Army National Guard will share the training assets with other military branches in joint training activities in JPARC.

U.S. Navy. The Navy, one of the military partners in the JPARC planning process, completed an EIS for combined military operations in the GOA. The Navy is a key partner in sharing training assets with the Air Force and Army and participates in joint training activities using the JPARC assets.

National Marine Fisheries Service (NMFS). The NMFS (National Oceanic and Atmospheric Administration [NOAA] Fisheries) is responsible for the management, conservation and protection of living marine resources, including marine mammals and anadromous fish species. It is responsible for most marine species and anadromous fish species listed under the ESA and handles Section 7 consultations for these species under the ESA, within the United States Exclusive Economic Zone (EEZ). NMFS also supports and advises in the management of marine resources in coastal areas under State jurisdiction, provides scientific and policy leadership in the international arena, and implements international conservation and management measures as appropriate.

Bureau of Indian Affairs (BIA) (Alaska Region). The Alaska region of the BIA encompasses a dynamic and diverse mix of tribes, Tribal organizations, and natural features, stretching from Ketchikan in the southeast panhandle to Barrow on the Arctic Ocean, and from Eagle on the Yukon Territory border to Atka in the Aleutian Chain. Eastern portions of these areas are within the boundaries of proposed JPARC actions. The BIA provides a central agency for considering issues affecting Alaska Natives and subsistence resources.

National Park Service. The National Park Service manages several national parks and monuments in Alaska. The National Park Service is the Federal agency with jurisdiction by law and special expertise with respect to national parks and monuments within the JPARC ROI, and thus with respect to changes in use of those lands or airspace above those lands that may affect the qualities intrinsic to their valued resources.

Advisory Council on Historic Preservation. The Advisory Council on Historic Preservation is an independent Federal agency established by the National Historic Preservation Act (NHPA) of 1966 that promotes the preservation, enhancement, and productive use of our nation's historic resources, and advises the President and Congress on national historic preservation policy. The Council issues regulations to implement Section 106 of NHPA, provides guidance and advice on the application of the procedures, and generally oversees the operation of the Section 106 process. The Council also consults with and comments to agency officials on individual undertakings and programs that affect historic properties.

U.S. Army Corps of Engineers (USACE). The USACE has special expertise and permitting responsibilities regarding U.S. navigable waterways and wetlands potentially impacted by proposed JPARC modernization and enhancement proposals. The USACE is the Federal agency authorized to issue Section 404 permits for certain activities conducted in wetlands or other U.S. navigable waters. Section 404 of the CWA regulates the discharge of dredged, excavated, or fill material in wetlands, streams, rivers, and other U.S. waters. Selective projects identified in this EIS have the potential to impact wetlands or other waters under the jurisdiction of the USACE.

U.S. Forest Service (USFS). The USFS, under the U.S. Department of Agriculture, manages public lands in the extensive national forests and grasslands across the U.S. National Forests are primarily located in the southern portion of Alaska.

1.6.4.3.3 State Agencies with Special Expertise

State agencies that have special expertise with respect to environmental resources involved in the proposed JPARC modernization and enhancement proposals include the Alaska Departments of Natural Resources, Fish and Game, and Military and Veterans Affairs, and the State Historic Preservation Officer (SHPO).

Alaska Department of Natural Resources (ADNR). The goal of the ADNR is to contribute to Alaska's economic health and quality of life by protecting and maintaining the State's resources and encouraging wise development of these resources by making them available for public use. It does so by managing all State-owned land, water, and natural resources, except for fish and game, on behalf of the people of Alaska, including areas under and within the JPARC ROI.

Alaska Department of Fish and Game (ADFG) and Division of Subsistence. The mission of the ADFG is to scientifically quantify, evaluate, and report information about customary and traditional uses of Alaska's fish and wildlife resources. In 1978, the Alaska Legislature passed the Alaska Subsistence Law, requiring that subsistence uses of fish and game be authorized and protected. This established the legal basis for the Division of Subsistence within the department and, with it, the duty of understanding human systems—that is, people and their ways of living—using systematic methods of gathering and analyzing information developed for the social sciences, including interviews, mapping, surveys, direct observation, and participant observation. The Division of Subsistence is responsible for determining priorities for subsistence harvesting (and licenses) based on information regarding subsistence resources across Alaska. The ADFG also participates in Section 7 consultation for NEPA actions and the Federal ESA. Section 7 consultation correspondence is summarized in Table 1-6.

Alaska Department of Military and Veterans Affairs, Office of the Adjutant General. The mission of the Alaska Department of Military and Veterans Affairs is to provide strategically positioned, relevant, and ready military forces capable of rapid deployment, joint operations, and mission accomplishment while maintaining the capability to provide emergency services to the State of Alaska.

Alaska Office of History and Archaeology (AOHA). The AOHA carries out the responsibilities of the SHPO, as appointed by the Governor. Responsibilities of the AOHA include, but are not limited to, historic preservation planning; survey and inventory of historic properties; nomination of properties to the National Register of Historic Places (National Register); and participation in the review of Federal, State, and local undertakings that may affect historic properties, including NHPA Section 106 consultation. Section 106 consultation correspondence is summarized in Table 1-6.

1.6.4.3.4 Local Governmental and Nongovernmental Organizations with Special Expertise

Participation of local governmental and nongovernmental organizations in the preparation of NEPA analyses and documentation helps in disclosing relevant information early in the analytical process; applying available technical expertise and staff support; avoiding duplication with other Federal, State, Tribal, and local procedures; and establishing a mechanism for addressing intergovernmental issues (CEQ Memorandum, January 30, 2002). Local governments or organizations with special expertise include Alaska Native Regional Corporations and local boroughs.

Alaska Native Regional Corporations and Alaska Native Village Corporations. The Alaska Native Regional Corporations and Alaska Native Village Corporations (also known as Alaska Native Claims Settlement Act [ANCSA] Corporations) were established when the Congress passed the ANCSA, which settled land and financial claims made by the Alaska Natives and provided for the establishment of 13 regional corporations to administer those claims. Three regional corporations (and several associated village corporations) overlap with the JPARC planning area: Doyon Limited; Cook Inlet Region, Inc.; and Ahtna, Inc.

Fairbanks North Star Borough (FNSB), Southeast Fairbanks Census Area, Yukon-Koyukuk Census Area, Matanuska-Susitna Borough, Denali Borough, Anchorage Municipality, and Valdez-Cordova Census Area. Boroughs issue leases, licenses, and other agreements for the use of land and resources located within their jurisdiction. Boroughs can have a planning function with respect to how land is used to safeguard their residents; the FNSB, in particular, is an important partner in planning for future compatibility of land development in areas adjacent to the JPARC training areas.

1.6.5 Government-to-Government Consultation

This section presents a summary of the government-to-government consultation efforts associated with the environmental impact analysis process (EIAP) pursuant to DoD Instruction 4710.02, *Interaction with Federally Recognized Tribes* (DoD 2006), and the 2007 DoD American Indian/Alaska Native Policy: Alaska Implementation Guidance (Guidance) (ALCOM 2007). The Guidance is designed to enhance government-to-government working relationships between DoD and the tribes in Alaska. Tribes affected by the Guidance are Native entities within Alaska recognized and eligible to receive services from the DOI/BIA and included in the most recent *Federal Register* listing. The Guidance requires notification and consultation with tribes when a proposed DoD action "that may have the potential to affect protected Tribal rights, Indian land, or resources."

Pursuant to the Guidance, Tribal rights include legal rights accruing by virtue of inherent sovereign authority, unextinguished aboriginal titles, statutes, judicial decisions, EOs, or agreements that give rise to legally enforceable remedies. Tribal resources are those natural resources or properties of traditional or customary religious or cultural importance, whether on or off Indian land, retained by or reserved for Indian tribes through treaties, statutes, judicial decisions, or EO s, including Tribal trust resources. Indian land, as defined by DoD policy, is land held in trust by the United States for the benefit of a tribe or Native individual, or held by such tribe or individual subject to restriction by the United States against alienation.

The DoD policy consultation triggers were tripped based on the proposed action and provided a more robust opportunity for tribes to influence the outcome of the NEPA process than CEQ regulations. For instance, CEQ regulations only require seeking input from tribes when actions are proposed on reservation land but none of the potentially affected Alaskan tribes have reservations. Further, DoD policy encourages contact with tribes ahead of the public process in recognition of their sovereignty and affords Tribal leaders the opportunity to meet one-on-one with the highest ranking military officials in Alaska. All 229 Federally recognized Alaskan tribes were informally appraised of the intent to pursue JPARC in ALCOM's Tribal Military Affairs newsletter in the summer of 2010.

Table 1-6. Correspondence Regarding Cooperating Agency Status and Formal Consultation

Agency	Date	Subject
Federal Aviation Administration	December 2, 2010	Early Coordination Meeting
	December 10, 2010	ALCOM letter announcing Draft EIS and requesting participation
	February 16, 2011	Air Force letter requesting participation as a cooperating agency
	March 4, 2011	FAA response letter regarding initial review of JPARC proposals
	March 10, 2011	FAA response letter regarding cooperating agency status
	March 11, 2011	FAA comments for the proposed JPARC EIS
U.S. Department of the Interior, Bureau of Land Management	November 30, 2010	Early Coordination Meeting
	December 10, 2010	ALCOM letter announcing Draft EIS and requesting participation
	February 10, 2011	BLM response letter regarding initial review of JPARC proposals and cooperating agency status
	February 10, 2011	Air Force letter requesting participation as a cooperating agency
	March 3, 2011	BLM scoping comments on JPARC EIS proposals
U.S. Fish and Wildlife Service	December 6, 2010	Early Coordination Meeting
	December 10, 2010	ALCOM letter requesting Endangered Species Act consultation
	March 4, 2011	USFWS response letter regarding initial review of JPARC EIS proposals
Alaska Department of Fish and Game	December 10, 2010	ALCOM letter requesting Endangered Species Act consultation
	March 1, 2011	Alaska Department of Fish and Game letter regarding initial review of JPARC EIS proposals
Alaska State Historic Preservation Officer	December 10, 2010	ALCOM letter requesting participation in NHPA Section 106 consultation
	January 23, 2012	SHPO response letter regarding Section 106 consultation
	February 7, 2012	Section 106 consultation letter from the Army to the Alaska SHPO
Alaska Native Tribes	September 20, 2010	ALCOM Government-to-Government Tribal Coordination and Consultation letter
	February 7, 2012	Section 106 consultation letter from the Army to the Alaska SHPO and Federally recognized Alaska Native tribes.
Sun'aq Tribe of Kodiak, Village of Dot Lake, Chickaloon Native Village	February 28, 2011	Tribal Government-to-Government response letter Government-to-Government Consultation Meeting with ALCOM
	April 8, 2011	ALCOM follow-up letter with Government-to-Government Consultation Meeting Minutes

Key: ALCOM=Alaskan Command; BLM=Bureau of Land Management; FAA=Federal Aviation Administration; NHPA=National Historic Preservation Act; SHPO=State Historic Preservation Officer; USFWS=U.S. Fish and Wildlife Service.

A summary of government-to-government consultation correspondence is listed in Table 1-6. In accordance with the consultation procedures laid out in DoD Instruction 4710.02 (DoD 2006) and the Guidance, ALCOM mailed (return receipt requested) or hand-delivered official government-to-government consultation letters to 35 Federally recognized Alaska Native tribes on September 20, 2010 (see Appendix A, *Public Scoping Summary*). These early letters (ahead of the public process) requested the tribes to consider whether the JPARC proposal may have the potential to significantly affect any of their Tribal rights, Indian land, or protected Tribal resources. The letters listed Native Affairs Advisor, Dr. Jerome Montague, as the primary point of contact and requested a reply within 60 days or by November 8, 2010. During this period Dr. Montague personally visited the tribes closest to the interest area to ensure tribes understood the proposals and were aware of their rights and responsibilities. Further, all tribes were telephoned or e-mailed to verify whether each tribe received the offer to consult and whether they decided to consult. In response to these letters, visits, telephone calls, and e-mails, three of the tribes, through the following officials, requested formal government-to-government consultation:

1. Mr. William Miller, President, Village of Dot Lake
2. Mr. Eric Olsen, Council Member, Sun'aq Tribe of Kodiak
3. Mr. Doug Wade, Chairman, Chickaloon Native Village

Lieutenant General Dana Atkins, Commander, ALCOM and Major General Raymond Palumbo, Commander, USARAK, met with the three tribes desiring consultation on February 28, 2011, to further explain the proposals to be evaluated in the *JPARC Modernization and Enhancement EIS*. The meeting allowed an opportunity for the Tribal leaders to fully explain and discuss their concerns with the Commanding Generals and to agree on proposals and plans of action to alleviate them. These concerns and the government-proposed responses are outlined in detail in Appendix A, *Public Scoping Summary*, in meeting minutes from the February 28, 2011, consultation meeting.

1.6.6 Public Involvement

This section presents a summary of the public participation efforts associated with the *JPARC Modernization and Enhancement EIS*. NEPA requires that Federal agencies involve the public in the decisionmaking process for major Federal actions that may significantly affect the environment. The JPARC EIS process has provided and continues to provide several opportunities for public involvement, including the following:

- The public scoping period was conducted from December 8, 2010, to March 4, 2011
- The JPARC website, which provides information to the public, including handouts and fact sheets regarding the project, became available during December 2010.
- Public scoping meetings were conducted during January 2011.
- The *Draft JPARC Modernization and Enhancement EIS* was made available for distribution and public, agency, and interested stakeholder review between March 30 and July 9, 2012.
- Notices of the draft EIS and public hearings were distributed in March and April of 2012. Formal public hearings were held May 11 through 23, in the middle of the public draft EIS review period. Through these notifications and public hearings, ALCOM requested the public, agencies, and interested stakeholders to provide oral or written comments on the draft EIS.

- The draft EIS review period was originally scheduled to close on June 7, 2012. After receiving comments requesting an extension of the comment period, ALCOM extended the comment period to July 9, 2012, 6 weeks beyond the original timeline.

- Refer also to Section 1.6.1 above for a review of the NEPA process planned for the *JPARC Modernization and Enhancement EIS*.

1.6.7 Scoping Process

NEPA requires a minimum 30-day scoping period. For this project, the scoping period lasted almost 90 days, from December 8, 2010 to March 4, 2011, due to the geographical extent of the project, the number of scoping meetings, interest shown, and the importance of gathering all public and organizational input. The scoping period for the JPARC Modernization and Enhancement EIS began when an NOI was published in the *Federal Register* on December 8, 2010. ALCOM announced the intent to prepare an EIS and to hold scoping meetings through newspaper display advertisements and press releases placed in *The Anchorage Daily News, Alaska Star, Copper River Record, Fairbanks Daily News-Miner, Delta Wind, and The Frontiersman*, as well as through flyers, mailed letters, and public service announcements aired on regional radio and television stations. The closing date for the scoping period was February 4, 2011. In response to public comment, the comment period was extended to March 4, 2011. Table 1-7 outlines the scoping meetings and the number of comments presented.

The intent of the Air Force and Army during the scoping process was to provide the greatest level of opportunity for government agencies, special interest groups, and the general public to learn about the JPARC proposals and to offer several ways for those interested to express their thoughts regarding the proposals. Air Force and Army representatives explained why the JPARC proposals are necessary, described the proposed alternatives, summarized the NEPA process, and provided a tentative schedule of milestones. Through handouts and notification materials, ALCOM clarified that the public could submit comments at the scoping meetings or any time during the scoping period via mail to ALCOM Public Affairs, 9480 Pease Avenue, Suite 120, JBER, Alaska 99506; phone at 907–552–2341; or the EIS website at www.jparceis.com. ALCOM clarified to the public that public comments received by the close of the comment period would be considered during draft EIS preparations. A more detailed summary of the scoping process, the public involvement program, and agency coordination is contained in Appendix A, *Public Scoping Summary*.

Comments and discussions during scoping meetings and submitted in writing served to identify and highlight various issues related to the JPARC proposals. Comments are summarized in Table 1-8, Summary Key Issues by Resource, displaying the primary issues and concerns for each resource topic evaluated. The issue summaries were derived from inputs received during public scoping for the EIS and from the experience of resource specialists. The table also shows how the proposed actions and alternatives changed as a result of the scoping process and agency coordination and where the scoping issues are addressed in the EIS. A quantitative breakdown of the comments by EIS topic and JPARC proposed actions is presented in Table 1-9. The issues raised during scoping are discussed in the baseline conditions and resource analysis for each JPARC proposal in Chapter 3.0, Environmental Consequences.

The actions and topics of greatest concern, as indicated by the number of comments, include the Fox 3 and Paxon MOA expansions; the lowering of the SUA to 500 feet AGL; and related impacts on civil aviation, residents, recreation, hunting, wildlife (particularly caribou/moose migration and calving areas and trumpeter swan/migratory bird breeding grounds), subsistence activities, the tourism industry, and commercial aviation access. Specific areas of concern include Fairbanks International Airport access and the areas of Lake Louise, Copper Basin, the Talkeetna Mountains, and the Denali Highway corridor.

Safety concerns mainly focus on airspace conflicts below 5,000 feet AGL, particularly the mix of high-speed aircraft and small, low-speed general aviation aircraft.

Table 1-7. Scoping Meeting Summary

Scoping Meeting Date and Time	Scoping Meeting Location	Number of Meeting Attendees	Number of Written Comments Submitted
January 13, 2011 6:30 to 8:30 p.m.	The Millennium Alaskan Hotel Turnagain Room 4800 Spenard Road Anchorage, AK 99517-3236	34	1
January 18, 2011 6:30 to 8:30 p.m.	Caribou Hotel Mile 186.5 Glenn Highway Glennallen, AK 99588	33	3
January 19, 2011 6:30 to 8:30 p.m.	Alaska Steakhouse and Motel 1271 Richardson Highway, Mile 265 Delta Junction, AK 99731	29	1
January 20, 2011 noon to 2:00 p.m. and 4:00 to 8:00 p.m.	Princess Fairbanks Hotel 4477 Pike's Landing Fairbanks, AK 99709	114	3
January 24, 2011 6:30 to 8:30 p.m.	Motel Nord Haven 249 George Parks Highway Healy, AK 99743	29	0
January 25, 2011 6:30 to 8:30 p.m.	Swiss Alaska Inn 22056 South F Street Talkeetna, AK 99676	28	0
January 26, 2011 6:30 to 8:30 p.m.	Menard Memorial Sports Center 1001 South Mack Drive Wasilla, AK 99654	85	6
	Totals	**352**	**14**

Key: AK=Alaska.

Among other concerns are the potential dangers posed by hazardous waste, in particular unexploded ordnance and its potential for closing off access to public lands; proposed airspace restrictions over the BAX and Isabel Pass; and the potential for negative impact of the proposals on the populations closest to the highly used, road-accessible Alaskan beltway. Tourism is prominent among socioeconomic concerns; several commenters requested that training exercises avoid the summer and fall season due to the tourism traffic during those times of year. Of additional concern are potential impacts on personal freedoms; fundamental Alaskan values, notably including solitude and peace and quiet; and the use of nature for recreation as well as subsistence.

The Army and the Air Force, with support from ALCOM, revised several of the proposed actions and alternatives based upon public, agency, interested organization, and Tribal comments.

Table 1-8 summarizes the primary issues and concerns for each resource topic evaluated. They are derived from inputs received during public scoping for the EIS and from the experience of resource specialists. Each proposal is presented in a separate section (3.1 – Expand Fox 3 MOA and New Paxon MOA, 3.2 – Realistic Live Ordnance Delivery, and so forth).

Table 1-8. Summary of Key Issues by Resource

	Issue	Applies to EIS Proposal
	Airspace Management and Use	
1.	Because aviation is the essential means of access to rural Alaska given the expansive geography and very limited surface transportation, the consequences from loss of access for civilian aviation (and dependent activities, businesses, and communities) can be great. The following aspects of the proposal and effects on access need to be fully evaluated: the altitude structure, particularly lowering the MOA floors to 500 feet AGL (so that civilian and military traffic would share airspace in a visual flight rule environment), lateral expansion of the MOAs and distance to circumnavigate.	Fox 3/Paxon MOA BAX RA Expand R-2205 RA NJT UAV Access
2.	The effect of converting MOA to restricted airspace which precludes civilian use needs to be fully evaluated in terms of hours lost to circumnavigate, or lost access to airstrips serving areas under proposed restricted airspace.	RLOD BAX RA Expand R-2205 RA UAV Access
3.	Potential disruption to established routes (Victor routes, RNAV) and impact on commercial air carriers, particularly in the congested airspace around Fairbanks.	Fox 3/Paxon MOA BAX RA Expand R-2205 RA UAV Access
4.	Analysis should identify small landing strips and private airfields affected by the actions, and particularly those providing IFR services for all-weather access.	Fox 3/Paxon MOA BAX RA Expand R-2205 RA UAV Access
5.	Concern that the structure of military airspace would force civilian traffic to operate in MOAs (using "see and avoid"), increasing potential safety risks (mostly in air collision) due to congestion, mix of aircraft types with varying performance levels, and mix of pilot skill levels.	Fox 3/Paxon MOA UAV Access
6.	Existing SUAIS communications system has proved effective at maximizing access using "real-time" notifications and advisories. However, the current system may be inadequate to provide deconfliction and information to pilots for a wider area.	Fox 3/Paxon MOA NJT UAV Access Missile Live-Fire
7.	Many private pilots do not have compatible or adequate communication equipment to receive notifications. This limits the effectiveness of the system and could result in unsafe situations. The analysis should consider what improvements are needed to provide safe airspace management for all users.	Fox 3/Paxon MOA RLOD BAX RA Expand R-2205 RA NJT UAV Access Missile Live-Fire
8.	With cumulative complexity and congestion of airspace in the Fairbanks area (civilian and military), following airspace rules is a public safety concern. The analysis should consider methods to monitor compliance as part of the overall airspace management system.	Fox 3/Paxon MOA BAX RA Expand R-2205 RA NJT UAV Access
9.	UAVs are unable to operate in "see and avoid" environment. Routes/corridors or rules for sharing or dedicating airspace for these vehicles adds complexity to managing airspace for civilian use that is essential for day-to-day functioning in Alaska.	UAV Access
	Noise	
10.	Increase in noise levels from proposed military operations, particularly from aircraft operations at low altitudes and at night, potentially causing annoyance and disturbance to persons, domestic animals, wildlife, and other receptors.	Fox 3/Paxon MOA NJT UAV Access
11.	Potential for proposed military operations to cause incompatible noise levels with activities in impacted area, particularly in populated areas.	Fox 3/Paxon MOA NJT UAV Access

Table 1-8. Summary of Key Issues by Resource *(Continued)*

	Issue	Applies to EIS Proposal
	Noise (continued)	
12.	Expansion of areas affected by noise, potentially causing annoyance or change to the quality of characteristically quiet areas, particularly in noise sensitive areas, national parks, wilderness area and Federal and State conservation areas.	Fox 3/Paxon MOA NJT UAV Access Missile Live-Fire
13.	Expansion of areas affected by sonic booms potentially causing damage to homes, persons, domestic animals, wildlife or other receptors	Fox 3/Paxon MOA NJT
14.	Potential increase in impulsive noise from increased munitions use and new types of munitions on recreation and various uses on non-military lands.	RLOD BAX RA Expand R-2205 RA JAGIC
	Safety	
	Safety-Cumulative	
15.	Potential increase in safety risks from the cumulative increase in land and airspace military use, intensified use of existing areas, live ordnances, extended nighttime training hours, and lowered flight levels.	All proposed actions
	Safety-Aircraft/Airspace	
16.	Proposed lowering of the MOA floor and creation of UAV corridors, particularly during bad weather and in areas with limited communication capabilities, where difficulty may exist in identifying UAV corridors with VFR instruments, in narrow corridors, and in areas of high use, increasing potential for low-level aircraft conflicts and crashes.	Fox 3/Paxon MOA UAV Access
17.	Increase in nighttime training potentially causing increased aircraft conflicts and crashes.	NJT
18.	Increase in low-flying aircraft and UAVs potentially increasing ground hazards from aircraft crashes, particularly in high-use recreations area.	Fox 3/Paxon MOA UAV Access
19.	Increase in low-flying aircraft potentially causing health hazards from noise or pollution.	Fox 3/Paxon MOA BAX RA Expand R-2202 RA UAV Access JAGIC
20.	Potential increase in bird/wildlife-aircraft strike hazard (BASH) from increased low-level flights.	Fox 3/Paxon MOA NJT UAV Access Missile Live-Fire
21.	Potential for expanded special use airspace to restrict ability for flight training, essential Medevac access, air access to emergencies or wildfires, the delivery of essential goods in the winter to towns, or state fire suppression efforts.	Fox 3/Paxon MOA RLOD BAX RA Expand R-2202 RA UAV Access JAGIC JPADS Missile Live-Fire
22.	Increased potential of wake turbulence or sonic boom impacts on small aircraft from increased military aircraft operations.	Fox 3/Paxon MOA NJT
	Safety-Live Fire	
23.	Increase in live-fire training causing potential safety hazards and the creation of harmful situations and substances for citizens from increased wildfires, potential bombing, unexploded ordnance, and other toxins.	Fox 3/Paxon MOA RLOD BAX RA Expand R-2205 RA JAGIC Missile Live-Fire

Table 1-8. Summary of Key Issues by Resource *(Continued)*

	Issue	Applies to EIS Proposal
	Safety (continued)	
	Safety-Sonic Booms	
24.	Increased frequency of sonic booms or expansion of areas used for supersonic operations could increase safety risks to citizens, particularly, concerns about mining and mines, small aircraft, high-altitude climbers or avalanches being triggered by sonic booms or noise vibrations.	Fox 3/Paxon MOA NJT
25.	Potential for increased risk to people and other receptors from an increased radiofrequency environment from proposed military operations.	All proposed actions
	Air Quality	
26.	Increase in air pollution from increased military aircraft operations.	All proposed actions
27.	Increase in air pollution from increased military vehicle and ground operations.	BAX RA Expand R-2202 RA JAGIC ISBs Ground Maneuver TFTA Access JPADS
28.	Proposed military airspace operations potentially causing air pollution and impacting views of Mount McKinley and clear skies in nationally designated special areas.	Fox 3/Paxon MOA
29.	Increase in particulate matter (primarily concerned with $PM_{2.5}$) from any of the proposed actions in the portions of the Fairbanks North Star Borough (FNSB) that are non-compliant with Federal $PM_{2.5}$ regulations.	All proposed actions
	Physical Resources	
30.	Potential for lowered special use airspace and increased military airspace operations to impact aircraft-supported exploratory geophysical surveys, drilling, and geologic investigations.	Fox 3/Paxon MOA UAV Access
31.	Expansion of areas affected by sonic booms and noise potentially causing damage to high-altitude mountains and permafrost.	Fox 3/Paxon MOA NJT
32.	Potential for soil erosion from off-road operations in ground maneuver area	Ground Maneuver TFTA Access ISBs
33.	Potential for deep rutting from off-road excursions in areas with marginal permafrost	Ground Maneuver
34.	Soil erosion from construction of roads and facilities and from disrupted natural drainage	JAGIC TFTA Access Ground Maneuver ISBs
	Water Resources	
35.	Need for single general 404 permit from all proposed military operations throughout Alaska.	All proposed actions
36.	Increase in water pollution to lakes, streams, and rivers from proposed military operations, particularly from proposed live ordnance training, unexploded ordnance, or the leaching of toxic remnants.	Fox 3/Paxon MOA RLOD BAX RA Expand R-2202 RA JAGIC Missile Live-Fire
37.	Potential impact and loss of wetlands from construction of roads, facilities and other infrastructure.	RLOD JAGIC TFTA Access Ground Maneuver ISBs

Table 1-8. Summary of Key Issues by Resource *(Continued)*

	Issue	Applies to EIS Proposal
	Hazardous Materials and Waste	
38.	Potential for live ordnance training, spent munitions, or subsequent potential unexploded ordnance to increase toxicity possibilities to humans, wildlife and other receptors on the land and in the GOA; potential to increase fire hazard where the State or Federal agencies will not fight fires because of the possibility of encountering unexploded ordnance or other materials that could pose a hazard.	Fox 3/Paxon MOA RLOD BAX RA Expand R-2202 RA JAGIC Missile Live-Fire
39.	Potential for increased military aircraft operations to cause increases in chaff residue, fuel dumping or hazardous waste spills and debris from aircraft crashes.	Fox 3/Paxon MOA RLOD BAX RA Expand R-2202 RA NJT UAV Access JAGIC Missile Live-Fire JPADS
40.	Potential for expanding areas with hazardous residues from use of munitions, and indirect effect on water resources	RLOD BAX RA Expand R-2202 RA JAGIC ISBs
41.	Potential for proposed actions to pollute subsistence habitat or induce toxic substances into food chain.	Fox 3/Paxon MOA RLOD BAX RA Expand R-2202 RA JAGIC Ground Maneuver TFTA Access ISBs Missile Live-Fire
	Biological Resources	
42.	Potential for proposed actions to impact wetlands and riparian areas, including fens, emergent wetlands, ponds, sloughs, watercourses, and scrub-shrub wetlands.	RLOD BAX RA Expand R-2202 JAGIC TFTA Access Ground Maneuver ISBs JPADS
43.	Potential impact on State's ability to monitor game and wildlife populations, movement corridors, and provide predator control and aerial surveys.	Fox 3/Paxon MOA RLOD UAV Access
44.	Potential impacts from proposed actions to sensitive ecological factors, such as habitat quality, calving areas, rutting areas, sensitive aquatic areas, and migration routes for both mammals and birds; and potential impacts on species from noise, low-level flights, startle effects, and sonic booms, particularly calving caribou/moose, the Nelchina caribou herd, Pacific, Copper River red, and king salmon (egg shock mortality), milking cows, egg-laying chickens and bird hatchings, migratory bird breeding grounds and migration routes for both mammals and birds, trumpeter swan nesting areas, the double-crested cormorant, birds-of-prey, including peregrine falcon aeries, bald eagle nests, etc., short-tailed albatross, sea life, grizzly and black bear, and others.	All proposed actions

Table 1-8. Summary of Key Issues by Resource *(Continued)*

	Issue	Applies to EIS Proposal
	Biological Resources (continued)	
45.	Potential impact of the proposed Realistic Live Ordnance Delivery on game management unit 20A, which is mandated for intense management by Alaska Legislature specifically the management of moose for maximum sustained yield (food).	RLOD
	Cultural Resources	
46.	Impacts on archaeological resources, areas or districts; cultural landscapes; architectural resources, including National Register of Historic Places listings and historic placer mines; and Alaska Native cultural and traditional resources.	JAGIC Ground Maneuver TFTA Access ISBs Missile Live-Fire JPADS
	Land Use	
47.	Proposed military operations potentially impacting remote and pristine characteristics of wilderness areas, Wild and Scenic River areas, and other specially designated areas.	Fox 3/Paxon MOA Ground Maneuver TFTA Access ISBs Missile Live-Fire JPADS
48.	Proposed airspace military operations potentially incompatible with the State and Federal land managers' ability to perform management activities and research as part of their authorized missions to manage lands for the public benefit and use.	Fox 3/Paxon MOA RLOD UAV Access
	Land Use – Public Access	
49.	Proposed military airspace operations potentially causing restrictions on citizens' ground access to public lands or impacting the quality of the citizens' experience in using the lands for hunting, flight-seeing, wild gathering, mining and development, and recreation due to land closures/restrictions or closures due to unexploded ordnance.	RLOD BAX RA Expand R-2202 RA TFTA Access Ground Maneuver JAGIC ISBs JPADS
50.	Proposed military airspace operations limiting air access to private lands and public lands for multiple recreational, hunting and productive uses that depend on this mode of access.	Fox 3/Paxon MOA RLOD BAX RA Expand R-2202 RA NJT UAV Access JAGIC Missile Live-Fire JPADS
51.	Potential indirect impact to communities and villages from proposed military airspace operations limiting essential airspace access to villages, potentially causing safety issues.	Fox 3/Paxon MOA RLOD BAX RA Expand R-2202 RA NJT UAV Access JAGIC Missile Live-Fire JPADS

Table 1-8. Summary of Key Issues by Resource *(Continued)*

	Issue	Applies to EIS Proposal
	Land Use (continued)	
52.	Potential impact from new roads and trails on the environment, surrounding land use, wild and scenic areas, and lands previously inaccessible.	TFTA Access Ground Maneuver ISBs JPADS
	Land Use – Recreation	
53.	Proposed military operations and subsequent safety risks, change to the environment, and increases in noise levels and air traffic potentially incompatible with Alaskan's use of these lands, specifically recreation, hunting, subsistence, private air traffic, private commercial air traffic, climbing, hiking, mining, fishing, off-road recreation, snow machining, dog mushing, skijoring, winter climbing, backcountry skiing, trapping, exploring, skiing, boating in rivers and maritime, camping, floating bird/raptor watching.	Fox 3/Paxon MOA BAX RA Expand R-2202 RA Ground Maneuver TFTA Access ISBs JPADS
54.	Proposed military airspace expansion potentially incompatible with nationally designated recreation areas, Federal campgrounds, and designated public use areas due to noise impacts.	Fox 3/Paxon MOA NJT
55.	Potential impacts on hunting and hunting camps due to the potential timing of the proposals to interfere with hunting seasons, the quality of hunting experience or restricting access where heavily utilized; potential impacts on game populations from the scattering of herds, low-birth rates, and startle effects from proposed actions.	Fox 3/Paxon MOA RLOD BAX RA Expand R-2202 RA UAV Access TFTA Access Ground Maneuver ISBs Missile Live-Fire
56.	Proposed military airspace operations potentially causing air pollution and impacting views of Mount McKinley and clear skies that contribute to the scenic and pristine qualities of specially designated areas.	Fox 3/Paxon MOA
	Infrastructure and Transportation	
57.	Potential impact from the proposed military operations on the regional transportation infrastructure including access, quantity, and the quality of the roads and the funds and resources required to maintain the routes.	TFTA Access
58.	Potential impact from the proposed military operations on civilian aviation access and transport of residents, tourist companies, backcountry users, campers, hunters, fishers, and recreational flyers.	Fox 3/Paxon MOA BAX RA Expand R-2202 RA NJT UAV Access JAGIC Missile Live-Fire JPADS
59.	Potential impact of proposed military operations on other new proposed projects, including dams and bridges and on communication systems, such as radios, cellular phones, television, etc.	All proposed actions
60.	Potential impact from the proposed military operations to transportation along waterways by boat, particularly in the ocean.	All proposed actions
	Socioeconomics	
61.	Positive or negative impacts on the economy and local development from the proposed actions.	All proposed actions
62.	Potential impact from proposed actions on subsistence hunting and sustenance.	All proposed actions
63.	Population and demographic impacts from proposed military operations.	All proposed actions

Table 1-8. Summary of Key Issues by Resource *(Continued)*

	Issue	Applies to EIS Proposal
	Socioeconomics (continued)	
64.	Potential for disruption from proposed airspace operations to resident population's personal freedoms, access to homes and recreation areas, quality of life, including desire for solitude, peace and quiet, and wilderness experience.	All proposed actions
65.	Impacts on property values from proposed military operations.	All proposed actions
66.	Potential impact from proposed actions on intrinsic qualities of the state that support tourism and local business and commerce, including the fishing industry, hunting, fishing and adventure guides and flight-seeing.	All proposed actions
67.	Potential impact from proposed military airspace operations to businesses dependent on air travel, such as mining and hunting, fishing and adventure guides and flight-seeing.	Fox 3/Paxon MOA BAX RA Expand R-2202 RA NJT UAV Access JAGIC Missile Live-Fire JPADS
	Subsistence	
68.	Proposed military operations potentially restricting subsistence hunting and harvesting by limiting access by air or surface.	All proposed actions
69.	Potential of proposed NJT to impact subsistence hunters and hunting.	NJT
70.	Potential conflict between military operations with subsistence hunting due to the potential timing of the military operations in the fall, impacts on game populations from the scattering of herds, low-birth rates, and noise startle effects or pollution.	All proposed actions
	Environmental Justice	
71.	Potential for disproportionately high and adverse human health or environmental effects on low-income populations, minorities, and children associated with airspace management, noise, safety, pollution, land use/access, socioeconomic, and subsistence impacts due to proposed military operations.	All proposed actions

Key: AGL=above ground level; MOA=Military Operations Area; $PM_{2.5}$=particulate matter 2.5 microns or less in diameter; RNAV=Area Navigation; UXO=unexploded ordnance; VFR=Visual Flight Rule.

Abbreviation	**Proposed Action**
Fox 3/Paxon MOA	Fox 3 MOA Expansion and New Paxon MOA
RLOD	Realistic Live Ordnance Delivery
BAX RA	Battle Area Complex (BAX) Restricted Area Addition
Expand R-2205 RA	Digital Multi-Purpose Training Range (Expand R-2205) Restricted Area
NJT	Night Joint Training
UAV Access	Unmanned Aerial Vehicle (UAV) Access
TFTA Access	Tanana Flats Training Area (TFTA) Roadway Access
Ground Maneuver	Enhanced Access to Ground Maneuver Space
JAGIC	Joint Air–Ground Integration Complex
ISBs	Intermediate Staging Bases
Missile Live-Fire	Missile Live-Fire for AIM-9 and AIM-120 in the Gulf of Alaska
JPADS	Joint Precision Airdrop System Drop Zones

Table 1-9 provides the number of scoping comments made for each proposal by the resource or impact area.

Table 1-9. Scoping Comments by Proposed Action and EIS Topic Area

EIS Topic	Number of Comments by JPARC Proposed Actions											
	General	Fox 3/ Paxon	Realistic Live Ordnance Delivery	JCALF	UAV Corridors	Night Joint Train-ing	Proposed Missile Live-Fire	Enhanced Ground Maneuver Space Access	JAGIC	ISBs	JPADS	Total
Proposed Action and Alternative(s)	248+	31	33	14	34	17	16	11	3	9	3	**419+**
Purpose and Need	21	20	0	0	3	2	1	3	2	3	0	**55**
Suggested New Alternative(s)	82+	61+	4	1	16	1	0	3	1	2	0	**171+**
Airspace Management and Use	136+	286+	3	15	51+	6	0	0	0	0	0	**497+**
Noise	51+	115+	1	1	1	7	2	0	0	0	0	**178+**
Health, Safety, and Security	75+	107	7	9	13	2	2	0	0	1	0	**216+**
Air Quality	4	2	1	0	0	0	0	0	0	0	0	**7**
Terrestrial Resources	1	1	0	0	0	0	0	0	0	0	0	**2**
Water Resources	2	2	0	0	0	0	0	0	0	0	0	**4**
Hazardous Materials and Waste (HTRW, Munitions, Solid Waste, Regulatory Programs)	39	2	4	0	0	0	2	1	0	0	0	**48**
Biological Resources	77+	133+	3	2	2	3	5	1	0	0	0	**226+**
Cultural Resources	3	2	1	0	0	0	0	0	0	0	0	**6**
Land Use	180+	261+	4	1	1	4	2	6	0	0	1	**460+**
Infrastructure and Transportation	18	5	0	0	0	0	1	0	0	0	0	**24**
Socioeconomics	68+	86	1	0	7	0	1	1	0	0	0	**164+**
Environmental Justice and Risks to Children	2	1	0	0	2	0	0	0	0	0	0	**5**
Other	87+	0	0	0	0	0	0	0	0	0	0	**87+**
Total	**1,094+**	**1,115+**	**62**	**43**	**130+**	**42**	**32**	**26**	**6**	**15**	**4**	**2,569**

Key: EIS=environmental impact statement; HTRW=hazardous, toxic, and radioactive waste; ISB=Intermediate Staging Base; JAGIC=Joint Air–Ground Integration Complex; JCALF=Joint Combined Arms Live Fire; JPADS=Joint Precision Airdrop System; UAV=unmanned aerial vehicle; + = there were at least this many scoping comments pertaining to this EIS topic area for this proposed action.

1.6.8 Draft EIS Public Comment Process

NEPA requires a minimum 45-day draft EIS review process. For this project, the draft EIS review process lasted just over a 100 days. The process began with EPA's publication of its weekly notice of receipt of draft EIS in the *Federal Register* on March 30, 2012. A Notice of Availability of the draft EIS and the associated public hearings was published in the *Federal Register* on March 30, 2012, and in April, notices were placed in six newspapers: *Anchorage Daily News, Alaska Star, Copper River Record, Fairbanks Daily News-Miner, Delta Wind, and The Frontiersman*. Notification was also provided in March and April, through the project website (www.jparceis.com), press releases, public service announcements, posted fliers in surrounding communities, and letters or mailers sent to entities on the project mailing list. ALCOM distributed either a hard copy or a compact disc of the draft EIS to individuals who requested a copy and to agencies and library repositories throughout the State of Alaska. Through these notifications and public hearings, ALCOM requested the public, agencies, and interested stakeholders to provide oral or written comments on the draft EIS.

Formal public hearings were held May 11 through 23, in the middle of the public draft EIS review period. The closing date for the draft EIS review period was June 7, 2012. After receiving comments requesting an extension of the comment period, ALCOM extended the comment period to July 9, 2012, six weeks beyond the original timeline. Table 1-10 outlines the public hearings and the number of attendees and verbal and written comments presented.

ALCOM's intent for the draft EIS review process was to provide the public and government entities with a copy of the draft EIS, a forum to learn more about the draft EIS, and ample opportunity to comment on the draft EIS. Air Force and Army representatives explained why the JPARC proposals are necessary, described the proposed alternatives, summarized the NEPA process, and provided a tentative schedule of milestones. Through handouts and notification materials, ALCOM clarified that comments should be submitted at the public hearings; to ALCOM Public Affairs, 9480 Pease Avenue, Suite 120, JBER, Alaska 99506; via phone at 907–552–2341; or via the EIS website at www.jparceis.com.

ALCOM made clear that public comments received by the close of the comment period would be responded to in the final EIS and considered during final EIS preparations.

Table 1-10. Public Hearings

Date/Time	Location	Number of Attendees Checking in at Sign-in Table	Number of Written Comments Submitted	Number of Public Testimonies	Number of Persons Testifying
Friday, May 11, 2012 5:00–9:00 p.m.	University of Alaska, Anchorage, Lucy Cuddy Hall Anchorage, AK	15	0	4	3
Monday, May 14, 2012 5:00–9:00 p.m.	Palmer Community Center (The Railroad Depot) Palmer, AK	24	2	16	12
Tuesday, May 15, 2012 5:00–9:00 p.m.	Lake Louise Lodge Glennallen, AK	10	0	0	0
Wednesday, May 16, 2012 5:00–9:00 p.m.	Caribou Hotel Glennallen, AK	15	1	4	4
Thursday, May 17, 2012 5:00–9:00 p.m.	Paxson Lodge Paxson, AK	13	0	11	9
Friday, May 18, 2012 5:00–9:00 p.m.	Alaskan Steakhouse and Motel Delta Junction, AK	20	3	7	6
Saturday, May 19, 2012 10:00 a.m.–2:00 p.m.	University of Alaska Fairbanks, William R. Wood Center Fairbanks, AK	21	1	10	8
Saturday, May 19, 2012 4:00–8:00 p.m.	Univ. of Alaska Fairbanks, William R. Wood Center Fairbanks, AK	14	0	3	2
Monday, May 21, 2012 5:00–9:00 p.m.	Tri-Valley Community Center, Healy, AK	7	2	3	3
Tuesday, May 22, 2012 5:00–9:00 p.m.	Swiss Alaska Inn Talkeetna, AK	15	2	2	2
Wednesday, May 23, 2012 5:00–9:00 p.m.	Menard Memorial Sports Center Wasilla, AK	18	2	2	2
TOTALS		**172**	**13**	**62**	**51**

Key: AK=Alaska.

1.6.9 Final EIS Preparation

Preparation, coordination, approval, filing, and public notice of the final EIS are the same as the process undertaken for the draft EIS, except that the public need not be invited to comment during the 30-day post-filing waiting period in accordance with Army and Air Force NEPA-implementing regulations.

Once the draft EIS public comment period closed, the Army and Air Force conducted a thorough and rigorous review of all of the comments received on the draft EIS. A total of 269 comment submittals were received on the draft EIS. Each comment submittal was then broken out or "bracketed" into specific comments, which totaled 1,363 bracketed comments. The Army and Air Force reviewed and responded specifically to each comment in the final EIS. A more detailed summary of the draft EIS review process is contained in Appendix M, *Draft EIS Review Process and Public Hearing Summary*. Appendix N, *Draft EIS Comments and Responses*, contains copies of public and agency comments received during the draft EIS review process and responses to those comments.

The Army and Air Force filed the final EIS with the EPA on March 8, 2013. The EPA published its receipt of the final EIS in the *Federal Register* on March 15, 2013. The final EIS distribution process includes any individual, organization, or agency that submitted substantive comments on the draft EIS, or made a request to receive a copy of the final EIS during the draft EIS public review period. ALCOM provided copies of the final EIS to individuals or entities involved in the draft EIS review process, as applicable.

The notice of the final EIS was placed on the project website (www.jparceis.com) and notices were placed in the following newspapers: *Anchorage Daily News, Alaska Star, Copper River Record, Fairbanks Daily News-Miner, Delta Wind*, and *The Frontiersman*.

Upon publication of the notice for the final EIS, a 30-day waiting period took place between March 15, 2013, and April 15, 2013, before the Army and Air Force can take final action on the proposals. During the 30-day waiting period, in addition to the internal final review by the Army and Air Force, the public and other agencies or interested organizations were provided the ability to comment on the final EIS prior to any final action on the proposals by the Army and Air Force and their comments were considered in determining final decisions.

1.7 COMPARATIVE ANALYSIS OF ANTICIPATED ENVIRONMENTAL IMPACTS BY PROPOSAL AND RESOURCE AREA

Definitive and programmatic actions analyzed in this EIS are identified in Section 1.5.3.1 and 1.5.3.2. More detailed descriptions of these proposed actions and alternatives are provided in Chapter 2.0. Summarized potential impacts are shown below for each proposed action in each resource area analyzed in the EIS. For proposals with multiple alternatives, the table reflects the overall findings for the highest potential change for each of the resource topics. Specific details regarding significance determinations associated with the color ratings for each resource area are provided in Chapter 3.0. The respective sections where these determinations are discussed are listed in Table 1-11.

Table 1-12 through Table 1-17 summarize the impacts for each definitive proposal by resource or impact area and the mitigation measures developed by the Army and Air Force to avoid, reduce, or provide management actions to mitigate significant adverse impacts. In cases where a resource or impact area is not affected by the proposal, "No Effect" is stated in the table.

Table 1-11. Comparative Analysis of EIS Proposed Actions and Alternatives

Resource	Definitive Proposals						Programmatic Proposals*					
	Fox 3 MOA Expansion and New Paxon MOA	Realistic Live Ordnance Delivery	Battle Area Complex Restricted Area	Expand Restricted Area R-2205	Night Joint Training	Unmanned Aerial Vehicle Access	Enhanced Ground Maneuver Space	Tanana Flats Training Area Roadway Access	Joint Air-Ground Integration Complex	Inter-mediate Staging Bases	Missile Live Fire for AIM-9 and AIM-120 in the Gulf of Alaska	Joint Precision Airdrop System Drop Zones
	Section Number											
Airspace Management and Use	3.1.1[a]	3.2.1	3.3.1[a]	3.4.1	3.5.1	3.6.1[a]	3.7.1	3.8.1	3.9.1	3.10.1	3.11.1	3.12.1
Noise	3.1.2	3.2.2	3.3.2	3.4.2	3.5.2	3.6.2	3.7.2	3.8.2	3.9.2	3.10.2	3.11.2	3.12.2
Safety - Flight	3.1.3[a]	3.2.3	3.3.3[a]	3.4.3[a]	3.5.3[a]	3.6.3[a]	3.7.3	3.8.3	3.9.3	3.10.3	3.11.3	3.12.3
Safety - Ground	3.1.3	3.2.3[a]	3.3.3[a]	3.4.3[a]	3.5.3	3.6.3	3.7.3	3.8.3	3.9.3	3.10.3	3.11.3	3.12.3
Air Quality	3.1.4	3.2.4	3.3.4	3.4.4	3.5.4	3.6.4	3.7.4	3.8.4	3.9.4	3.10.4	3.11.4	3.12.4
Physical Resources – Soils/perma frost	3.1.5	3.2.5[a]	3.3.5	3.4.5	3.5.5	3.6.5	3.7.5	3.8.5	3.9.5	3.10.5	3.11.5	3.12.5
Water Resources	3.1.6	3.2.6[a]	3.3.6[a]	3.4.6	3.5.6	3.6.6	3.7.6	3.8.6	3.9.6	3.10.6	3.11.6	3.12.6
Floodplains	3.1.6	3.2.6	3.3.6	3.4.6	3.5.6	3.6.6	3.7.6	3.8.6	3.9.6	3.10.6	3.11.6	3.12.6
Hazardous Materials & Waste	3.1.7	3.2.7	3.3.7[a]	3.4.7[a]	3.5.7	3.6.7	3.7.7	3.8.7	3.9.7	3.10.7	3.11.7	3.12.7
Biological Resources	3.1.8[a]	3.2.8	3.3.8[a]	3.4.8[a]	3.5.8[a]	3.6.8	3.7.8	3.8.8	3.9.8	3.10.8	3.11.8	3.12.8
Wetlands	3.1.8	3.2.8	3.3.8	3.4.8	3.5.8	3.6.8	3.7.8	3.8.8	3.9.8	3.10.8	3.11.8	3.12.8
Cultural Resources	3.1.9	3.2.9	3.3.9[a]	3.4.9[a]	3.5.9	3.6.9	3.7.9	3.8.9	3.9.9	3.10.9	3.11.9	3.12.9
Land Use – Land Management and Use	3.1.10[a]	3.2.10[a]	3.3.10[a]	3.4.10[a]	3.5.10[a]	3.6.10	3.7.10	3.8.10	3.9.10	3.10.10	3.11.10	3.12.10
Land Use – Public Access	3.1.10[a]	3.2.10[a]	3.3.10[a]	3.4.10	3.5.10[a]	3.6.10	3.7.10	3.8.10	3.9.10	3.10.10	3.11.10	3.12.10
Land Use – Recreation	3.1.10[a]	3.2.10[a]	3.3.10	3.4.10	3.5.10[a]	3.6.10	3.7.10	3.8.10	3.9.10	3.10.10	3.11.10	3.12.10
Infrastructure and Transportation	3.1.11	3.2.11	3.3.11	3.5.11	3.5.11	3.6.11	3.7.11	3.8.11	3.9.11	3.10.11	3.11.11	3.12.11
Socioeconomics	3.1.12[a]	3.2.12[a]	3.3.12[a]	3.4.12	3.5.12[a]	3.6.12	3.7.12	3.8.12	3.9.12	3.10.12	3.11.12	3.12.12
Subsistence	3.1.13[a]	3.2.13	3.3.13[a]	3.4.13[a]	3.5.13	3.6.13[a]	3.7.13	3.8.13	3.9.13	3.10.13	3.11.13	3.12.13
Environmental Justice	3.1.14	3.2.14	3.3.14	3.4.14	3.5.14	3.6.14	3.7.14	3.8.14	3.9.14	3.10.14	3.11.14	3.12.14

COLOR KEY:

No beneficial or adverse impact.	Section includes proposed management actions.
Potential for adverse impact, but not significant; may require management actions or mitigations to avoid or reduce impacts.	Section includes proposed management actions/mitigations.
Potential for significant adverse impacts; requires management actions or mitigations to avoid or reduce impacts.	Section includes proposed management actions/mitigations.

***** Analysis is based upon available data. Actual impacts have not been evaluated and mitigations have not been identified for Programmatic proposals.

a. Mitigations and/or management actions are proposed for this resource area under this proposal.

Table 1-12. Summary of Impacts for Fox 3 MOA Expansion and New Paxon MOA

Resource Area	Alternative A	Alternative E (Preferred Alternative)	No Action Alternative
Airspace Management and Use	The annual number of aircraft sortie-operations would not increase significantly above baseline levels for both MFEs and other routine training. This baseline is inclusive of up to six annual MFEs, routine training operations, and the recent basing of six additional F-22s concurrent with the drawdown of F-15 aircraft at JBER. With the expanded Fox 3 MOA being closer to JBER, it is estimated that about half of the current Stony MOA fighter sorties would be conducted in the Fox 3 MOA/ATCAA if this proposal is implemented. With no significant increase in representative operational levels in this airspace, the higher density MFE aircraft sorties would be dispersed over a greater area on a daily basis than what currently occurs. The extent of airspace impacts would depend on the daily use of the expanded Fox 3 and new Paxon MOAs. (See Table 2-2). May have moderate to significant impacts on airway IFR traffic and/or the airspace used by Anchorage ARTCC and/or Fairbanks TRACON. The FAA has expressed concerns that the Paxon MOA, when active, would result in the closure of three airways (V481, V515, and V444) forcing small or low flying aircraft to fly VFR between Gulkana/Northway to Delta Junction/Fairbanks. May have minimal to moderate impacts on jet/RNAV routes.	Impacts are the same as Alternative A, with the following exceptions: The area of potential impact would be reduced by approximately 1.16 million acres. The federal airways to the west and south of the existing/proposed Fox 3 boundaries should be sufficiently distant and separated from those airways so as to have minimal effects on their use. The more northerly proposed boundary should also not have impacts on the terminal airspace used by the FAA to separate and sequence airport air traffic through this area. The adjusted Fox 3 MOA boundary proposed for this alternative is sufficiently distant from the jet routes in Alternative A. This alternative would have minimal impacts on the jet/RNAV route structure in this region. The southern boundary of this proposed MOA would be more distant from those areas between Glennallen and Anchorage where much of the VFR traffic typically operates and would be unaffected by this alternative. This alternative would be more distant from public airports and private airfields that would be potentially affected by the Alternative A.	This alternative proposes no changes to the current boundaries and altitudes of the existing Fox 3 MOA. As no significant increases in the current military flight operations are projected for the future, the No Action Alternative would not affect the current military and civil aviation airspace uses within the region and would remain as under current conditions.

Table 1-12. Summary of Impacts for Fox 3 MOA Expansion and New Paxon MOA *(Continued)*

Resource Area	Alternative A	Alternative E (Preferred Alternative)	No Action Alternative
	The potential for interactions between military and VFR aircraft would depend on the daily densities, time frames, altitudes, and locations of both the military and VFR aircraft operations. Expanding the airspace for this proposal with much lower altitudes would require increased vigilance by both military and civilian pilots to maintain continued awareness of each other's presence while sharing this MOA airspace when it is in use.		
Noise	Subsonic aircraft noise levels beneath the Paxon MOA/ATCAA would increase from 37 to 54 dB $L_{dnmr,}$ which is below levels of concern established by EPA for any land use. Decreasing altitudes would result in increased individual overflight noise events. Increases in noise levels in areas not currently overlain by MOAs would be greater than 10 dB and would be expected to be easily noticeable, because the ambient noise level in the ROI is low. The average number of sonic booms per day near the center of the Fox 3 MOA/ATCAA airspace would increase by less than one per day from 4.6 per day to 5.2. The intensity of the proposed noise levels does not exceed widely accepted impact thresholds, below which significant noise impacts do not typically occur. The context and degree of change are such that the change would be easily noticed and be expected to be considered significant by a substantial percentage of the affected	The area of potential impact would be reduced by approximately 1.16 million acres. Beneath Fox 3 MOA/ATCAA, subsonic noise levels would increase from 39 to 50 dB L_{dnmr}. Noise levels beneath Paxon MOA/ATCAA would increase from 37 to 54 dB L_{dnmr}. Increases in supersonic noise levels would be the same as for Alternative A.	No change in noise levels would occur and they would remain as under current existing conditions.

Table 1-12. Summary of Impacts for Fox 3 MOA Expansion and New Paxon MOA *(Continued)*

Resource Area	Alternative A	Alternative E (Preferred Alternative)	No Action Alternative
	population. The risk of hearing loss associated with proposed training operations would be negligible.		
Flight Safety	MFEs and routine training would only be conducted at the lower altitudes in the Fox 3 MOA; they would be limited to 14,000 feet MSL and above in the proposed Paxon MOA. The potential for aircraft mishaps under this alternative would be low to moderate. The number of flying days/hours by both MFE and routine training activities are not projected to increase significantly over current levels. The probability of an aircraft crash into a populated area is low, given the very low population density in the proposed airspace. The potential for near misses or midair collisions between VFR aircraft and low-altitude, high-speed military aircraft would be moderate to significant. No midair collisions and few reported near misses have occurred within the existing JPARC airspace. The potential for bird/wildlife-aircraft strikes would be low to moderate and the existing Air Force BASH programs and procedures would include consideration of additional means for monitoring and reacting to heightened risks of bird strikes.	The potential for aircraft mishaps and bird/wildlife-aircraft strikes would be generally the same as discussed for Alternative A. The area of potential impact would be reduced by approximately 1.16 million acres.	The No Action Alternative would involve continuation of those plans, procedures, and processes currently used for minimizing flight safety risks for all flight activities within the existing airspace.

Table 1-12. Summary of Impacts for Fox 3 MOA Expansion and New Paxon MOA *(Continued)*

Resource Area	Alternative A	Alternative E (Preferred Alternative)	No Action Alternative
Ground Safety	Significant impact potential caused by the use of chaff and flare during flight training activities is considered to be low.	Same as Alternative A. The area of potential impact would be reduced by approximately 1.16 million acres.	The No Action Alternative would involve continuation of those plans, procedures, and processes currently used for minimizing ground safety risks for all flight activities within the existing airspace.
Air Quality	The use of chaff would not result in significant air quality impacts. Criteria pollutant emissions resulting from flight operations would not exceed applicable PSD significance thresholds of 250 tons per year, resulting in less-than-significant adverse air quality impacts. (See Table 3-8.) Given that the project region is in attainment of all NAAQS, a conformity determination is not necessary. Significant impacts on public health from HAPs emitted in association with aircraft operations would not occur. Significant impacts to Denali National Park would not occur.	Same as Alternative A. The area of potential impact would be reduced by approximately 1.16 million acres.	Air quality impacts under the No Action Alternative would not differ from air quality impacts generated under existing operations at the Fox 3 and Stony MOAs and would not result in any additional air quality impacts.
Physical Resources	No Effect		
Water Resources	No Effect		
Hazardous Materials and Waste	There would not be an increase in chaff and flare use within the overall airspace and would be redistributed over a larger expanse of airspace. The use of temporary dry targets for practice bombing without the actual release of ordnance would not result in significant adverse impacts.	Same as Alternative A. The area of potential impact would be reduced by approximately 1.16 million acres.	Under the No Action Alternative, there would be no addition to the current Fox 3 MOA configuration and no new Paxon MOA. Therefore, hazardous materials-related impacts would be the same as those occurring under existing conditions; no additional impacts would occur.

Table 1-12. Summary of Impacts for Fox 3 MOA Expansion and New Paxon MOA *(Continued)*

Resource Area	Alternative A	Alternative E (Preferred Alternative)	No Action Alternative
Biological Resources	Wildlife species would be exposed to overflight by military aircraft flying as low as 500 feet AGL, potentially causing altered behavior or metabolic effects. Wildlife responses diminish with increasing altitude of overflight or increasing slant distance. Reported wildlife responses to overflight are largely behavioral and short-term. Some short-term physiological changes (e.g., increased heart rate) have also been measured. Studies of waterfowl, songbirds and raptors, including bald and golden eagles, vary in their responses to military jet overflight, but documented responses have been limited to short-term behavioral responses and no effects that would be measurable at a population level have been documented. Fish in their native habitat would not be affected at the sound levels associated with military aircraft overflight as low as 500 feet AGL. Potentially sensitive areas such as the Gulkana hatchery, which is the largest sockeye salmon hatchery in the world (PWSAC 2012), could be affected by overflight noise, especially during the incubation period when the eggs are extremely susceptible to any type of noise or shock. For wildlife not previously exposed to sonic booms some short-term behavioral responses	Same as Alternative A. The area of potential impact would be reduced by approximately 1.16 million acres.	Under the No Action Alternative, the horizontal and vertical boundaries of the existing Fox 3 MOA would remain the same and training would be expected to continue as permitted within the existing MOA. Wildlife resources would remain as they currently exist.

Table 1-12. Summary of Impacts for Fox 3 MOA Expansion and New Paxon MOA *(Continued)*

Resource Area	Alternative A	Alternative E (Preferred Alternative)	No Action Alternative
	may be observed but would not result in any population-level effects. Chaff and flare use would not impact wildlife resources to any significant degree.		
Cultural Resources	As with previous analyses for existing Alaska MOAs (Air Force 1997-1), no significant impacts are anticipated to cultural resources from the expansion of current Fox 3 MOA boundaries, the addition of a new MOA, and their use for flight training. No significant impacts on traditional cultural resources or Alaska Native activities are anticipated to result from the proposed expansion of Fox 3 MOA boundaries and the creation of the new Paxon MOA.	Same as Alternative A. The area of potential impact would be reduced by approximately 1.16 million acres.	Under the No Action Alternative there would be no changes to the existing Fox 3 MOA and no new Paxon MOA. Existing use of the MOA would continue under this alternative, and cultural and traditional resources would continue to be managed in compliance with Federal law and Air Force regulations.
Land Use	This proposal alternative would have no impact on land status or ownership. Subsonic noise levels in the underlying areas would increase substantially by about 17 dB under the new Paxon MOA and by about 10 dB under existing Fox 3 and the Fox 3 expansion area. However, the highest projected level under the new Paxon MOA, 54 dB L_{dnmr}, is below levels of concern established by EPA for any land use. Overall, changes to quiet settings could constitute an effect on valued natural and pristine areas in the region, but would not be expected to change the land use of the area but could be annoying to individuals who experience a startling event. Minimal impact on land use from chaff and flare use is expected.	Same as Alternative A. The area of potential impact would be reduced by approximately 1.16 million acres.	There would be no changes to the current Fox 3 MOA configuration and altitudes or proposed addition of the Paxon MOA under the No Action Alternative. Therefore, no additional impacts on land use, public access, or recreation would occur.

Table 1-12. Summary of Impacts for Fox 3 MOA Expansion and New Paxon MOA *(Continued)*

Resource Area	Alternative A	Alternative E (Preferred Alternative)	No Action Alternative
	Ground access and travel is not affected by this proposal. Indirect effects of changes in civilian air access could affect access to specific communities and areas and associated uses and activities. No direct spatial or temporal impacts on availability of recreational opportunities would occur under this alternative. Indirect effects of changes in civilian air access could affect spatial and temporal availability to specific areas, and associated recreational sites and trails.		
Infrastructure & Transportation	No Effect		
Socioeconomics	The major concerns for socioeconomic resources associated with the proposed action, as identified by scoping and draft EIS public review comments, are potential impacts to property values and commercial and general aviation. Impacts on key industries such as energy development and mining are expected to be low. Potential civil aviation impacts may include significantly increased flight distances and increased flight time and either pilots elect not to transit the MOAs, or pilots flying to and from private airports or airfields are directed by ATC to divert their flight routes to avoid the active airspace and military activities. These potential aviation impacts would result in economic impacts due to additional operating costs (primarily related to increased fuel use) associated with	The area of potential impact would be reduced by approximately 1.16 million acres. Alternative E avoids the area near Lake Louise and there are fewer persons identified overall under the airspace and thus fewer persons who could be potentially impacted under this alternative. Commercial and general aviation would remain similar to those as described under Alternative A but at a reduced amount of affected airspace, as noted above.	Existing activities in the Fox 3 MOA would continue under the current procedures and guidelines. Therefore, no changes to socioeconomic resources from current existing conditions are expected.

Table 1-12. Summary of Impacts for Fox 3 MOA Expansion and New Paxon MOA *(Continued)*

Resource Area	Alternative A	Alternative E (Preferred Alternative)	No Action Alternative
	avoiding active airspace, and the costs of any expended efforts in tracking the airspace status through available advisory services. Under Alternative A, there are approximately 206 persons in the census block that has been defined under the restricted airspace. The low population density under the proposed low-level airspace makes it highly unlikely that noise from flight activity would have significant social or economic impacts on the region.		
Subsistence	The expansion of the Fox 3 MOAs and the establishment of the Paxon MOA would not restrict ground access to traditional use areas or hunting locations beneath the new airspace. Subsistence users would have the same access and availability to subsistence resources from the ground as under current conditions. The new and expanded airspace, however, may result in a restriction of access by aircraft to areas or landing fields below or in the vicinity of the airspace. Aircraft are often used in the subsistence harvests, particularly for times of year in which traditional use areas are not accessible by ground vehicles. Wildlife surveys are factored into the impact assessment, as they are conducted by aircraft to gauge populations and health, information that is then taken into consideration when the ADFG determines subsistence priorities and the amount of takes permitted.	Same as Alternative A. The area of potential impact would be reduced by approximately 1.16 million acres.	Civil aviation would be permitted under current guidelines and wildlife/vegetation species would be affected by existing subsistence conditions, therefore, subsistence resources and access to those resources would be the same as under current existing conditions.

Table 1-12. Summary of Impacts for Fox 3 MOA Expansion and New Paxon MOA *(Continued)*

Resource Area	Alternative A	Alternative E (Preferred Alternative)	No Action Alternative
	Noise and residual materials from chaff and flares also have the potential to affect the wildlife and vegetation resources harvested by subsistence users but not to a significant adverse degree.		
Environmental Justice	Impacts from airspace management, noise, flight safety, socioeconomics, and subsistence were assessed for environmental justice in accordance with EO 12898. It was determined they would not create disproportionate adverse effects on minority and low-income populations or children.	Same as Alternative A. The area of potential impact would be reduced by approximately 1.16 million acres.	There would be no additional disproportionately high and adverse effects on minority and low-income populations or children from the No Action Alternative. The Fox 3 MOA would remain as currently configured.

MITIGATION MEASURES:

- **Special Use Airspace Information System (Airspace Management; Safety-Flight; Land Use-Access)**
  Continue SUAIS in all areas where radio coverage exists; this includes a majority of the area beneath the proposed Fox 3 and Paxon MOAs. The SUAIS Letter of Agreement with the FAA will be updated to include current radio sites and any new MOAs to be covered by the system.
- **Eagle and Migratory Bird Avoidance (Biological Resources)**
  Limit minimum altitude to 1,000 feet AGL in the new Fox 3 and Paxon MOAs from March 15 to September 30 (nesting season) to comply with the Bald and Golden Eagle Protection Act. Subject to available funding, the Air Force may coordinate with USFWS to establish habitat models and/or conduct bald and golden eagle nest surveys to establish low flying (500 feet AGL) areas outside of eagle habitat during the nesting season (March 15 to September 30).
- **Wildlife Avoidance (Biological Resources)**
  Modify existing Letter of Agreement with ADFG to maintain avoidance areas over caribou and Dall sheep populations under the new MOAs during critical lifecycle periods. Coordination with wildlife agencies will continue to determine specifics, including seasons and minimum overflight altitudes; location of herds is monitored/reported by ADFG.
- **VFR Flight Corridors (Airspace management; Safety-Flight; Biological Resources; Land Use-Management, Access, Recreation; Socioeconomics; Subsistence)**
  Expand the VFR flight corridor over the Richardson Highway between Delta Junction and Glennallen to include the highway segment under the new Paxon MOA. The corridor will be 3 miles on either side of the Richardson Highway and up to 4,500 feet MSL. (The MOA would go to 5,000 feet MSL in the corridor to allow a 500-foot buffer).
- **National Wild and Scenic Rivers Protection (Biological Resources; Land Use-Management, Recreation)**
  For the period of May 15 to September 30, expand the Gulkana (west, middle, and north forks) and Delta National Wild and Scenic Rivers' (and others, as designated) Flight Avoidance Areas to include portions within new MOA boundaries using a 5-nautical mile buffer either side of the river centerline with 5,000 feet MSL minimum altitude. The river corridors will include their headwater lakes areas (Tangle Lakes and Dickey Lake).

Table 1-12. Summary of Impacts for Fox 3 MOA Expansion and New Paxon MOA *(Continued)*

Resource Area	Alternative A	Alternative E (Preferred Alternative)	No Action Alternative
• **Concentrated Activity Areas (Land Use-Management, Recreation; Socioeconomics)** Comply with flight avoidance areas established by the 11th Air Force Airspace and Range Team and listed in the 11th Air Force Airspace Handbook. Areas not specified by the ROD may be added, increased, decreased, or removed by the 11th Air Force Airspace and Range team as situations dictate (e.g., a mine and its air operations cease to exist).			

Key: ADFG=Alaska Department of Fish and Game; AGL=above ground level; ARTCC=Air Route Traffic Control Center; ATC=Air Traffic Control; ATCAA=Air Traffic Control Assigned Airspace; BASH=bird/wildlife-aircraft strike hazard; dB=decibel; EIS=environmental impact statement; EO=Executive Order; EPA=U.S. Environmental Protection Agency; FAA=Federal Aviation Administration; HAP=hazardous air pollutant; IFR=Instrument Flight Rules; JBER=Joint Base Elmendorf-Richardson; combination of Elmendorf AFB and Fort Richardson; L_{dnmr}=onset rate–adjusted day-night average sound level; MFEs=major flying exercise; MOA=Military Operations Area; MSL=mean sea level; NAAQS=National Ambient Air Quality Standards; PSD=prevention of significant deterioration; RNAV=Area Navigation; ROI=region of influence; SUAIS=Special Use Airspace Information Service; TRACON=Terminal Radar Approach Control; VFR=Visual Flight Rules.

Table 1-13. Summary of Impacts for Realistic Live Ordnance Delivery

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
Airspace Management and Use	Use of R-2202B/C/D is not projected to increase significantly above current representative levels under this proposal since live ordnance deliveries would be conducted by those fighter aircraft types currently conducting other ordnance deliveries on the Oklahoma Impact Area. The proposed expansion of this restricted area would only be activated as needed. The scheduled and real-time status of this restricted airspace would be available on the SUAIS and other information sources. The extent to which this Alternative may impact civil aviation airspace use in the region of the expanded R-2202 would be minimal.	Alternative B contains all of the elements of Alternative A but would also include establishing a new restricted area to allow realistic munitions drops in both the Oklahoma and Blair Lakes Impact Areas. Only inert bombs would be dropped at Blair Lakes Impact Area under RLOD. When activated, this airspace would restrict other uses of the Eielson MOA not associated with the live ordnance delivery missions. The planned use of this airspace would require coordination among the other using agencies to schedule and prioritize their respective mission requirements for this SUA. When activated the restricted area would create a 130-NM "wall." This would provide the Air Force greater	The No Action Alternative would not result in any changes from existing conditions to the military and civil uses of this airspace environment.

Table 1-13. Summary of Impacts for Realistic Live Ordnance Delivery *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	The area proposed for the R-2202 expansion would have no direct impacts on VFR flyways. No public airports or private airfields are located within the immediate area of the proposed R-2202 expansion and others are sufficiently distant from this proposal so as not to be directly impacted.	flexibility to conduct live and inert delivery training and exercises. Restricted airspace linking the existing restricted areas would not permit civil aviation use of this airspace when activated for live ordnance deliveries. No public airports or private airfields are located within the immediate area of the proposed R-2202 expansion and others are sufficiently distant from this proposal so as not to be directly impacted.	
Noise	The number of sortie-operations conducted in R-2202 would not be expected to change, and aircraft noise levels would remain approximately the same as under baseline conditions. Sonic booms generated at these altitudes generally do not reach the ground due to atmospheric refraction and when they do intersect the ground are attenuated by the long distances travelled. The number of live GBU-32 (1,000-pound-class-bombs) dropped per year would be expected to increase from 70 to 200 while the number of SDBs dropped annually would remain the same as under baseline conditions. Noise levels exceeding 62 dB CDNL would not extend beyond the boundaries of DoD-owned land. The proposed incremental increase in munitions use at the geographically	Inert munitions generate noise on impact that is noticeable only in the immediate vicinity of the impact location. Noise impacts in the Blair Lakes Impact Area under Alternative B would be minimal, and munitions usage and noise impacts in the Oklahoma Impact Area would be the same as under Alternative A. Impacts are not expected to exceed the significance thresholds established for this action.	Under the No Action Alternative, restricted area airspace extents would remain as they are currently, and no changes to munitions usage would occur. There would be no change from existing conditions for noise under the No Action Alternative.

Table 1-13. Summary of Impacts for Realistic Live Ordnance Delivery *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	remote Oklahoma Impact Area would not result in noise impacts that would exceed significance thresholds established for this action.		
Flight Safety	The overall potential for any flight safety risks under this alternative would be low to moderate. Aircraft sortie-operations and the overall number of flying hours within the existing and proposed airspace would not increase significantly above current representative levels, therefore, the potential risk for increased aircraft mishaps, bird-aircraft strikes or near misses/midair collisions should also not increase.	The overall potential for any flight safety risks under this alternative would be low to moderate. The probability of any flight safety risks within this airspace, when active, would be relatively low, as discussed for Alternative A.	The No Action Alternative would involve maintaining the current use of this airspace as well as those plans, procedures, and processes in place for minimizing flight safety risks within the existing airspace.
Ground Safety	Existing procedures for range safety and control would continue to be implemented for proposed training activities in the Oklahoma Impact Area, as well as within land areas underlying the proposed expanded R-2202 airspace. For areas outside of the military land boundary, the Air Force would develop a Range Safety and Access Plan following the ROD for managing and ensuring public safety on non-military land. As required, training areas would be cleared of UXO or munitions debris to reduce related hazards and provide a safe and constructive training environment for all training units. Any cleared areas that become contaminated during live-fire	Existing procedures for range safety and control, as described under Alternative A, would be implemented for proposed activities in the existing targets at the Oklahoma and Blair Lakes Impact Areas, as well as within land areas underlying the proposed expanded R-2211 and R-2202 airspaces. Existing procedures for UXO and munitions safety, as described under Alternative A. There are no aspects of Alternative B associated with public access control not previously discussed under Alternative A. Consequently, significant impacts are not expected to occur. All fire management and response practices currently employed or	No change in ground operations would occur under the No Action Alternative; therefore, there would be no changes to existing conditions of public health and safety.

Table 1-13. Summary of Impacts for Realistic Live Ordnance Delivery *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	exercises/training would again be cleared when the exercise is completed. Current procedures designed to limit unauthorized public access would continue when ordnance delivery exercises are taking place. These procedures include marking prohibited areas with placards, blockades, verbal warnings, or red flags as appropriate. The Integrated Wildland Fire Management Plan would be updated to address training activities under Alternative A. Implementation of the measures listed above would minimize the potential for significant adverse impacts on the military and the general public.	proposed under Alternative A would be implemented. Consequently, significant impacts are not expected to occur.	
Air Quality	No changes will occur to aircraft operations in the affected area under Alternative A of this action. Thus, no analysis was performed on the air quality effects of aircraft operations in the region. Alternative A for the RLOD would result in an increase in GBU-32 expenditures in R-2205, which would result in an increase in criteria pollutant and HAP emissions. The low level of criteria pollutant emissions that would result provides a good indication that the HAP emissions would be minimal. Increases in criteria pollutant emissions from Alternative A would	Same as Alternative A.	Air quality impacts under the No Action Alternative would not differ from air quality impacts generated under existing operations at R-2202 and R-2211. Therefore, the No Action Alternative would not result in any new air quality changes from existing conditions.

Table 1-13. Summary of Impacts for Realistic Live Ordnance Delivery *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	not exceed applicable PSD significance thresholds of 250 tons per year. Therefore, the criteria pollutant emissions would result in less-than-significant air quality impacts. Impacts on air quality-related values at Denali National Park would be expected to be negligible.		
Physical Resources	The proposed additional use of ordnance represents a fraction of total yearly munitions use in the Oklahoma Impact Area, such that no significant adverse soil erosion impacts would occur. The proposed new targets in TAs 544 and 533 would be classified as temporary impact areas. Creation of new targets could result in short- and long-term soil erosion, as well as degradation of permafrost, including thermokarst features; therefore, there is potential for significant adverse impacts to occur without mitigations to avoid or reduce impacts, or the addition of BMPs and SOPs for these specific areas.	Impacts would be similar to those described for Alternative A.	Under the No Action Alternative, there would be no change to current activities at Blair Lakes Impact Area or the Oklahoma Impact Area and conditions would be the same as current existing conditions.
Water Resources	Impacts would be limited to the existing target arrays that currently undergo live-fire practice in the Oklahoma Impact Area. Water quality could be impacted by the metals and explosive fillers used in the ordnance. Iron, manganese, copper, molybdenum, lead, nickel and zinc are	Impacts would be similar to those described for Alternative A, including the addition of the Blair Lakes Impact Area which is designated as a nondudded range where only inert ordnance would be used.	There would be no change to water quality in association with munitions use under current existing conditions.

Table 1-13. Summary of Impacts for Realistic Live Ordnance Delivery *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	found in shell and various projectile components of the GBU-32 and SDBs. The increase in ordnance use is not expected to raise levels of metal concentrations to levels of concern; therefore, water quality impacts from metals deposited in the environment by exploded ordnance would be potentially adverse but not significant. The potential for net loss in wetland acreage would be minimal and potential impacts to wetlands would be adverse but not significant. Impacts on surface water and groundwater downstream of the proposed target arrays for inert ordnance delivery in TAs 533 and 534 would be minimal and not significant. The inert ordnance would not create significant craters; therefore impacts to wetlands would minimal and not significant.		
Hazardous Materials and Waste	No significant adverse general hazardous materials-related operational impacts would occur in association with this alternative, as current and future Army regulations and practices would be undertaken to meet compliance requirements. Low levels of zinc, copper, lead, and antimony were detected within impact areas and target berms where munitions were used. The metal concentrations were above the background but no samples in DTA	Impacts would be similar to those described for Alternative A, including the addition of the Blair Lakes Impact Area which is designated as a nondudded range where only inert ordnance would be used.	Under the No Action Alternative, there would be no expansion of the footprint, associated WDZ, and hazard areas for ordnance delivery or the use of ordnance requiring an expanded footprint. Therefore, no change to existing conditions would occur for hazardous materials and waste.

Table 1-13. Summary of Impacts for Realistic Live Ordnance Delivery *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	had values approaching levels of concern (USACE 2004-1). The Oklahoma Impact Area would be managed in accordance with current Federal, State of Alaska, Air Force, and Army regulations for the management, safe handling, and disposal of hazardous waste and materials associated with live and inert ordnance and UXO, as the result of aerial bombing exercises at each impact area. Therefore, Alternative A would result in the potential for adverse but not significant impacts. The proposed new targets in TAs 544 and 533 would be classified as temporary impact areas. There is no potential for adverse munitions-related hazardous materials impacts, as only inert ordnance delivery would be conducted.		
Biological Resources	The overflight and weapons release activities allowed by the proposed airspace modifications would not have substantial impacts on vegetation or wildlife. Under Alternative A, which includes the proposed establishment of new target areas outside the existing impact areas as part of the north-south ordnance delivery run-in headings, some potential exists for biological impacts at these new target sites. The target sites would be approximately 1 to 2 acres in extent and would be located within existing ordnance impact areas in DTA and TFTA. For	Same as Alternative A.	No changes to existing biological resource conditions are expected from implementation of the No Action Alternative.

Table 1-13. Summary of Impacts for Realistic Live Ordnance Delivery *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	north-south run-in headings, however, targets would be located within DTA-West, but outside of existing ordnance impact areas. Only inert ordnance would be used at these targets. The process would employ siting criteria to minimize impacts on wildlife and vegetation as well as appropriate NEPA review and documentation.		
Cultural Resources	Compliance with all requirements for Tribal consultation has been completed. No significant impacts are anticipated to cultural resources, traditional resources, or Alaska Native activities from the expansion of R-2202 and the proposed aerial ordnance delivery training use. The establishment of new target areas in TAs 533 and 544 is not anticipated to have impacts on cultural resources, as archaeological survey of the areas located no archaeological resources. In compliance with Section 106 of the NHPA, ALCOM, on behalf of the Air Force, completed consultation with the Alaska SHPO and determined that no historic properties will be affected by implementation of the proposed action.	No significant impacts are anticipated to cultural resources, traditional resources, or Alaska Native activities from the creation of a new restricted area linking R-2211 and R-2202 and its training use. The existing target array in the Oklahoma and the Blair Lakes Impact Areas would be used under Alternative B, and no significant impacts on cultural resources are anticipated.	Existing use of the existing restricted areas would continue as baseline conditions under this alternative and resources would continue to be managed in compliance with Federal law and DoD policy and regulations, regarding cultural resources, traditional resources, and Alaska Native activities.
Land Use	An increase of about 550 acres would be required for the proposed R-2202 restricted area expansion would affect Alaska State land only. Impulse noise levels of 62 dB CDNL would remain within the boundary of	Impacts on land use, public access, and recreation would be similar under Alternative B as those described for Alternative A. An increase of about 42,420 acres would be required for the proposed	Under the No Action Alternative, no expansion of SDZs or hazardous areas would result. There would be no change in munitions use or access to military or non-military areas. Therefore, no changes to existing land use, access or recreation conditions

Table 1-13. Summary of Impacts for Realistic Live Ordnance Delivery *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	the existing Oklahoma Impact Area on DTA-West. These noise levels are compatible with military training uses on military land. Areas exposed to peak noise levels exceeding 115 dB PK 15(met) extend beyond military land to the northeast of DTA-West. However, peak noise levels of 115 dB PK 15(met) already affect this area on a regular basis, and the change is relatively minor (less that 4 percent increase in non-military land), resulting in no adverse impact. Only minor impacts on non-military uses other than recreation on DTA-West would result. No public use would be permitted within WDZs when mission activities occur. Under Alternative A this would include about 163,630 acres of non-military land underlying the extended R-2202 airspace beyond the boundary of military land. Restricted access may cause an adverse impact on existing leases, permits, and claims on State land, limited in extent to the few entities that hold these property interests. A Range Safety and Management Plan detailing access control measures and roles and responsibilities would be prepared by the Air Force for ADNR approval following approval of the amended Special Use	restricted area expansion that would link R-2202 and R-2211 to include the addition of the Blair Lakes Impact Area. Reduced access to land under the WDZ during aerial ordnance delivery exercises would result in a significant adverse impact to surface access in the local area. Overall, RLOD Alternative B would have potentially significant adverse impacts on land use and real estate interests, public access, and recreation in the directly and indirectly affected areas. Selective mitigations could reduce these impacts to less than significant but would significantly more consultation and coordination with ADNR and their Special Use Designation application and public review process for public access control and limitation.	would occur.

Table 1-13. Summary of Impacts for Realistic Live Ordnance Delivery *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	Designation for the R-2202 expansion. Overall, implementation of RLOD Alternative A would have potentially significant adverse impacts on land use, recreation, and access on State lands, but consultation and coordination with ADNR and selected mitigations could reduce these to moderate levels.		
Infrastructure & Transportation	No adverse impacts to water, sewer or natural gas or transmission lines are anticipated. Although primary access arteries would not be adversely impacted, and rail access would see a net positive impact, improving transportation access would continue to remain an issue within the DTA and TFTA.	Under Alternative B, impacts discussed are identical to those presented under Alternative A, with the exception that the proposed 20-year vision for USARAK calls for improved access into TFTA (USARAK 2009-1).	No changes to existing infrastructure or transportation system conditions would occur under the No Action Alternative.
Socioeconomics	Existing commercial and residential uses in the area include: mining operations, recreation, subsistence, and aviation. Any access restrictions that would interrupt participation in these activities could result in additional costs from delays or rerouting, which, based on concerns expressed during the public scoping period and draft EIS public review, are anticipated to be significant without the implementation of mitigation measures. These would include such measures as notifying the public of the time and dates of ground access restrictions in advance and restricting military training during the most	Similar to Alternative A, potential economic impacts would be anticipated from a restriction in commercial and private access under Alternative B. Under Alternative B, the expanded restricted area would be significantly larger (e.g., 550 acres for Alternative A versus 42,420 acres for Alternative B) and thus, are anticipated to result in greater impacts than under Alternative A.	Under the No Action Alternative, there would be no expansion of the footprint, associated WDZ, and hazard areas for ordnance delivery, and no use of such ordnance as to require an expanded footprint. Therefore, no changes to existing socioeconomic resource conditions are expected under this alternative.

Table 1-13. Summary of Impacts for Realistic Live Ordnance Delivery *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	popular months (e.g., September) for recreation and subsistence harvesting, could lessen the likelihood of potential social and economic impacts.		
Subsistence	The RLOD proposed action would restrict ground access to areas currently available for subsistence harvesting by rural Alaska residents under Federal regulations. Potential impacts on civil aviation and airports in the vicinity of the proposed RLOD are a possibility. With measures adopted to avoid or reduce potential impacts from restricted ground access or restricted airspace, significant adverse impacts to subsistence resources as defined by the ANILCA would not occur.	Under Alternative B, the expanded restricted area would be significantly larger (e.g., 550 acres for Alternative A versus 42,420 acres for Alternative B) and thus, are anticipated to result in greater impacts than under Alternative A. With measures adopted to avoid or reduce potential impacts from restricted ground access or restricted airspace, significant adverse impacts to subsistence resources as defined by the ANILCA would not occur.	Under the No Action Alternative, no additional airspace or expansion of SDZs is proposed. Individuals participating in subsistence in the nearby communities of Healy Lake, Dot Lake, and Dry Creek would be able to access the areas in order to harvest subsistence resources as it is currently practiced.
Environmental Justice	Significant land use or socioeconomic impacts would not create disproportionately high and adverse environmental or health effects on minority and low-income populations or children.	Same as Alternative A.	There would be no additional disproportionately high and adverse environmental and health effects from existing conditions on minority and low-income populations or children from the No Action Alternative, because restricted airspace would remain as currently configured and no additional airspace or expansion of SDZs or other hazard zones is proposed.
MITIGATION MEASURES: • **State Land/Leasehold Avoidance (Land Use-Management, Access, Recreation; Socioeconomics)** Comply with ADNR comments to avoid leasehold properties in the north and south corners of the proposed restricted area by adjusting the borders of the Alternative A airspace. • **ADNR Compliance Items (Safety-Ground; Land Use-Management)**			

Table 1-13. Summary of Impacts for Realistic Live Ordnance Delivery *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	Air Force will provide support to ADNR throughout the Special Use Designation process. The Air Force will develop a CONOPS and an Access and Safety Plan for the exclusive use of State land to support RLOD. The Special Use Designation process will identify areas and dates of closure and will have to indicate which activities are affected. The Access Plan will provide the maximum public use to the ground evacuation areas, closing such areas for the minimum period of time necessary to conduct such operations. The Access Plan (updated annually) will identify areas and dates of closure and will indicate which activities are affected. It will describe roles and responsibilities for securing the area, ensuring it is evacuated, publishing and posting closure notices, signs, and other media to advertise and alert public of the hazards, times, and locations. • **Continued compliance with Army regulations on R-2202 (Physical Resources; Water Resources)** All applicable conservation, monitoring, and management procedures currently followed by USAG-FWA in the management of R-2202 will be applicable to the proposed action, including measures for the protection of soils and permafrost, including but not limited to, the Fort Wainwright INRMP and SWPPP and the monitoring guidelines of the ITAM Sustainable Range Awareness.		

Key: ADNR=Alaska Department of Natural Resources; ALCOM=Alaskan Command; ANILCA=Alaska National Interest Lands Conservation Act; BMPs=best management practice; CDNL=C-weighted day-night average sound level; CONOPS=Concept of Operations; dB=decibel; dB PK 15(met)=single-event peak level exceeded by 15 percent of events; DoD=U.S. Department of Defense; DTA=Donnelly Training Area; GBU=Guided Bomb Unit; HAP=hazardous air pollutant; INRMP=Integrated Natural Resources Management Plan; ITAM=Integrated Training Area Management; MOA=Military Operations Area; NHPA=National Historic Preservation Act; NM=nautical mile; PSD=prevention of significant deterioration; RLOD=Realistic Live Ordnance Delivery; ROD=Record of Decision; SDB=Small Diameter Bomb; SDZ=surface danger zone; SHPO=State Historic Preservation Officer; SOPs=standard operating procedures; SUA=Special Use Airspace; SUAIS=Special Use Airspace Information Service; SWPPP=Storm Water Pollution Prevention Plan; TA=Training Area; TFTA=Tanana Flats Training Area; USACE =U.S. Army Corps of Engineers; USAG-FWA=U.S. Army Garrison Fort Wainwright, Alaska; UXO=unexploded ordnance; VFR=Visual Flight Rules; WDZ=weapon danger zone.

Table 1-14. Summary of Impacts for Battle Area Complex Restricted Area

Resource Area	Alternative A	Alternative B (Preferred Alternative)	No Action Alternative
Airspace Management and Use	The military airspace for this proposal would be changed from a CFA to a restricted area. Aviation activities would increase slightly in the BAX restricted area above current levels, as it is estimated that approximately 70 percent of the USARAK helicopter operations currently conducted in R-2202 would be performed in the BAX restricted area. Air Force aircraft conduct a limited number of CAS missions throughout the year for Army ground-based activities in the BAX CFA and it is anticipated that such operations would occur in the future with establishment of a restricted area.	As discussed for Alternative A, it is estimated that only the low altitudes (below 6,000 feet MSL) would be needed approximately 60 percent of the time with all three layers being used the other 40 percent. The potential impacts to federal airways, jet/RNAV routes, VFR air traffic, and local airports and airfields would be the similar to Alternative A. The existing flight safety procedures followed by the Army and Air Force for current flight training activities within this airspace would continue, as appropriate, to serve as the standard	The BAX CFA would continue to be used for current USARAK activities while allowing nonparticipating aircraft access through the existing active CFA in the BAX area.

Table 1-14. Summary of Impacts for Battle Area Complex Restricted Area *(Continued)*

Resource Area	Alternative A	Alternative B (Preferred Alternative)	No Action Alternative
	For federal airways, this proposal may cause flight delays or require the FAA to route IFR air traffic around this active airspace. For jet/RNAV routes, air traffic operating along J167 above the higher altitude sector (FL180–220) of this proposed restricted area would not be affected by this proposal. This proposal to establish restricted airspace in an area that currently permits VFR air traffic access through the existing CFA may have moderate to significant impacts on the VFR aviation community without the implementation of appropriate mitigations, regarding VFR accessibility in this area. The Delta Junction public airport and the All West, Rocking T, Remington, and Wingsong Estates private airfields are located within 10-15 miles of the proposed restricted area. There would be no direct impacts on these airfields, except for the restrictions discussed for VFR air traffic operating between these locations and destinations south and east of this proposed restricted airspace.	for minimizing impacts on other military and civil aviation airspace uses in the affected environment. Specific impacts or limitations the preferred airspace proposal may have on IFR and VFR air traffic would be examined in the FAA aeronautical study with subsequent consultations with USARAK and civil aviation concerns on those operational mitigations that may be needed to help minimize impacts.	
Noise	Noise levels exceeding 62 dB CDNL or 130 dB PK 15(met) would not extend beyond range boundaries. Aircraft operations in the BAX area may increase relative to baseline operations tempo, but time averaged noise levels would not be expected to exceed 65 dB L_{dnmr}. Supersonic flying operations would not be permitted in the BAX Restricted Area airspace. Noise impacts would not exceed the significance thresholds established for this	Same as Alternative A.	Under the No Action Alternative, no changes to munitions usage or aircraft activity would occur. Noise levels would remain as they are under baseline conditions.

Table 1-14. Summary of Impacts for Battle Area Complex Restricted Area *(Continued)*

Resource Area	Alternative A	Alternative B (Preferred Alternative)	No Action Alternative
	action.		
Flight Safety	The majority of the flight activities to be conducted in this airspace would be USARAK helicopters operating to/from and within this proposed restricted area. The potential for aircraft mishaps, near misses/midair collisions, bird-aircraft strikes, and other flight safety risks would be minimal. Nonparticipating aircraft would not be permitted in this restricted airspace when active. Measures currently used by USARAK to maintain safe operating distances from ground obstacles and other military and civil aircraft would continue to be used as a standard for ensuring flight safety is maintained for all concerned. The active status of this restricted area would be available through the SUAIS and other available advisory services.	Same as Alternative A.	The No Action Alternative would not result in any changes to the existing CFA airspace environment, flight conditions, and safety programs currently associated with this airspace use.
Ground Safety	Adverse impacts associated with range safety and control, UXO and munitions safety, public access control, or fire and emergency response for this alternative would be minimal to negligible.	Same as Alternative A.	No change in ground operations from existing conditions would occur under the No Action Alternative.
Air Quality	The BAX area is located within the DTA, which is located in the Denali Borough and the Southeast Fairbanks Census Area, which are both in attainment of all NAAQS. The area proposed for the addition of the BAX airspace is adjacent to the DTA in Southeast Fairbanks Census Area and which is in attainment of all NAAQS. This alternative would not have any negative impacts on air quality or visibility in nearby	Same as Alternative A.	Air quality impacts under the No Action Alternative would not differ from air quality impacts generated under existing operations undertaken in the BAX area.

Table 1-14. Summary of Impacts for Battle Area Complex Restricted Area *(Continued)*

Resource Area	Alternative A	Alternative B (Preferred Alternative)	No Action Alternative
	Denali National Park.		
Physical Resources	Given that the proposed action involves minimal to no disturbance of new or additional land surface, no adverse impacts on physical resources within the study area of this proposed action are expected to occur.	Same as Alternative A.	No change to existing ground operations would occur under the No Action Alternative.
Water Resources	Four new firing points and thirteen new target points would be added within the restricted area as part of this proposal. Inert ordnance, without high explosives, would be used at the training areas. Therefore explosive residues would not create adverse impacts at the target points. The compound 2,4-DNT is a component of some munitions used for training in this area. It is a carcinogenic compound and potentially can contaminate groundwater. The State of Alaska clean up levels are 0.005 parts per million for 2,4-DNT to protect groundwater (Walsh et al. 2004). Therefore, over time 2,4-DNT concentrations could accumulate at the firing points and concentrations could potential exceed soil clean-up levels. Therefore, there is a potential for adverse impacts to groundwater quality. With mitigation and management actions, the adverse impacts would be reduced to not significant.	Same as Alternative A.	Under the No Action Alternative the munitions usage at the existing target arrays and vehicle maneuvering would be the same as current existing conditions.
Hazardous Materials and Waste	The ground-disturbing impacts of munitions usage at the existing target arrays and areas of vehicle ground maneuvering were permitted and subject to NEPA analysis in 2006, in the *Final Environmental Impact Statement for the Construction and Operation of a Battle Area Complex and a Combined Arms Collective Training Facility within U.S. Army Training*	Same as Alternative A.	Under the No Action Alternative, there would be no expansion of the restricted area over the BAX in DTA-East and there would be no change to existing hazardous material and waste procedures and activities.

Table 1-14. Summary of Impacts for Battle Area Complex Restricted Area *(Continued)*

Resource Area	Alternative A	Alternative B (Preferred Alternative)	No Action Alternative
	Lands in Alaska (USARAK 2006-1). Therefore, no adverse impacts would occur related to hazardous materials and waste.		
Biological Resources	The vegetation classes present in DTA-East project area are widespread across the project region and are not unique or considered sensitive communities, and are not associated with endangered or threatened species. Therefore, no significant adverse effects to vegetation communities are expected. Because a variety of training already occurs within the BAX project area and a variety of wildlife species occur there, the resident and migratory species are exposed to, and likely habituated to, the types of disturbances that result from these types of activities. Wildlife habitats present within the project area are not associated with sensitive, endangered, or threatened species and are generally widely available within the project region. Changes in the ordnance and aircraft use in the BAX project area may have adverse but not significant impacts to local vegetation and wildlife. However, with the Special Interest Management Areas and other environmental restrictions and mitigation measures in place, and proposed mitigations, sensitive wildlife species should be adequately protected on Army lands in the proposal area.	Same as Alternative A.	The current amount of ground disturbance (from training, vehicles and live fire) would be expected to continue, and wildlife using the area would be expected to remain active in occupied habitats. Localized vegetation impacts from training would continue.
Cultural Resources	Although 153 archaeological sites are located under the training airspace, no significant impacts are anticipated to cultural resources from the airspace reclassification and its training use. Flying operations are not conducted at a frequency sufficient to result in time-averaged	Same as Alternative A.	Under the No Action Alternative there would be no expansion of the restricted area over the BAX in DTA-East and no expansion of the BAX SDZ footprint. Existing use of the restricted

Table 1-14. Summary of Impacts for Battle Area Complex Restricted Area *(Continued)*

Resource Area	Alternative A	Alternative B (Preferred Alternative)	No Action Alternative
	noise levels exceeding 65 dB DNL. Noise levels generated by munitions firing exceeding 62 dB CDNL would not extend beyond range boundaries. Adverse effects are likely for the 14 known archaeological sites within the expanded footprint of the BAX, as well as any sites found during surveys of the previously unsurveyed areas bounded by the expanded BAX SDZ footprint. In compliance with Section 106 of the NHPA, the Army has completed consultation with the Alaska SHPO and executed a Programmatic Agreement. The SHPO has concurred with the finding of no adverse effect, provided that a monitoring and data recovery program is implemented. Under the terms of the Programmatic Agreement, consultation with potentially affected Alaska Native tribes, ANCSA corporations, and Tribal government entities will continue for the duration of the Programmatic Agreement. Compliance with all requirements for Tribal consultation has been completed. No significant impacts on traditional cultural resources or Alaska Native activities are anticipated to result from the proposed new restricted area.		areas would continue under this alternative and resources would continue to be managed in compliance with Federal law and DoD policy and regulations.
Land Use	The primary land use on DTA-East is military, and this would not change under the BAX proposal. Public uses taking place on DTA-East including: recreation, personal use and subsistence, hunting, gathering, trapping, and some timber harvesting would continue, but available time for access would become more limited.	This alternative would affect a larger portion of DTA-East, including TAs 501, 502, 503, 504, 505, 506, 507, 508, 510, 511, 512, 513, 514, and 515. The Richardson-Gerstle and 33-Mile Loop trails would be affected, as well as the trail network in TAs 512, 508, and 511. Other noted impacts are the same as Alternative A.	There would be no changes to the current project area under the No Action Alternative.

Table 1-14. Summary of Impacts for Battle Area Complex Restricted Area *(Continued)*

Resource Area	Alternative A	Alternative B (Preferred Alternative)	No Action Alternative
	This proposal would also prevent use of portions of the Richardson Highway-Gerstle River Trail, the 33-Mile Loop Road, and the 12-Mile Crossing. Elimination of these access points would reduce the amount of recreation area available to the public within DTA-East. Noise contours show a slight increase in sound exposure and slight expansion of the area exposed to 62 dB CDNL and above. Noise exposure on areas outside the installation would remain well below 62 dB L_{dnmr}. No areas would experience incompatible averaged impulsive noise levels. Under this proposal, civilian ground and air access would not be permitted within the project area when the BAX and restricted are active with military training and exercises taking place. This would occur approximately between three and five days per week, depending on annual Army training schedules for training in this area. This would result in an adverse impact on the accessibility of trails and roads and to the use of areas served by those routes. Overall, both noise and access impacts of this proposal would have an adverse but less than significant impact on local recreation opportunities in the Delta Junction area. This impact is somewhat moderated considering a relatively small portion of local recreational activity uses in this area of DTA.		
Infrastructure & Transportation	No Effect		
Socioeconomics	Although there is no available data on the number of civilian general aviation flights that traverse the current BAX CFA, it is expected	Same as Alternative A.	Under the No Action Alternative, socioeconomic resources would remain as

Table 1-14. Summary of Impacts for Battle Area Complex Restricted Area *(Continued)*

Resource Area	Alternative A	Alternative B (Preferred Alternative)	No Action Alternative
	that the number of civilian flights traversing the area is low since there are no population centers in the BAX CFA. Potential impacts on civil aviation are not expected to adversely impact socioeconomic resources. Specific impacts or limitations this proposal may have on IFR and VFR air traffic would be examined in an FAA aeronautical study with subsequent consultation with USARAK and civil aviation concerns on those operational mitigations that may be needed to help minimize impacts. Civil general aviation contributes significantly to the local economy; mitigations identified in the FAA study that would minimize adverse impacts to civilian aviation could subsequently minimize adverse impacts to socioeconomic resources. Approximately 167 persons within the Southeast Fairbanks Census Area were identified under the proposed airspace. Noise levels exceeding 62 dB CDNL or 130 dB PK 15(met) would not extend beyond range boundaries into residential areas. Additionally, the area is currently exposed to low-level overflights and noise associated with military aircraft. These activities are not expected to adversely impact populations or socioeconomic resources.		described under current existing conditions.
Subsistence	The area beneath the proposed restricted airspace is in the vicinity of two major highways and access to subsistence activities would not be heavily dependent on aircraft access. Potential impacts on civil aviation are not expected to adversely impact access to subsistence resources. The increase in military activities at the BAX	Same as Alternative A.	Under the No Action Alternative, no restricted airspace would be established. Existing military activities would continue. Subsistence activities would remain as they are currently practiced.

Table 1-14. Summary of Impacts for Battle Area Complex Restricted Area *(Continued)*

Resource Area	Alternative A	Alternative B (Preferred Alternative)	No Action Alternative
	may decrease the amount of time public access is permitted. The BAX area and the proposed restricted airspace could be active for a maximum of 238 days at all times of the year. For rural Alaska residents that regularly harvest subsistence resources within the public access areas of DTA (in which BAX is located), an increase in restrictions to public access would be an adverse impact. However, the nearby vicinity has large tracts of Federal land in which subsistence activities are permitted and do not have the same access restrictions as a military installation. No significant impacts to subsistence activities are expected as defined by ANILCA.		
Environmental Justice	Impacts such as airspace management, noise, land use, and socioeconomics would be less than significant or mitigated to a level to avoid or reduce adverse impacts. Impacts from this alternative would not create disproportionately high and adverse environmental or health effects on minority or low-income populations or children.	Same as Alternative A.	For the No Action Alternative, no restricted airspace and new target areas would be established and military activities would continue under existing conditions. There would be no additional disproportionately high and adverse environmental or health effects on minority and low-income populations or children.
MITIGATION MEASURES: • **FAA's study (Airspace Management)** Pending the FAA's study of the preferred airspace proposal alternatives to determine specific impacts and mitigation measures to be taken to minimize any impacts on VFR and IFR air traffic, other existing mitigations would continue to be relevant in addressing potential impacts of the airspace proposals. • **Eagle and migratory birds (Biological Resources)** Maintain consultation with USFWS with regard to compliance with Bald and Golden Eagle Protection Act and MBTA. As required, conduct bald and golden eagle nest surveys in other areas where airspace modification would occur over previously unsurveyed areas. Coordinate the results with			

Table 1-14. Summary of Impacts for Battle Area Complex Restricted Area *(Continued)*

Resource Area	Alternative A	Alternative B (Preferred Alternative)	No Action Alternative

USFWS.

- **Sensitive wildlife awareness training (Biological Resources)**

  Continue pilot and soldier education for awareness of sensitive wildlife species habitats and seasonal behaviors utilizing GIS mapping and discuss procedures to reduce disturbances and to increase safety by reducing potential for aircraft strikes.

- **Monitor effects of military training on wildlife (Biological Resources)**

  Continue to monitor effects of military training including overflights on select wildlife species (especially herd animals, waterfowl, and raptors) and fisheries during critical seasons such as breeding, young-rearing, and migration. Use knowledge to develop and implement strategies to minimize disturbance to priority wildlife in existing and new SUAs and restricted airspace. This would help natural resources and range managers to coordinate training schedules that minimize impacts on wildlife populations.

- **Continue study of noise effects on wildlife (Biological Resources)**

  Continue effort to conduct a detailed study to assess the impacts and effects of noise on wildlife, particularly key species such as caribou and bison, during critical life cycle seasons. Use information to include protection requirements within a noise management plan.

- **NHPA compliance (Cultural Resources)**

  Mitigations for impacts to cultural resources are established through NHPA Section 106 consultation pursuant to 36 CFR 800. In compliance with Section 106 of the NHPA the Army has consulted with the Alaska SHPO and complied with all requirements for consultation with potentially affected Alaska Native tribes, ANCSA corporations, and Tribal government entities to identify historic properties that may be affected, including TCPs, and develop management actions and mitigation measures to resolve any adverse effects.

  Mitigation measures under consideration could include amending the existing BAX Surface Danger Zone Programmatic Agreement to include the known and as yet undiscovered archaeological sites in the expanded BAX surface danger zone footprint.

  For ground-disturbing actions that impact archaeological sites, historically mitigations have included retrieval of information through excavation of sites determined eligible for inclusion in the National Register of Historic Places (National Register) and impacted by range activities. For National Register-eligible sites destroyed by range activities, past mitigations have included excavation of another eligible site, comparable in size, age, composition and setting to the site to be destroyed. Other measures historically applied also have included development of public education materials to provide selected archaeological information retrieved from mitigation investigations of National Register-eligible sites.

  In accordance with AFI 32-7065, all NHPA Section 106 consultation has been completed. The management actions and/or mitigation measures developed through consultation has been completed prior to implementation of the proposed action. In the event that previously unrecorded or unevaluated cultural resources are encountered, the Army would manage these resources in accordance with the NHPA and other Federal and state laws, Air Force, and DoD regulations and instructions, and DoD American Indian and Alaska Native Policy.

Table 1-14. Summary of Impacts for Battle Area Complex Restricted Area *(Continued)*

Resource Area	Alternative A	Alternative B (Preferred Alternative)	No Action Alternative

- **Munitions contamination issues (Hazardous Materials and Waste; Water Resources; Biological Resources)**

  The Army may augment the effort for their existing program to identify possible munitions contamination at impact areas on DTA-East. This program initiates the collection of baseline data to determine the location, extent, and potential migration of munitions contamination in soils, surface water, and groundwater. Based on these preliminary results, a long-term monitoring program could be developed to assess cumulative impacts to the withdrawal lands from ongoing military activities. These results could identify areas needing restoration, activities that pose the greatest environmental threat, and the potential mitigation measures to be implemented. Extensive and expedient investigations may be conducted in those areas considered to be exposure pathways, such as streams.

- **USARTRAK (Land Use-Access)**

  The Army will update information and maps available to the public on the USARTRAK website to identify changes in public access restrictions for the expanded Army training activities within USAG-FWA training areas.

- **Relationships with regulatory agencies (Biological Resources; Land Use-Management, Access, Recreation)**

  The military will maintain an open dialogue with ADNR, BLM, ADFG, and USFWS to assess current conditions and needed adjustments in locations or temporal restrictions to avoidances and procedures put in place by the ROD for this EIS.

- **Trespass control (Safety-Ground; Land Use)**

  The Army will expand enforcement to control trespass in DTA-East for the expanded operations.

- **Bird awareness programs (Safety-Flight)**

  Maintain respective bird awareness programs to address potential bird and wildlife hazards that may exist.

- **Fire management (Safety-Ground)**

  Continue fire management mitigations in accordance with current Army and USARAK regulations on the BAX.

- **Air traffic situational awareness (Airspace Management; Socioeconomics)**

  Pursue manning and funding for any enhancements required to expand situational awareness for air traffic in and around training areas for general and military aviation. Complete an internal study to identify coverage gaps in new SUAs and restricted airspace. One possible alternative is the establishment of a U.S. Army Airspace Information Center.

- **Subsistence use consultation (Subsistence)**

  Continue consultation efforts with subsistence parties to determine current subsistence use levels and areas on USAG-FWA lands as input into scheduling. Continue Tribal consultation efforts with subsistence users about hunting and fishing programs on USAG-FWA land. Continue to use a newsletter to provide information to subsistence users about existing and new military activities and the changes in access for subsistence users. Continue research and cooperative studies with Tribes to address possible effects of Air Force and Army activities on subsistence resources both

Table 1-14. Summary of Impacts for Battle Area Complex Restricted Area *(Continued)*

Resource Area	Alternative A	Alternative B (Preferred Alternative)	No Action Alternative
	directly within USAG-FWA installation boundaries and those outlying resources that may also be affected by military activities on DTA-West, DTA-East, YTA, and TFTA.		

Key: 2,4-DNT=2,4 dinitrotoulene; ADFG=Alaska Department of Fish and Game; ADNR=Alaska Department of Natural Resources; AFI=Air Force Instruction; ANCSA=Alaska Native Claims Settlement Act; ANILCA=Alaska National Interest Lands Conservation Act; BAX=Battle Area Complex; BLM=Bureau of Land Management; CAS=Close Air Support; CDNL=C-weighted day-night average sound level; CFA=Controlled Firing Area; dB=decibel; dB PK 15(met)=single-event peak level exceeded by 15 percent of events; DNL=day-night average sound level; DoD=U.S. Department of Defense; DTA=Donnelly Training Area; EIS=environmental impact statement; FAA=Federal Aviation Administration; FL=flight level; GIS=geographic information system; IFR=Instrument Flight Rules; L_{dnmr}=onset rate–adjusted day-night average sound level; MBTA=Migratory Bird Treaty Act; MSL=mean sea level; NAAQS=National Ambient Air Quality Standards; National Register=National Register of Historic Places; NEPA=National Environmental Policy Act; NHPA=National Historic Preservation Act; RNAV=Area Navigation; ROD=Record of Decision; SDZ=surface danger zone; SHPO=State Historic Preservation Officer; SUA=Special Use Airspace; SUAIS=Special Use Airspace Information Service; TCP=traditional cultural property; TFTA=Tanana Flats Training Area; USAG-FWA=U.S. Army Garrison Fort Wainwright, Alaska; USARAK=U.S. Army Alaska; USARTRAK=Army Recreational Tracking System; USFWS=U.S. Fish and Wildlife Service; UXO=unexploded ordnance; VFR=Visual Flight Rules; YTA=Yukon Training Area.

Table 1-15. Summary of Impacts for Expand Restricted Area R-2205

Resource Area	Proposed Action (Preferred Alternative)	No Action Alternative
Airspace Management and Use	The proposed use of the expanded R-2205 restricted area would provide increased restricted protective airspace over YTA. Multiple training activities may be scheduled and conducted within the different subareas on the same day, normally Monday – Friday, for an estimated total 300 days annually. The airspace may be scheduled up to 24 hours on any particular training day. It is not anticipated that the overall number of USARAK helicopter operations or Air Force sortie missions would increase significantly above current representative levels with the creation of this restricted airspace. The FAA has indicated that the R-2205 expansion in the areas surrounding Eielson AFB would have some adverse effects on the published arrival and departure procedures used to separate Eielson AFB aircraft from other air traffic in the area. It may also limit FAA options for routing VFR and IFR air traffic in the Fairbanks, North Pole, and Fort Wainwright areas. The manner in which adverse impacts would be avoided or reduced would be stipulated in an agreement examined in the FAA	This alternative would maintain the existing R-2205 without any expanded airspace and would, therefore, result in no changes to existing conditions to the current military and civil aviation uses of this airspace.

Table 1-15. Summary of Impacts for Expand Restricted Area R-2205 *(Continued)*

Resource Area	Proposed Action (Preferred Alternative)	No Action Alternative
	aeronautical study of this proposal. Several federal airways are located within this region with V444/T232 being in closest proximity but sufficiently clear of this proposed airspace so as not to be impacted by this expansion. Jet/RNAV Routes J502-515 transits southwest of the proposed airspace and is sufficiently distant from the boundary so as not to be impacted by this proposal. The Birch, Alaska Highway, and other flyways commonly used by VFR air traffic are sufficiently distant from the proposed airspace areas so as not to have any impacts on this traffic when these airspace subdivisions are active. No public airports or private charted airfields are within the area of the proposed R-2205 expansion although the Fairbanks and Bradley airports and several charted private airfields are within the general region of this proposed airspace.	
Noise	The total number and types of munitions fired into the Stuart Creek Impact Area would not be expected to change. However, the expansion of R-2205 would allow a much larger range of weapons types to be used at DMPTR. Noise levels exceeding 62 dB CDNL do not extend beyond the boundaries of land currently withdrawn for military use. The area affected by peak noise levels (exceeding 115 dB PK 15(met)) would increase slightly under the proposed action. However, the non-military land area exposed to this noise level would not change in extent under the proposed action. Noise impacts would not exceed the significance thresholds established for this action.	Under the No Action Alternative, R-2205 would not be expanded and no changes to existing training operations would occur.
Flight Safety	The area covered by the R-2205 western expansion has little or no populace, therefore, the potential for any aircraft mishap in this area is minimal. The potential for a near miss/midair collision would be low to moderate for this proposed action since nonparticipating aircraft do not normally operate in this area and would be	Flight safety risks and the continuing safety programs in effect to address these risks would remain the same as currently exists.

Table 1-15. Summary of Impacts for Expand Restricted Area R-2205 *(Continued)*

Resource Area	Proposed Action (Preferred Alternative)	No Action Alternative
	further restricted from entering this airspace when active. The potential for any bird/wildlife-aircraft strikes during low-altitude flights in this affected area would be low. There are measures already in place for maintaining awareness of any heightened bird activities and flight safety risks.	
Ground Safety	The Army has existing plans, policies, and procedures in place to avoid or reduce adverse significant impacts, regarding range safety and control, UXO and munitions safety, public access control, and fire and emergency response. Consequently, adverse impacts are not expected to occur.	No change in existing ground operations would occur under the No Action Alternative.
Air Quality	The area proposed for the expansion of the R-2205 airspace is in attainment of all NAAQS, and the proposed action would not increase aircraft operations or munitions usage. As there will be no net increase in criteria pollutant or HAP emissions, the operation of R-2205 under the proposed action would result in minimal to no air quality impacts. Since the R-2205 action would not result in an increase in emissions, it would not result in any impacts on Denali National Park.	Air quality impacts under the No Action Alternative would not differ from air quality impacts generated under existing operations at R-2205.
Physical Resources	No Effect	
Water Resources	No Effect	
Hazardous Materials and Waste	The proposed action would utilize existing on-the-ground range structure and would involve no new construction in the realigned boundary area. In addition, other than surficial ground disturbance associated with ground maneuvers of vehicles, no excavations or ground disturbance would occur. There are no known contaminated sites located in the realigned boundary area. Therefore, no adverse impacts would occur as a result of potentially encountering known or unknown contaminated soil. As part of the proposed action, vehicles would be used during training. There is the potential for accidental chemical release from refueling or maintenance activities during training activities. The Army would manage hazardous materials/waste	Under the No Action Alternative, there would be no realignment of the outer restricted area boundary, and there would be no change to existing hazardous material and waste procedures and activities in R-2205.

Table 1-15. Summary of Impacts for Expand Restricted Area R-2205 *(Continued)*

Resource Area	Proposed Action (Preferred Alternative)	No Action Alternative
	in accordance with Army Regulation 200-1, *Environmental Protection and Enhancement* (Army 2007-1), which provides guidance on oil and hazardous substance spills, hazardous materials management, and the Installation Restoration Program (IRP). The risk of petrochemical spills is expected to increase under the proposed action due to the need to transport fuel and perform refueling operations in the field to support training requirements. However, due to the infrequency of such activities, combined with existing procedures and controls, the proposed action would result in the potential for adverse, but not significant impacts. There is the potential for munitions related hazardous materials impacts in association with this alternative. Munitions fragments and residues would be generated as a result of live-fire action. However, training would use existing impact areas for the discharge of ordnance from aircraft within the proposed restricted area, such that no adverse munitions-related chemical release impacts to the environment would occur.	
Biological Resources	As proposed for BAX, the restricted area expansion of the existing R-2205 would primarily differ from current activities by enabling additional air-to-ground ordnance use in the expansion areas. These activities may have localized effects to the vegetation and wildlife present within YTA. No new impact areas would be established and no substantially different impact types would be introduced into the R-2205 restricted areas as a result of this proposal. As for ongoing training, effects to biological resources would be localized and vegetation communities as a whole would not be expected to be adversely affected. The vegetation classes present in YTA are not unique or considered sensitive communities, but are widespread across the project region. Wildlife habitats present within the project area are not associated with sensitive, endangered, or threatened species, and are generally widely available within the project region.	The current amount of localized ground disturbance (from training, vehicles, and live fire) would be expected to continue and wildlife using the area would be expected to remain active in occupied habitats. Localized vegetation impacts from existing training activities would continue.

Table 1-15. Summary of Impacts for Expand Restricted Area R-2205 *(Continued)*

Resource Area	Proposed Action (Preferred Alternative)	No Action Alternative
	Wildlife species in the area are generally exposed to and may be habituated to military activities. The proposed expanded restricted areas in YTA do not contain important wildlife breeding, wintering, or nesting habitats. No significant effects to wildlife populations are expected.	
Cultural Resources	No impacts are anticipated to cultural resources from the expansion of R-2205 and its training use. The annual average noise levels under the proposed airspace reclassification are not expected to noticeably change as a result of increased training activities, and would not be sufficient to damage any archaeological or historic architectural sites. In compliance with Section 106 of the NHPA, the Army has completed consultation with the Alaska SHPO, who concurred with the Army's determination of no adverse effect to historic properties. All compliance requirements for consultation with potentially affected Alaska Native tribes, ANCSA corporations, and Tribal government entities have been completed. No significant impacts on traditional cultural resources or Alaska Native activities are anticipated to result from the proposed expansion of R-2205.	Under the No Action Alternative there would be no expansion of R-2205 in YTA. Existing use of the restricted area would continue under this alternative and resources would continue to be managed in compliance with Federal law and DoD policy and regulations.
Land Use	The proposal involves the use of airspace and weapons firing at existing training areas, impact areas, and ranges. There would be no new areas exposed to surface disturbance; therefore, no impact to existing infrastructure, leases, rights-of way, or permits on military land on military or non-military land would result. Under the proposal, the area exposed to 62 dB CDNL and greater would remain within military land, with a slight increase within Eielson AFB (from 126 to 230 acres). This would not extend as far as the housing areas on base. As such, no areas would experience incompatible impulse noise levels from airspace use, ground training, or ordnance use. Currently, the only public uses taking place on YTA are recreational, including personal use and subsistence hunting,	There would be no changes to the current project area under the No Action Alternative. Therefore, existing land use, public access, and recreation would remain under existing conditions.

Table 1-15. Summary of Impacts for Expand Restricted Area R-2205 *(Continued)*

Resource Area	Proposed Action (Preferred Alternative)	No Action Alternative
	gathering and trapping, and some timber harvesting and wood cutting. With increased use of YTA for hazardous operations (up to 300 days per year), time available for these public uses and range management tasks, including vegetation management, restorative projects, research, monitoring, and surveys, would become more limited. Coordinated scheduling could minimize conflicts in arranging adequate time on range for management functions. Civilian ground and air access is currently permitted within the proposal area with the exception of several off-limits areas, including the DMPTR and the Stuart Creek Impact Area. Under this proposal, civilian ground and air access would be restricted during activation of R-2205. No charted airports are located within the project area on military lands. Therefore, no direct impacts on air access would occur. The restricted airspace would continue to affect public air access across R-2205 within the project area during activation. An increase in training activities would lead to more frequent airspace closures for military purposes. Indirect impacts on temporal and spatial availability of airspace to public aviation are expected to minor. The proposed training activities for DMPTR and YTA would reduce the amount of time that training areas are available for public use and recreation. Even though training schedules are available on USARTRAK and the public can plan around them, substantially reduced access may have a minor adverse but not significant impact on recreation on YTA due to its relatively low use.	
Infrastructure & Transportation	No effect	
Socioeconomics	The population within the defined census block of the proposed restricted airspace is 166 persons. There would be no persons exposed to noise levels exceeding 62 dB CDNL, since these levels do not extend beyond the boundaries of DoD-owned land.	Under the No Action Alternative, the creation of restricted area for R-2202 in YTA would not be established and there would be no changes to socioeconomic resources from current existing conditions.

Table 1-15. Summary of Impacts for Expand Restricted Area R-2205 *(Continued)*

Resource Area	Proposed Action (Preferred Alternative)	No Action Alternative
	Potential civil aviation impacts associated with this action may include slightly increased flight distances and increased flight time in order to avoid the restricted airspace. To the extent that they would occur, these potential aviation impacts would result in economic impacts due to additional operating costs (primarily related to increased fuel use) associated with avoiding restricted airspace, and the costs of any expended efforts in tracking the airspace status through available advisory services. The economic impacts of any military or other civil aviation aircraft being delayed or diverted to any extent around the proposed airspace when active cannot be quantified due to the many factors to be considered in estimating such impacts.	
Subsistence	Because the land for this proposed action is within a Federal non-rural area and a State non-subsistence area, subsistence resources are not managed, and Alaska residents are not given priority to harvest resources within the area. Therefore, there would be no impacts on subsistence.	Same as the Proposed Action.
Environmental Justice	Other resources considered for environmental justice analysis (e.g., noise, land use, socioeconomics) would have less than significant impacts with mitigation measures referenced in those resource sections. Impacts from the proposed expansion of restricted area over R-2202 in YTA would not create disproportionately high and adverse environmental or health effects on minority or low-income populations or children.	Under the No Action Alternative, there would be no additional disproportionately high and adverse environmental or health effects on minority and low-income populations or children.

MITIGATION MEASURES:

- **FAA's study (Airspace Management)**
  Pending the FAA's study of the preferred airspace proposal alternatives to determine specific impacts and mitigation measures to be taken to minimize any impacts on VFR and IFR air traffic, other existing mitigations would continue to be relevant in addressing potential impacts of the airspace proposals.
- **Effects of military training on wildlife (Biological Resources)**
  Continue to monitor effects of military training including overflights on select wildlife species (especially herd animals, waterfowl, and raptors) and fisheries during critical seasons such as breeding, young-rearing, and migration. Use knowledge to develop and implement strategies to minimize disturbance to priority wildlife in existing and new SUAs and restricted airspace. This would help natural resources and range managers to coordinate training schedules that minimize impacts on wildlife populations.

Table 1-15. Summary of Impacts for Expand Restricted Area R-2205 *(Continued)*

Resource Area	Proposed Action (Preferred Alternative)	No Action Alternative
• **Sensitive wildlife awareness training (Biological Resources)** Continue pilot and soldier education awareness of sensitive wildlife species habitats and seasonal behaviors utilizing GIS mapping and discuss procedures to reduce disturbances and to increase safety by reducing potential for aircraft strikes. • **Continue noise effects study on wildlife (Biological Resources)** Continue effort to conduct a detailed study to assess the impacts and effects of noise on wildlife, particularly key species such as caribou and bison, during critical life cycle seasons. Use information to include protection requirements within a noise management plan. • **NHPA compliance (Cultural Resources)** Mitigations for impacts to cultural resources are established through NHPA Section 106 consultation pursuant to 36 CFR 800. In compliance with Section 106 of the NHPA the Army has consulted with the Alaska SHPO and all compliance requirements have been completed for Tribal consultation with potentially affected Alaska Native tribes, ANCSA corporations, and Tribal government entities to identify historic properties that may be affected, including TCPs, and anticipates a determination of no historic properties adversely affected. Therefore, mitigations would not be applicable for this proposal. In accordance with AFI 32-7065, all NHPA Section 106 consultation has been completed. In the event that previously unrecorded or unevaluated cultural resources are encountered, the Army would manage these resources in accordance with the NHPA and other Federal and state laws, Air Force, and DoD regulations and instructions, and DoD American Indian and Alaska Native Policy. • **Munitions contamination issues (Hazardous Materials and Waste; Biological Resources)** The Army may augment the effort for their existing program to identify possible munitions contamination at impact areas on YTA. This program initiates the collection of baseline data to determine the location, extent, and potential migration of munitions contamination in soils, surface water, and groundwater. Based on these preliminary results, a long-term monitoring program could be developed to assess cumulative impacts to the withdrawal lands from ongoing military activities. These results could identify areas needing restoration, activities that pose the greatest environmental threat, and the potential mitigation measures to be implemented. Extensive and expedient investigations may be conducted in those areas considered to be exposure pathways, such as streams. • **Relationships with regulatory agencies (Biological Resources; Land Use)** The military will maintain an open dialogue with ADNR, BLM, ADFG, and USFWS to assess current conditions and needed adjustments in locations or temporal restrictions to avoidances and procedures put in place by the ROD for this EIS. • **Trespass control (Safety-Ground; Land Use)** The Army would expand enforcement to control trespass in YTA for the expanded R-2205 activities. • **Special use airspace safety (Safety-Flight)** Continue efforts to comply with the respective Service formal flight safety programs, outlined in directives/regulations with supplements, that dictate those aircrew responsibilities and practices aimed at operating all manned and unmanned aircraft safely in existing modified and new SUAs. • **Subsistence use consultation (Subsistence)** Continue consultation efforts with subsistence parties to determine current subsistence use levels and areas on USAG-FWA lands as input into scheduling. Continue Tribal consultation efforts with subsistence users about hunting and fishing programs on USAG-FWA land. Continue to use a newsletter to provide information to subsistence users about existing and new military activities and the changes in access for subsistence users.		

Table 1-15. Summary of Impacts for Expand Restricted Area R-2205 *(Continued)*

Resource Area	Proposed Action (Preferred Alternative)	No Action Alternative
	Continue research and cooperative studies with Tribes to address possible effects of Air Force and Army activities on subsistence resources both directly within USAG-FWA installation boundaries and those outlying resources that may also be affected by military activities on DTA-West, DTA-East, YTA, and TFTA.	

Key: ADFG=Alaska Department of Fish and Game; ADNR=Alaska Department of Natural Resources; AFB=Air Force Base; AFI=Air Force Instruction; ANCSA=Alaska Native Claims Settlement Act; BLM=Bureau of Land Management; CDNL=C-weighted day-night average sound level; CFR=Code of Federal Regulations; dB=decibel; dB PK 15(met)=single-event peak level exceeded by 15 percent of events; DMPTR=Digital Multi-Purpose Training Range; DoD=U.S. Department of Defense; EIS=environmental impact statement; FAA=Federal Aviation Administration; GIS=geographic information system; HAP=hazardous air pollutant; IFR=Instrument Flight Rules; NAAQS=National Ambient Air Quality Standards; NHPA=National Historic Preservation Act; RNAV=Area Navigation; ROD=Record of Decision; SHPO=State Historic Preservation Officer; SUA=Special Use Airspace; TCP=traditional cultural property; TFTA=Tanana Flats Training Area; USAG-FWA=U.S. Army Garrison Fort Wainwright, Alaska; USARAK=U.S. Army Alaska; USARTRAK=Army Recreational Tracking System; USFWS=U.S. Fish and Wildlife Service; UXO=unexploded ordnance; VFR=Visual Flight Rules; YTA=Yukon Training Area.

Table 1-16. Summary of Impacts for Night Joint Training

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
Airspace Management and Use	Alternative A would extend the March and October MFE operations from 10:00 p.m. to 1:00 a.m. local time within the SUA typically used for these evening training missions, as well as the proposed new SUA. This would not result in adverse impacts to existing military air use. The MFE sortie-operations projected for the extended night hours would have minimal effects on civil aviation airspace uses. The later evening military flights during hours of darkness in which VFR aircraft would not normally operate should have minimal impacts on this aviation sector. VFR flights that may occur during later hours could obtain information on the active status of the MOAs and restricted areas being activated for missions and flight activities and plan their flight times/routes accordingly. This proposal would have minimal effects on the Fairbanks and Anchorage International	Alternative B would include both MFE and routine training operations being conducted during the extended night hours, but not normally on the same evenings. Routine training during extended night time hours would be considerably less than the number of MFE operations to be conducted during those later hours, resulting in minimal or no adverse impacts within existing military air use. The relatively small proportion of MFE or routine training sortie-operations that would occur during the extended night hours would have little impact on Federal airways, jet/RNAV routes, VFR air traffic, or public/private airfields.	The No Action Alternative would not involve any MOA operations beyond 10:00 p.m. and would not change existing airspace uses and ATC system capabilities.

Table 1-16. Summary of Impacts for Night Joint Training *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	airports and any other locations having flight activities during the later night hours.		
Noise	The shift in time of sortie-operations to after 10:00 p.m. would result in an increase of approximately 1 dB L_{dnmr} in all JPARC training airspace. Supersonic noise levels (CDNL) would also increase by about 1 dB beneath those airspace units that allow supersonic training. Noise impacts from night flights would not exceed the significance thresholds established for this action. Late-night munitions delivery is also a component of this proposal and would occur on ranges at which late-night munitions training already takes place. Noise impacts would not exceed significance thresholds established for this action component.	Same as Alternative A with the addition of routine training during all times of the year.	Under the No Action Alternative, operations in the MOA would continue to cease prior to 10:00 p.m. and noise levels would not change from existing conditions.
Flight Safety	This proposal would present minimal additional risk to flight safety while conducting the later night training operations. The reduced level of military operations and civil air traffic during later hours would reduce the potential for interactions between military and civil aircraft, thus minimizing the risk of any near-misses or midair collisions. The potential for any bird/wildlife aircraft strikes during later evening hours would always be a possibility, therefore, the measures currently in place for monitoring, reporting, and avoiding these hazards would continue to be followed by the Air Force for the proposed night operations.	Same as Alternative A with the addition of routine training during all times of the year.	The No Action Alternative would maintain nighttime flight operations within the timeframes and flight safety conditions that currently exist with those operations.
Ground Safety	This alternative does not include activities that would pose ground safety hazards, such as air-to-ground or live-fire ordnance training.	Same as Alternative A with the addition of routine training during all times of the year.	The No Action Alternative would maintain nighttime ground safety operations within the timeframes

Table 1-16. Summary of Impacts for Night Joint Training *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	Consequently, impacts on ground safety are not expected.		and flight safety conditions that currently exist with those operations.
Air Quality	For each of the proposed action alternatives, the proposed NJT action would shift the times at which nighttime sorties are conducted and would not result in an increase in flight activities or a change in the location of these sorties. Since flights would be spaced out over a longer period of time during the night, it will result in additional dispersion of aircraft emissions over the region and lower localized impacts. An air quality analysis of the impacts from Alternatives A and B was not conducted for this proposed action, as there would not be an overall change in the aircraft training emissions or to air quality in the affected region from current baseline conditions due to this action.	Same as Alternative A with the addition of routine training during all times of the year.	Air quality impacts under the No Action Alternative would not differ from air quality impacts generated under existing operations.
Physical Resources	No Effect		
Water Resources	No Effect		
Hazardous Materials and Waste	Contaminated sites are not applicable to this proposed action, as no ground activities would occur as part of this proposal. The expenditure of live ammunition or detonations has the potential to release hazardous chemicals or other elements, such as heavy metals, into the environment. However, the proposed training and exercises would use existing impact areas within R-2202 in YTA (Stuart Creek) and R-2205 in DTA-West (Oklahoma).	Same as Alternative A with the addition of routine training during all times of the year.	MOA hours would continue to be limited to 10:00 p.m.; therefore, impacts would be similar, but less, than those described for Alternative A.

Table 1-16. Summary of Impacts for Night Joint Training *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	These impact areas would be managed in accordance with current Federal, State of Alaska, Air Force, and Army regulations for the management, safe handling, and disposal of hazardous waste and materials associated with live and inert ordnance and UXO.		
Biological Resources	Because no infrastructure is needed, no ground effects are associated with the NJT proposed action; therefore, no impacts on vegetation would occur. The extended flight operations are proposed for March and October, actions would not be expected to coincide with the peak times of waterfowl migration (May and September) but would overlap more than do current operations. The greatest effect on waterfowl may be the increase in aircraft overflight at night roosting areas. However, with current avoidance restrictions in place, disturbance incidents are expected to be minimal. Bird-aircraft strike incidences have the potential to increase, but the potential effects of unavoidable bird-aircraft collisions on populations of waterfowl or other wildlife would be negligible and would not be measurable. Alternative A does not propose new threats to sensitive big game activities and would be expected to have little to no adverse effects to these species. Overall impacts to biological resources from Alternative A are expected to be adverse but not significant, and would be further reduced given implementation of mitigation and	Alternative B may present a somewhat higher potential for increased bird-aircraft strikes. This adverse impact would require more intensive planning among the BASH Team, pilots, and route planners to maintain safety. Otherwise impact potential would be the same as Alternative A with the addition of routine training during all times of the year.	Under the No Action Alternative, MOA hours would not change; therefore, no additional adverse changes to existing wildlife conditions would be expected.

Table 1-16. Summary of Impacts for Night Joint Training *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	impact avoidance measures.		
Cultural Resources	Compliance with all requirements for Tribal consultation has been completed. No impacts are anticipated to cultural resources, traditional resources, or Alaskan Native activities from the proposed change in airspace operating hours and its training use. In compliance with Section 106 of the NHPA, ALCOM, on behalf of the Air Force, has completed consultation with the Alaska SHPO and determined that no historic properties will be affected by implementation of the proposed action.	Same as Alternative A with the addition of routine training during all times of the year.	Under the No Action Alternative there would be no change in operating hours in JPARC. Existing use of the airspace would continue under this alternative and resources would continue to be managed in compliance with Federal law and DoD policy and regulations.
Land Use	This proposal would not result in impacts to land use, management and use. Average noise levels in affected MOAs would increase by approximately 1 dB. This change would result in imperceptible change in noise levels experienced on the ground currently, but these noise events could occasionally be loud enough to awaken or annoy a small percentage of persons. All existing flight avoidance procedures would continue. This proposal would result in minimal change in night noise under restricted airspace over military lands would have no impact on recreation use. The night bombing component of this proposal would have minor impacts on land use and recreation. There would be no impacts to public access.	Same as Alternative A with the addition of routine training during all times of the year.	For the No Action Alternative, there would be no change in night operations in MOAs and selected restricted airspace from current levels.
Infrastructure & Transportation	No Effect		
Socioeconomics	Little to No Effect		
Subsistence	No Effect		

Table 1-16. Summary of Impacts for Night Joint Training *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
Environmental Justice	No Effect		

MITIGATION MEASURES:

- **National Wild and Scenic Rivers Protection (Biological Resources; Land Use-Management, Access, Recreation)**
  For the period of May 15 to September 30, expand the Gulkana (west, middle, and north forks) and Delta National Wild and Scenic Rivers' (and others, as designated) Flight Avoidance Areas to include portions within new MOA boundaries using a 5-nautical mile buffer either side of the river centerline with 5,000 feet MSL minimum altitude. The river corridors will include their headwater lakes areas (Tangle Lakes and Dickey Lake).
- **VFR Flight Corridors (Airspace Management; Safety – Flight; Biological Resources; Land Use-Management, Access, Recreation; Socioeconomics; Subsistence)**
  Expand the VFR flight corridor over the Richardson Highway between Delta Junction and Glennallen to include the highway segment under the new Paxon MOA. The corridor will be 3 miles on either side of the Richardson highway and up to 4,500 feet MSL. (The MOA would go to 5,000 feet MSL in the corridor to allow a 500-foot buffer).
- **Concentrated Activity Areas (Land Use-Management, Recreation; Socioeconomics)**
  Comply with flight avoidance areas established by the 11th Air Force Airspace and Range Team and listed in the 11th Air Force Airspace Handbook. Areas not specified by the ROD may be added, increased, decreased, or removed by the 11th Air Force Airspace and Range team as situations dictate (e.g., a mine and its air operations cease to exist).

Key: ALCOM=Alaskan Command; ATC=Air Traffic Control; BASH=bird/wildlife-aircraft strike hazard; CDNL=C-weighted day-night average sound level; dB=decibel; DoD=U.S. Department of Defense; JPARC=Joint Pacific Alaska Range Complex; L_{dnmr}=onset rate–adjusted day-night average sound level; MFE=major flying exercise; MOA=Military Operations Area; MSL=mean sea level; NHPA=National Historic Preservation Act; NJT=Night Joint Training; RNAV=Area Navigation; ROD=Record of Decision; SHPO=State Historic Preservation Officer; SUA=Special Use Airspace; UXO=unexploded ordnance; VFR=Visual Flight Rules; YTA=Yukon Training Area.

Table 1-17. Summary of Impacts for Unmanned Aerial Vehicle Access

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
Airspace Management and Use (Key impacts by individual proposed UAV corridor)	**Link between Eielson AFB and R-2211** The proposed restricted area would adjoin the ceiling of the Eielson AFB Class D airspace and would require that UAV flights be separated from other airfield operations while transitioning between the runway environment and the overlying corridor. Procedures would be outlined in a formal agreement among the responsible UAV functions, Eielson AFB airfield management, and the Fairbanks/Anchorage ATC facilities to define how this airspace would be integrated with the Class D airspace structure and uses, when active. The Federal airway potentially affected by this proposal is the V444/T232/A2/A15 segment that intersects this corridor. An average	Same as Alternative A for each proposed UAV corridor. Currently, a Certificate of Authorization is used as an alternative to establishing a restricted area for limited UAV types and operational needs. USARAK currently uses this option as needed to support their limited UAV	Under this alternative, no restricted area or other designated airspace would be considered for a UAV corridor; therefore, there would be no changes to civil aviation use of this airspace and it would remain as under existing baseline conditions.

Table 1-17. Summary of Impacts for Unmanned Aerial Vehicle Access *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	of two IFR flights transits this airway daily with typical assigned altitudes at 8,000 feet MSL and above. This is within the range of altitudes proposed for this corridor use. Depending on the days and time periods this restricted area is activated, there may be a minimal impact on these few daily flights should they be delayed or other rerouted around this corridor by the FAA. This proposal has the greatest potential to adversely affect VFR air traffic operating along the highways, flyways, and other flight paths commonly flown between Fairbanks and points south and southeast where they would typically operate through the area of this proposed restricted area, without mitigations to avoid or reduce adverse impacts. Fairbanks International, Bradley, and several other more distant public and private airfields in the general area may be potentially affected by the ability for based aircraft to transit to/from destinations where their routes of flight would normally require transit through this proposed airspace. As noted by the FAA, this corridor would have the potential to affect the routing and sequencing of Fairbanks arriving and departing traffic. It was also noted that the Fairbanks TRACON airspace provides flight training opportunities for both VFR and IFR flight training that could be also affected by this proposal.	requirements. Because of the restrictive nature of a Certificate of Authorization, the potential effects of establishing this type designation was considered to be the same as discussed above for Alternative A relative to the limitations and restrictions the active status of this corridor may have on civil aviation airspace uses.	
Airspace Management and Use	**Link between Eielson AFB and R-2205** Activation of this proposed corridor would be independent of or in conjunction with the proposed restricted area expansion for R-2205 to integrate/accommodate compatible USARAK and Air Force flight activities In all cases, this airspace would be under the positive control of the Fairbanks TRACON or Anchorage ARTCC to ensure separation is maintained between this corridor use and other nonparticipating IFR air traffic in region. No Federal airways transit within or close proximity to this proposed corridor, therefore, the potential direct impacts of this restricted airspace on airway traffic would be minimal. However, as noted by the FAA, there may be indirect impacts on any airway traffic that would normally be directed by ATC through this affected airspace	Same as Alternative A.	Under this alternative, no restricted area or other designated airspace would be considered for a UAV corridor; therefore, there would be no changes to civil aviation use of this airspace and it would remain as under existing baseline conditions.

Table 1-17. Summary of Impacts for Unmanned Aerial Vehicle Access *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	while transiting to/from Ladd AAF, Eielson AFB, or Fairbanks International. The only jet/RNAV route transiting the affected area is the NCA 22 track used primarily by air traffic operating at FL290 and above and would not be impacted by use of this restricted airspace corridor. Public input suggests the majority of VFR air traffic flights operate west of the Eielson AFB and adjacent YTA region with this corridor having minimal impact on this aviation community. No public airports or private airfields are located in close proximity to this proposed corridor.		
Airspace Management and Use	**Link between Allen Army Airfield and R-2202** This corridor would provide the restricted airspace environment required to transit UAV aircraft between Allen AAF and R-2202. Allen AAF serves Fort Greely military aviation activities while permitting civil aircraft to operate at this airfield on a prior permission required basis. This proposed restricted area corridor is located within or near federal airway V-444/T-232, V-515, and V-481/T226/B25, which all converge at Delta Junction. FAA data indicate the daily average use of these routes is 2 to 3 IFR flights. Potential impacts of this restricted area on the lower density use of these airways and any other off-route air traffic in this region would be minimal, depending upon the flight times/altitudes and the activated corridor times/altitudes use which would be under the positive control of the Anchorage ARTCC. For jet/RNAV routes, the daily average 3 IFR flights en route along the J-167 segment transiting this region would be above the altitudes proposed for the restricted area corridor and be unaffected by this action. This proposed restricted area would cross the Richardson Highway flyway commonly used by VFR aircraft to transit between the Fairbanks area and points south of the Allen AAF. During the times this airspace is active, VFR flights would be restricted from operating through this area and would need to either delay their flights or circumvent Allen AAF to the west to remain clear of this corridor. This impact would be increased during time periods that both this	Same as Alternative A.	Under this alternative, no restricted area or other designated airspace would be considered for a UAV corridor; therefore, there would be no changes to civil aviation use of this airspace and it would remain as under existing baseline conditions.

Table 1-17. Summary of Impacts for Unmanned Aerial Vehicle Access *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	corridor and the proposed BAX restricted area are active. Such impacts could be considered significant, depending upon the extent to which one or both restricted areas are activated and at what altitudes and those mitigation measures to be considered by USARAK to minimize impacts on this aviation community. Several airfields are located in the immediate area to include Delta Junction, and six to eight private airfields within about a 10-NM radius of the Allen AAF. Many of these airfield operations would be VFR flights which may be potentially impacted by restricted airspace crossing the Richardson Highway flyway.		
Airspace Management and Use	**Link between R-2202 and R-2211** This corridor would enable UAV training flights to transit between the two restricted areas so as to maximize use of their respective range capabilities. There are no federal airways transiting within the proposed airspace. No jet/RNAV routes are located within or near the proposed corridor. Depending on the altitudes activated for this corridor, VFR air traffic may be unable to transit through this area at the lower altitudes required to remain below this active airspace. Depending on the volume of VFR aircraft that operate within this area, it cannot be determined to what extent this restriction would impact the general aviation community. VFR pilots having a need to operate within this area may have to delay or otherwise alter their flights to avoid this restricted area when active. The active status of this airspace would be provided via the SUAIS and other advisory services. No public or private airfields are located within close proximity to this proposed corridor.	Same as Alternative A.	Under this alternative, no restricted area or other designated airspace would be considered for a UAV corridor; therefore, there would be no changes to civil aviation use of this airspace and it would remain as under existing baseline conditions.
Airspace Management and Use	**Link between R-2205 and R-2202** This corridor would be used for those training missions where UAV may transition between these restricted areas and use the range impact areas within each. This proposed corridor would cross federal airway V-444/T232 and could encompass those altitudes assigned by ATC for this route air traffic. This proposal may have moderate potential impacts on the	Same as Alternative A.	Under this alternative, no restricted area or other designated airspace would be considered for a UAV corridor; therefore, there would be no changes to civil aviation use of this airspace and it would remain as under existing baseline conditions.

Table 1-17. Summary of Impacts for Unmanned Aerial Vehicle Access *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	reported two to three average daily flights using this airway and any transition of these aircraft to/from Fairbanks International. ATC may have to reroute or delay nonparticipating aircraft from this active corridor, when necessary. Mitigation measures to address adverse impacts will be examined by the FAA. The two jet/RNAV routes transiting within or near this proposed corridor are J502-515 and J167. The daily average 6 to 12 IFR flights on J520-515 and 3 IFR flights on J-167 would normally transit at altitudes above the corridor ceiling and would not be impacted by this active restricted area. This corridor may have the potential for moderate to significant impacts on VFR aircraft that frequently operate along those highway, river, and pipeline flyways commonly flown by this traffic between the Fairbanks and Delta Junction areas. This may cause flight delays or rerouting. Pilots would need to obtain the active status of this airspace through NOTAMs, the SUAIS, and other available advisory services prior to conducting a flight through this area. A number of public and private airfields are located in the Fairbanks and Delta Junction areas that, while not directly affected by this proposal, may have aircraft that would be subject to flight restrictions, delays, and other inconveniences if their route of flight transited this proposed airspace.		
Airspace Management and Use	**Link between Fort Wainwright and R-2211** The corridor would adjoin the class D airspace overlying Fort Wainwright (Ladd AAF) and would therefore require a coordinated effort in planning UAV takeoffs, landings, and transition to the restricted area corridor be appropriately segregated from other airfield operations and missions within and outside of this terminal airspace. Procedures for integrating this corridor airspace with the Ladd AAF Class D airspace and segregating UAV operations from other air traffic would be defined in an agreement among all responsible entities. This proposed corridor would cross V-444/T232 and have the potential for impacts on this airway traffic. The extent to which this corridor would impact control and management of air traffic operations in this airspace environment will be further examined in	Same as Alternative A	Under this alternative, no restricted area or other designated airspace would be considered for a UAV corridor; therefore, there would be no changes to civil aviation use of this airspace and it would remain as under existing baseline conditions.

Table 1-17. Summary of Impacts for Unmanned Aerial Vehicle Access *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	the FAA aeronautical study. En route jet/RNAV air traffic in level flight at the higher altitudes on J502-515 and other routes transiting within/near this affected area would not be impacted by this proposed corridor. The potential impacts this proposed corridor may have on VFR air traffic would be the same as discussed above for other restricted airspace proposals intersecting commonly used VFR flyways. The location of this corridor within the Fairbanks terminal airspace and its close proximity to Fairbanks International, Eielson AFB, the Bradley airport, and several private airfields in this general area may impact the ATC options for routing air traffic arrivals/departures through this airspace environment. Any potential impacts this proposal may have on this terminal airspace environment, arrival/departure routes and gates, and instrument procedures would be the focus of the FAA aeronautical study for this proposal.		
Airspace Management and Use	**Link between Fort Wainwright and R-2205** The manner in which this corridor would be scheduled, managed, and used is the same as discussed previously to link Fort Wainwright with R-2211. This corridor would not intersect any federal airways and therefore would not have any direct impacts on airway traffic. This corridor would also not intersect any jet/RNAV routes in the area and therefore not impact this en route traffic other than potentially any transitioning of this route traffic between a jet route and Fairbanks International Airport. This proposed corridor is more distant from those areas and flyways where VFR air traffic more frequently operate and may have less impact on general aviation.	Same as Alternative A.	Under this alternative, no restricted area or other designated airspace would be considered for a UAV corridor; therefore, there would be no changes to civil aviation use of this airspace and it would remain as under existing baseline conditions.
Noise	The corridors would have a floor altitude of 1,200 AGL. Overflight noise levels would be similar to noise levels generated by common civilian aircraft. Time-averaged noise levels in the corridors were calculated under the highly conservative assumption that all UAVs would follow a single flight track and would fly at the lowest altitude permitted. Under this scenario noise levels generated by the	Same as Alternative A.	Under the No Action Alternative, operations in the MOA would continue to cease prior to 10:00 p.m. and noise levels would not change from existing conditions.

Table 1-17. Summary of Impacts for Unmanned Aerial Vehicle Access *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	proposed UAV operations would be approximately 35 dB L_{dnmr}. UAV overflight could potentially result in annoyance, but noise impacts would not exceed significance thresholds established for this action.		
Flight Safety	The flight safety assessment includes all seven proposed UAV corridors. The potential risk of an aircraft mishap for UAV operations under this alternative would be low. Mishap rates for UAV aircraft continue to decline as technologies, pilot-operator experience, and other advances provide for the enhanced command, control, and operation for UAVs and flight activities. The potential for a near miss/midair collision between UAV and other military or civilian aircraft would be minimal since these operations would be contained within protective airspace that separates these activities from other aircraft. Since UAV aircraft operate at much lower speeds and has a smaller profile than manned aircraft, the potential for bird-strike damage causing catastrophic damage is extremely low.	Same as Alternative A.	No UAV activities or protective airspace for their operations would be considered under the No Action Alternative; therefore, there would be no added flight safety concerns associated with this alternative.
Ground Safety	UAV armaments would not be used within these corridors; therefore, this alternative does not include activities that pose ground safety hazards, such as air-to-ground or live-fire ordnance training. Consequently, impacts on ground safety are not expected to occur.	Same as Alternative A.	Under the No Action Alternative, restricted area UAV corridors would not be established and UAV activity would continue to occur as it does under current existing conditions.
Air Quality	The air quality assessment includes all seven proposed UAV corridors. Any increases in particulate matter and carbon monoxide emissions from proposed operations in the seven UAV corridors would not exceed their applicable *de minimis* conformity thresholds of 100 tons per year. Thus, air quality impacts from Alternative A would not be considered significant, and a conformity determination is not necessary. Additionally, increases in emissions of the other criteria pollutants from Alternative A would not exceed their applicable PSD significance thresholds of 250 tons per year.	Same as Alternative A.	Air quality impacts under the No Action Alternative would not differ from air quality impacts generated by existing operations in the affected areas.

Table 1-17. Summary of Impacts for Unmanned Aerial Vehicle Access *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	Combustive emissions from the operation of UAVs in the corridors would contain HAPs that could potentially impact public health. However, as indicated by the low level of criteria pollutant emissions, UAV operation in the corridors as proposed under Alternative A would not be expected to result in significant impacts on public health, as the mobile and intermittent nature of these sources and the wide geographic regions of proposed operations would produce minimal impacts of HAPs in a localized area. As the increases in emissions that would result from operations under Alternative A would be minimal, the impacts from proposed emissions under this alternative on air quality-related values in Denali National Park would be expected to be negligible.		
Physical Resources	No Effect		
Water Resources	No Effect		
Hazardous Materials and Waste	No Effect		
Biological Resources	No Effect		
Cultural Resources	The cultural assessment includes all seven proposed UAV corridors. No impacts are anticipated to cultural resources from the proposed establishment of the UAV corridors and their training use. In compliance with Section 106 of the NHPA, the Army has completed consultation with the Alaska SHPO, who has concurred with the Army's determination of no adverse effect to historic properties. No significant impacts on traditional cultural resources or Alaska Native activities are anticipated to result from the proposed establishment of the UAV corridors and their training use. All compliance requirements for consultation with potentially affected Alaska Native tribes, ANCSA corporations, and Tribal government entities have been completed.	Same as Alternative A.	Under the No Action Alternative there would be no expansion of restricted areas for the proposed UAV access corridors, no UAV corridors or operations would occur between various elements of SUA in the JPARC, and impacts on cultural resources would be as under existing conditions.
Land Use	The land use assessment includes all seven proposed UAV corridors. The primary source of impact to surface uses is from noise from	Same as Alternative A.	Under the No Action Alternative, no UAV corridors or operations would

Table 1-17. Summary of Impacts for Unmanned Aerial Vehicle Access *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	UAVs, and perceptions of safety concerns. The projected noise levels for UAV operations in the corridor sectors with a minimum floor altitude of 1,200 feet AGL of 41 dB L_{dnmr} and of 33 dB L_{dnmr} for those with floor altitudes of 3,000 feet is below thresholds of concern for any land use. Operations of UAVs would not inhibit access to any roads, trails, recreational areas or other locations on the ground. Consequently, this proposal would have no effect on public ground access.		occur between various elements of SUA in the JPARC. No changes affecting land use, public access or recreation would occur and they would remain as under existing conditions.
Infrastructure & Transportation	No Effect		
Socioeconomics	The socioeconomic assessment includes all seven proposed UAV corridors. UAV access could potentially affect general aviation, resulting in economic impacts to regional business and communities from delays or fuel costs associated with rerouting. Such impacts would depend on civil air traffic densities/peak periods and the individual areas and time frames in which the proposed UAV flight activities would occur. The FAA and Air Force would address any impacts and mitigation measures to be taken before implementation of any airspace proposals. The economic impacts of any commercial or other civil aviation aircraft being delayed or diverted to any extent around the proposed corridors when active cannot be quantified due to the many factors to be considered in estimating such impacts. Economic impacts to general aviation pilots would depend on routes of flight and decisions on whether to delay flight when the corridor is active versus flying through or avoiding the corridors.	Same as Alternative A.	Under the No Action Alternative, no UAV corridors would be established. Therefore, no changes to the current existing conditions of socioeconomic resources are anticipated.
Subsistence	The subsistence assessment includes all seven proposed UAV corridors. The narrow corridors of restricted airspace would be active for a maximum of 50 days per year. It is not expected that access to subsistence resources by aircraft would be impacted, and thus that harvest of subsistence resources would not be delayed to such a degree that the communities ranked as high in dependence on subsistence resources would be adversely impacted.	Same as Alternative A.	Under the No Action Alternative, no new restricted airspace or Certificate of Authorization airspace would be established. Subsistence activities would continue as they are currently practiced.

Table 1-17. Summary of Impacts for Unmanned Aerial Vehicle Access *(Continued)*

Resource Area	Alternative A (Preferred Alternative)	Alternative B	No Action Alternative
	Additionally, public access to the area beneath the restricted airspace corridors would not be restricted, and individuals would continue to participate in subsistence resources as they are currently practiced. Therefore, no significant impacts to subsistence resources as defined by ANILCA would be expected.		
Environmental Justice	The environmental justice assessment includes all seven proposed UAV corridors. Public access to the area beneath the restricted airspace corridors would not be restricted. Based on a review of environmental consequences for other related resources, potentially significant impacts would be reduced through proposed mitigations and other management actions. No disproportionately high and adverse environmental or health effects on minority and low-income populations or children would occur.	Same as Alternative A.	No restricted airspace or Certificate of Authorization airspace would be established and conditions and practices in the area would continue as they currently exist. There would be no additional disproportionately high and adverse environmental and health effects on minority and low-income populations or children.

MITIGATION MEASURES:

- **FAA's study (Airspace Management)**
  Pending the FAA's study of the preferred airspace proposal alternatives to determine specific impacts and mitigation measures to be taken to minimize any impacts on VFR and IFR air traffic, other existing mitigations would continue to be relevant in addressing potential impacts of the airspace proposals.
- **Sandhill crane surveys (Safety-Flight)**
  Conduct sandhill crane surveys during spring and fall migration periods.
- **Special use airspace safety (Safety-Flight)**
  Continue efforts to comply with the respective Service formal flight safety programs, outlined in directives/regulations with supplements, that dictate those aircrew responsibilities and practices aimed at operating all manned and unmanned aircraft safely in existing modified and new SUAs.
- **Subsistence use consultation (Subsistence)**
  Continue consultation efforts with subsistence parties to determine current subsistence use levels and areas on USAG-FWA lands as input into scheduling. Continue Tribal consultation efforts with subsistence users about hunting and fishing programs on USAG-FWA land. Continue to use a newsletter to provide information to subsistence users about existing and new military activities and the changes in access for subsistence users. Continue research and cooperative studies with Tribes to address possible effects of Air Force and Army activities on subsistence resources both directly within USAG-FWA installation boundaries and those outlying resources that may also be affected by military activities on DTA-West, DTA-East, YTA, and TFTA.

Key: AAF=Army Airfield; AFB=Air Force Base; AGL=above ground level; ANCSA=Alaska Native Claims Settlement Act; ANILCA=Alaska National Interest Lands Conservation Act; ARTCC=Air Route Traffic Control Center; ATC=Air Traffic Control; BAX=Battle Area Complex; dB=decibel; FAA=Federal Aviation Administration; FL=flight level; HAP=hazardous air pollutant; IFR=Instrument Flight Rules; L_{dnmr}=onset rate–adjusted day-night average sound level; MSL=mean sea level; NCA=Northern Control Area; NHPA=National Historic Preservation Act; NM=nautical mile; NOTAM=Notice to Airmen; PSD=prevention of significant deterioration; RNAV=Area Navigation; SHPO=State Historic Preservation Officer; SUA=Special Use Airspace; SUAIS=Special Use Airspace Information Service; TRACON=Terminal Radar Approach Control; UAV=unmanned aerial vehicle; USAG-FWA=U.S. Army Garrison Fort Wainwright, Alaska; USARAK=U.S. Army Alaska; VFR=Visual Flight Rules; YTA=Yukon Training Area.