



**United States  
Department of Defense**

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**Report to Congress on  
Sustainable Ranges**

Submitted by  
The Office of the Secretary of Defense  
Under Secretary of Defense  
(Personnel and Readiness)

**July 2007**

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## EXECUTIVE SUMMARY

### BACKGROUND

This report addresses two Congressional reporting requirements:

- (1) **Section 366 of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2003 as amended.** Section 366 required the Department of Defense (DoD) to develop a comprehensive plan to address training constraints caused by limitations on the use of military lands, marine areas, and airspace that are available in the United States (U.S.) and overseas for training of the Armed Forces. Progress reports are required on an annual basis through 2013
- (2) **Section 320 of the NDAA for FY 2004.** Similarly, in Section 320 of the FY 2004 NDAA, the Congress required DoD to report on the impacts of civilian community encroachment on military installations and operational ranges, as well as the impact of certain legal requirements on military readiness activities. Section 320 requires DoD to submit an interim report and subsequent annual reports.

This report also addresses the Government Accountability Office's (GAO) comments on the 2006 Sustainable Ranges Report.

Additionally, this report addresses language expressed in the Senate version of the 2007 NDAA to require DoD to establish a policy to identify military aerial training areas, determine aerial training airspace requirements to meet future training needs, and undertake necessary actions to preserve and expand those areas of airspace needed for training requirements. (See Appendix A - *NDAA for FY 2007 Conference Report to Accompany H.R. 5122*).

### DOD'S SUSTAINABLE RANGES PROGRAM

To address potential impacts to training and test ranges, DoD is implementing its Sustainable Ranges Initiative. Through this initiative, DoD is developing and implementing long term strategic plans to ensure the sustainability of its ranges across the U.S.:

- DoD and Service range sustainment policy and guidance
- Community outreach
- Regional and state coordination and partnering
- Compatible land use planning and buffer implementation
- Natural and cultural resource management
- Training and education
- Legislative, regulatory, and administrative initiatives

### HIGHLIGHTS OF THE 2007 SUSTAINABLE RANGES REPORT

#### Goals, Actions, and Milestones (Update)

The Department provides an update in this report regarding the goals it is working towards as part of the implementation of the Training Range Comprehensive Plan. These goals are organized under four main programmatic categories: (1) Modernization and Investment, (2) Operations & Maintenance, (3) Environmental, and (4) Encroachment. For each category, a set of actions and milestones has been identified for fulfillment during FYs 2005-2011.

### **Range Sustainability Assessment**

Section 366 of the NDAA for FY 2003 requires DoD to develop methods to assess range sustainability by comparing existing capabilities of DoD's training and test ranges against current and anticipated DoD training requirements. The Department has formally established this requirement in DoD Directive 3200.15, *Sustainment of Ranges and Operating Areas (OPAREAs)*. Under this directive, the Services are responsible for developing range sustainability assessments that compare required vs. actual capabilities, capacities, and conditions to support required training activities.

To perform these assessments, DoD has initiated efforts to define the standards and conditions under which training requirements are to be accomplished. Such standards and conditions form the basis for range requirements and are Service-specific. All of the Services have begun working on defining such requirements in a manner that ties specific infrastructure, equipment, and other assets to specific range capabilities. With a set of defined range requirements, the Services can begin to systematically conduct a gap analysis for each of its ranges/range complexes to determine if they can collectively support current and anticipated training requirements.

### **Range Information Enterprise**

DoD continues to develop a more integrated Range Information Enterprise (RIE) that supports live training and testing at ranges across air, land, sea, undersea, and electromagnetic spectrum domains. The RIE initiative encompasses the business areas, processes, users, information systems, and information technology infrastructure that enable training and testing on ranges. The current phase of the RIE effort is focused on developing requirements for improved information sharing that support cross-Service and cross-functional collaboration. In the coming year, the effort will focus on soliciting input from stakeholders to support the requirements development process and the strategic planning necessary for implementation.

### **Airspace Training Requirements**

In deference to language expressed in the Senate's FY 2007 National Defense Authorization bill, this year's report also discusses the Services' approach to identifying airspace training requirements and examines the plans and procedures that are in place to meet current and future training requirements. Also discussed in this year's report is the issue of integrating military Unmanned Aerial Systems (UAS) into the National Airspace System (NAS). UAS play a significant role in not only DoD's mission and operations, but also various other federal, state, and civilian agencies that use UAS in homeland defense, domestic disaster relief operations, and local law enforcement activities.

### **Range Inventory**

As provided in previous reports, this year's report updates the inventory of ranges for all of the Services. The range inventory presents summary information, organized into the following components:

- Regional maps of ranges and Special Use Airspace
- Range Inventory
- Special Use Airspace Inventory
- Military Training Route Inventory

The Department recognizes that this inventory may not be exhaustive, and that there may be additional areas used to support training and testing. Therefore, DoD will continue to improve the range inventory and provide annual updates to Congress.

### **Legislative and Regulatory Changes**

In February 2007, the Department resubmitted the three remaining Readiness and Range Preservation Initiative (RRPI) proposals. These proposals address provisions of the Clean Air Act (CAA), the

Resource Conservation and Recovery Act (RCRA), and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The CAA proposal would provide states with the authority to accommodate military readiness activities subject to the federal conformity requirements under the Act. The proposed RCRA/CERCLA proposal would provide for protection against litigation concerning the longstanding, uniform regulatory policy that use of munitions for testing and training on an operational range is *not* a waste management activity or the trigger for cleanup requirements.

The Navy also included a legislative proposal to amend the Federal Land Policy and Management Act as part of the 2008 National Defense Authorization package. This proposal would give the Secretary of the Interior the authority to grant temporary and limited authorizations for the military to conduct training on Bureau of Land Management (BLM) land in Nevada.

### **Funding Issues**

For the last several years, DoD has discussed its efforts to implement a standardized framework for consistent and accurate reporting of sustainable ranges funding in response to the Section 366 requirement to report on funding requirements associated with implementing its plans for addressing training restraints caused by encroachment. There are several challenges DoD faces in meeting this requirement. These challenges include the fact that funding is managed differently by each Service, and the costs are spread across multiple funding categories (e.g., manpower, training, environmental, real property, utilities) and types of funds (e.g., operations and maintenance, military personnel, procurement, military construction, RDT&E). The Department is committed to improving its ability in the future to identify and display the funds dedicated to sustainable ranges efforts.

### **Service-Specific Reports**

Included in the appendices are individual reports from all of the Services addressing Service-specific range sustainment issues, accomplishments, and future plans.

### **CONCLUSION**

Since the last report, DoD has taken several steps toward articulating the current state of Service efforts to assess military range capabilities, to identify existing and future areas of encroachment, and to mitigate or avoid limitations on training. However, DoD recognizes that there is still work to be done in meeting the Congressional requirements outlined in the FY 2003, FY 2004, and FY 2007 NDAAAs. The Department thanks Congress for their continuing support and looks forward to working with Congress and other key stakeholders to ensure the long-term sustainability of DoD's training and testing assets needed to prepare DoD's men, women, and equipment to serve national interests.

## 1. INTRODUCTION

### 1.1. PURPOSE

This is the fourth installment of the Sustainable Ranges Report, which addresses two Congressional reporting requirements under the National Defense Authorization Act (NDAA) (see Appendix A).

- (1) Section 366 of the FY 2003 NDAA as amended. The Congress required the Department of Defense (DoD) to develop a comprehensive plan to address training constraints caused by limitations on the use of military lands, marine areas, and airspace that are available in the United States (U.S.) and overseas for training of the Armed Forces. Section 366 also required DoD to submit annual progress reports to Congress through 2013.
- (2) Section 320 of the FY 2004 NDAA. Under this section of the NDAA, Congress required DoD to report on the impacts from civilian community encroachment on military installations and training and test ranges,<sup>1</sup> as well as impacts from certain legal requirements on military readiness activities.

Because this report represents an update to the previous three Sustainable Ranges Reports, it does not focus on topics addressed in the earlier reports. Accordingly, all four annual reports form DoD's most current reporting under the combined requirements of the NDAA.

### 1.2. BACKGROUND

Training and test ranges are located throughout the United States (U.S.) and overseas. The Department's ranges consist of land, airspace, sea surface, undersea areas, and frequency spectrum. They include all types of terrain and climatic conditions in which U.S. military forces prepare for combat—deserts, mountains, coastal areas, urban areas, swamps, forests, plains, and water. U.S. forces train at hundreds of training ranges around the world that are equipped to support a wide variety of offensive and defensive training missions, including land-based maneuvers; naval operations on the sea surface and undersea; amphibious operations; air-to-air, air-to-ground, surface-to-air, and space operations; and electronic

FY 2003 NDAA, Section 366 as amended (*Training Range Sustainment Plan, Global Status of Resources and Training System, and Training Range Inventory*) requires the DoD to develop:

- A comprehensive plan for addressing training constraints caused by limitations on the use of military lands, marine areas, and airspace.
- A plan to modify the global status of resources and training system to better reflect the impact of such training constraints.
- A training range inventory for each of the Services.

FY 2004 NDAA, Section 320 (*Report Regarding Impact of Civilian Community Encroachment and Certain Legal Requirements on Military Installations and Ranges and Plan To Address Encroachment*) requires the DoD to develop:

- A study on the impacts of civilian community encroachment and investigation of current and future requirements for operational buffer areas.
- An assessment of how compliance with State Implementation Plans (SIPs) under section 110 of the CAA (42 U.S.C. 7410), the Solid Waste Disposal Act (including the Resource Conservation and Recovery Act) (42 U.S.C. 6901 et seq.), and CERCLA (42 U.S.C. 9601 et seq.) can potentially affect DoD readiness requirements.
- A comprehensive resource management plan to respond to encroachment issues affecting military installations and operational ranges.

<sup>1</sup> Section 366 was enacted in the Bob Stump National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2003, Public Law 107-314. The terms "range" and "operational range" were given statutory definitions in the FY 2004 NDAA. Consequently, the terms and coverage of Section 366, from FY 2003, are not entirely consistent with the later enacted definitions. Because DoD interprets Congress' intent for Section 366 to encompass more than operational ranges (as defined in the law), and because it is DoD's objective to provide Congress with an accurate and definitive statement of our test and training requirements, this report does not apply to the statutorily defined terms of "range" or "operational range." While this report does use the term "range," it does so in the context of that term's usage in Section 366, which is clearly broader than provided for in the statutory definition in 10 U.S.C. 101(e).

warfare. Live fire training activities are conducted using a full spectrum of weapon systems—from small arms to guided missiles. Beyond ranges exclusively owned or operated by DoD, the military also uses other land, air, and sea space to conduct aspects of its test and training missions. These ranges and operating areas:

- Provide for the realistic training needed to increase the survivability and success of U.S. military forces in combat.
- Test the maneuverability, reliability, and effectiveness of weapons systems.
- Provide the Services with the practical, hands-on experience needed to ensure success in combat.

Military ranges vary in size from a few acres for small arms training to over a million acres for large maneuver exercises and weapons testing, as well as broad open ocean areas that provide for off-shore training and testing. These ranges face ever increasing limitations and restrictions on land, water, and airspace, as residential, commercial, and industrial development continues to expand around, once-remote military training and testing installations.

To address encroachment concerns, meet new global defense posture requirements, and mitigate potential impacts on training, test, and readiness, DoD is implementing the Sustainable Ranges Initiative. This effort is consistent with DoD's Training Transformation Initiative. Both initiatives are mentioned later in this report, in the context of responding to the combined requirements of NDAA Sections 366 and 320. In addition, the report also discusses DoD's range sustainment and training transformation plans, progress to date, milestones, and future goals envisioned under these initiatives. Also, this report will provide progress updates on DoD's comprehensive plan to address operational constraints that could potentially affect training missions and limit the military's use of, or access to, military lands, water, airspace, and communication spectrum available both in the U.S. and overseas.

### **1.3. UNDERSTANDING DIFFERENCES BETWEEN TRAINING AND TEST AND EVALUATION RANGES**

Both training and test ranges are generically defined as range and Operating Areas (OPAREAs) in DoD Directive 3200.15, "Sustainment of Ranges and Operating Areas." Where they diverge is in the missions they conduct, and how they receive funding. Training ranges exist to support operating forces and to ready forces for combat. They receive funding through Operations and Maintenance (O&M) funds. Test ranges are specifically chartered to support DoD RDT&E and acquisition, and are therefore funded using Research, Development, Test and Evaluation (RDT&E) funds.

#### **Training Ranges**

A training range consists of controlled areas that allow for maneuver and the firing or delivery of live ammunition and practice ordnance from direct fire, line-of-sight, or non-line of sight weapons platforms or systems at targets within the controlled area. Training ranges are normally equipped for, designated as, and used for practice and qualification. Typically ranges have boundaries that incorporate the location of the weapons systems, the target array and impact areas. Modern or automated ranges are equipped to systematically control the targets, score target hits and provide the training user with feedback for evaluation purposes.

## T&E Ranges

T&E ranges are specifically bounded or designated geographic areas/volumes, including Operating Areas (OPAREAs), that encompass a landmass, body of water (above and/or below surface), airspace, and/or frequency spectrum used to conduct testing of military hardware, personnel, tactics, munitions, explosives, or electronic combat systems. T&E ranges use instrumentation, communications, threat systems, targets, workforce, and other elements of a physical plant assigned to measure and collect data in these areas/volumes for DoD RDT&E and weapons acquisition purposes.

Many ranges, especially larger ranges, can and do host a combination of training and T&E activities. A comparison of these activities is shown in Table 1-1.

**Table 1-1 Comparison of T&E and Training**

T&E Activities	Training Activities
Controlled/scripted test scenarios	Free-play/maneuvering conditions
System-under-test is instrumented for safety, performance and casualty	On board instrumentation is mostly for player interactions and results (scoring)
Ground-truth is essential continuously throughout the test	Ground-truth is not essential except for end-game scoring
Test participants and support personnel are trained and experienced testers	Operators are in-training, or generally inexperienced
Test Center or Range Commander is responsible for safety	Training Mission Commander (user) is responsible for safety on training ranges, not the Range Commander
Schedule flexibility is essential to accommodate Research, Development, Test and Evaluation (RDT&E) and Acquisition test programs	Training requires schedule "certainty"
Test missions tend to be of short duration (hours)	Training missions may be complex (some may involve considerable logistics) and may last for days or weeks
Other than some Operational Test and Evaluation (OT&E) tests, T&E events on an Open Air Range (OAR) must undergo considerable simulation/"indoor"/"ground" testing (in terms of years) and pre-T&E event checks using a large physical plant array of simulation/"indoor"/"ground" facilities (usually collocated with the OAR) in order to verify safety, security, and likelihood of a successful OAR test	No pre-mission plant facilities are needed since training missions require no more than operational checklist verification at either the OAR or it's remote base of origin

### 1.4. ORGANIZATION OF THIS REPORT AND GAO RESPONSE TO THE 2006 SUSTAINABLE RANGES REPORT

Section 366 requires the Government Accountability Office (GAO) to provide Congress with an evaluation of DoD's annual report on sustainable ranges. GAO released its assessment of DoD's 2006 Sustainable Ranges Report in June 2006 and provided the following recommendations for improving DoD's annual reporting.<sup>2</sup>

- A. Comprehensive planning efforts. Recommended that DoD address funding requirements for implementing comprehensive planning efforts for the sustainment of training ranges and annual status reports.

<sup>2</sup> Government Accountability Office (GAO). Improvement Continues in DOD's Reporting on Sustainable Ranges but Additional Time Is Needed to Fully Implement Key Initiatives. GAO-06-725R, June 20, 2006, at <http://www.gao.gov/new.items/d06725r.pdf#search=%22gao%202006%20sustainable%20ranges%22>

- B. Training range requirements. Recommended that DoD include an assessment of current and future training range requirements or an evaluation of the adequacy of current resources, including virtual and constructive assets, to meet current and future training range requirements.
- C. Legislative and regulatory changes. Suggested that DoD include recommendations for legislative and regulatory changes to address training constraints.
- D. Readiness reporting improvements. Recommended that DoD describe its plans to improve its readiness reporting system.
- E. Training range inventories. Recommended that DoD identify specific capacities, capabilities, and constraints of all training ranges in DoD's training range inventories.

The Department has addressed GAO comments, while responding to the specific requirements of NDAA Sections 366 and 320, as outlined in Table 1-2.

**Table 1-2 Sustainable Ranges Report Organization and Incorporation of GAO Recommendations**

Chapter	Summary	Incorporation of GAO Recommendation
1	<b>Introduction:</b> Summarizes the purpose and background for this report.	NA
2	<b>Continuing Challenges:</b> Addresses continuing challenges faced by DoD's training and test ranges.	NA
3	<b>Comprehensive Planning:</b> Analyzes goals and milestones established for DoD's sustainable ranges program; funding for range sustainability initiatives; and comprehensive planning issues that could potentially affect DoD's training requirements, including the Sustainable Ranges Plan and the Readiness and Environmental Protection Initiative (REPI).	Section 3.2 addresses GAO recommendation A. Section 3.3 addresses GAO recommendation C.
4	<b>Range Sustainability Assessment:</b> Discusses ongoing range management and sustainability efforts.	Chapter 4.0 addresses GAO recommendation B. Section 4.5 addresses GAO recommendation D. Appendix B addresses GAO recommendation E.
5	<b>Range Information Enterprise:</b> Focuses on the Range Information Enterprise (RIE) and other information technology efforts to improve range management and sustainability.	NA
6	<b>Working Beyond the Fence Line:</b> Describes various partnering and outreach efforts involving sustainable ranges and compatible land use initiatives, including input from all of the Services on Service-specific initiatives.	NA
7	<b>Airspace Training Requirements:</b> Discusses airspace training requirements, including potential future requirements.	Chapter 7.0 addresses GAO recommendation B.
8	<b>Range Inventory:</b> Presents a discussion on the updated inventory of DoD ranges and range complexes, <sup>3</sup> as provided by each of the Services.	NA
9	<b>Compliance Issues Related to CAA, RCRA, and CERCLA:</b> Addresses compliance issues related to these laws.	NA
10	<b>Observations:</b> Provides concluding observations. Appendix A contains regulatory language provided in NDAA Sections 366 and 320.	NA
<b>Appendix A</b>	Contains regulatory language provided in NDAA Sections 366 and 320.	NA
<b>Appendix B</b>	Includes the updated, comprehensive range inventories and maps for all installations.	NA

<sup>3</sup> The term "range complex" refers to an informal grouping of ranges or range areas (e.g., separate impact areas on a large range) and associated airspace. This term reflects the Services' longstanding practice and use of the term to enable the grouping of ranges or range areas and associated airspace for internal management purposes. The term is used differently by each Service (and that difference is thus reflected in this report): Army and Marine Corps range complexes represent the range portions of the larger Army and Marine Corps installations (excluding cantonment areas); Navy range complexes are defined as regional groupings of various land, air, and sea ranges; Air Force range complexes are defined as the airspace and land area. It is critical for readers to note that the term "range complex" has no particular relationship to the term "operational range."

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Chapter	Summary	Incorporation of GAO Recommendation
Appendices C-F	Contain comprehensive reports from the Services that address Service-specific sustainable ranges issues and reporting requirements under Sections 366 and 320.	NA
Appendix G	Lists the acronyms used throughout this report.	NA

## 2. CONTINUING CHALLENGES

### 2.1. FACTORS INFLUENCING UNITED STATES MILITARY READINESS

Military readiness is defined as the ability of military forces to meet the demands of the national military strategy. Readiness is the synthesis of two distinct but interrelated concepts:

- **Unit readiness.** The ability to provide capabilities required by the Combatant Commanders to execute assigned missions, i.e., the ability of each unit to deliver the outputs for which it was designed.
- **Joint readiness.** The Combatant Commander's ability to integrate and synchronize ready combat and support forces to execute his or her assigned missions.”<sup>4</sup>

Many factors contribute to military readiness, such as the quality of military personnel, leadership, modern equipment, ordnance and spare parts, installation and industrial base infrastructure, quality of life programs, and education and training. Realistic training (1) develops individual skills and unit capabilities; (2) helps the Services prepare to defeat enemy tactics and systems; (3) guides forces to assimilate lessons learned from actual military experience, experimentation, and previous training exercises; (4) facilitates continuous improvement of doctrine, organization, tactics, and equipment; and (5) builds confidence and morale. Rigorous and realistic training also helps the Department of Defense (DoD) meet its obligation to the American people to ensure their troops are deployed with the highest possible assurance of success and survival. Rigorous and realistic testing ensures that forces have reliable, safe, and effective systems. DoD ranges provide a safe, realistic environment that enables military men and women to hone their skills and become familiar with their weapon systems and equipment.

The importance of ranges to United States (U.S.) military readiness is unquestionable, and every effort is being undertaken by DoD to ensure range availability and long-term viability. Factors that have traditionally influenced operations at training and test ranges have stemmed largely from domestic encroachment pressures—such as private development adjacent to the ranges, competition for airspace and communication spectrum frequencies, and potential restrictions imposed by environmental regulations—which increasingly impede DoD's ability to conduct necessary range missions. DoD's ranges are simultaneously confronted with additional challenges and demands resulting from the Global War on Terrorism (GWOT) and force transformation under the Global Defense Posture Realignment (GDPR). These transformation efforts are directed at adjusting and reconfiguring DoD's global footprint to match evolving military requirements.

#### 2.1.1. Encroachment Challenges

Out of 650 million acres of federal land, DoD owns or manages approximately 30 million acres as military installations, training and test ranges, laboratories, and testing areas. The Department faces various encroachment challenges that impact its ability to conduct military readiness activities. These encroachment challenges generally fall within three broad categories: (1) competition for resources (e.g., access to land, water, airspace, and frequency spectrum), (2) development near military training areas, and (3) environmental enforcement and compliance issues. Specific encroachment challenges are discussed below.

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<sup>4</sup> Department of Defense (DoD). *DoD Dictionary of Military and Associated Terms*, August 31, 2005, at <http://www.dtic.mil/doctrine/jel/doddict/>

**Airborne Noise.** Noise associated with military activities is an issue at installations, under low-level flying routes, and at training and test ranges. Though weapons systems are exempt from the Noise Control Act of 1972, DoD must still assess the impact of noise under the National Environmental Policy Act (NEPA). As community developments have expanded closer to military installations, public concerns and complaints about noise from military operations have increased. Pressure from groups at the local, regional, and state levels can serve to restrict or reduce military training.

**Air Quality.** Readiness limitations can arise due to application of the Clean Air Act to emissions generated on military installations and ranges. New or significant changes in range operations also require emissions analyses, and if emissions exceed specified thresholds, they must be offset with reductions elsewhere.

**Airspace Restrictions.** Special Use Airspace (SUA) is vital to military training and testing, but is in conflict with the growing demands of the commercial airlines and general aviation industry that competes with military aviation activities for the same airspace. Increased airspace congestion limits pilots' ability to train to fly as they would in combat.

**Cultural Resources.** Military installations and ranges often host archaeological or historic sites. Such cultural resources require protection or mitigation of impacts, in accordance with federal and state requirements.

**Endangered Species.** Urban sprawl and expanding development have created havens of last resort on DoD land for endangered species. The management of these endangered species can restrict DoD range activities. Careful management is required to ensure endangered species protection and readiness activities are properly balanced.

**Frequency Encroachment.** Commercial spectrum uses are increasingly conflicting with military requirements. The telecommunications industry continues to pressure for the reallocation of some radio frequency spectrum from federal to commercial control. Over the past decade, DoD has lost about 27 percent of the frequency spectrum allocated for aircraft telemetry. The Government Accountability Office also reported that additional reallocation of spectrum could affect space systems, tactical communications, and combat training.<sup>5</sup>

**Incompatible Land Use.** Unplanned, incompatible development, or other land uses near military ranges can compromise the effectiveness of training activities. Careful land use planning is needed by DoD, surrounding communities, and other interested parties to ensure that growth and military readiness can co-exist.

**Maritime Sustainability.** Regulatory compliance issues can restrict the ability of naval forces to sustain marine training exercises and testing operations. The 1972 Marine Mammal Protection Act (MMPA) has been used in third-party lawsuits to limit the deployment of low-frequency active sonar and restrict the use of mid-frequency active sonar that the Navy uses to track quiet diesel submarines. Other initiatives, such as the creation of marine sanctuaries, can also have unintended readiness impacts.

**Unexploded Ordnance and Munitions Constituents.** Environmental laws and regulations pose a challenge to DoD's ability to conduct training and testing operations involving the use of military munitions on operational ranges. As DoD continues to improve its operational range management techniques, collaboration and partnerships with federal and state regulatory agencies will be critical to ensure environmental compliance while maintaining the ability to test and train.

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<sup>5</sup> General Accounting Office (GAO). *Defense Spectrum Management: More Analysis Needed to Support Spectrum Use Decisions for the 1755-1850MHz Band*, GAO-01-795 (Washington, D.C.: Aug. 20, 2001).

**Water Quality and Wetlands Protection.** Water quality and wetlands remain important issues for DoD and stakeholders near training and test ranges. Range management and operations must consider the impacts of past and current range activities on water and wetland resources, and must develop sustainable strategies to accommodate future requirements.

### **2.1.2. Global War on Terrorism (GWOT)**

The U.S. is now confronted with fundamentally different challenges than those faced by the American defense establishment in the Cold War and previous eras. The September 11, 2001 attacks on the U.S. showed the destructive potential of terrorists and the effectiveness of asymmetric methods in countering conventional U.S. military superiority. While traditional military challenges by hostile countries will always remain a threat to national security, we are faced with an expanding range of security challenges. These emerging challenges include:<sup>6</sup>

- Terrorism and the proliferation of weapons of mass destruction (WMD).
- Ungoverned countries and under-governed areas within countries, which can serve as both a breeding ground and a sanctuary for terrorists and other transnational threats.
- Potential adversaries' adoption of asymmetric approaches – including irregular warfare, WMD, and advanced, disruptive, technological challenges – designed to counter U.S. conventional military superiority.

To meet these challenges, DoD is adapting the way it trains and fights. For example: DoD will increase Special Operations Forces by 15 percent; the Air Force will establish an Unmanned Aerial Vehicle Squadron under U.S. Special Operations Command (SOCOM), and the Navy will support a SOCOM increase in SEAL Team manning and will develop riverine warfare capabilities. The DoD will also expand Psychological Operations and Civil Affairs units by 3,700 personnel. Army and Marine Corps ground forces will increase their capabilities and capacity to conduct irregular warfare missions. New capabilities are being established at training and test ranges to meet counter-Improvised Explosive Device (IED) requirements. Test and training sites have been established at Yuma Proving Ground and Naval Weapons Center China Lake.

At the same time, all Services continue to participate in the two major GWOT campaigns: Operation Enduring Freedom in Afghanistan and Operation Iraqi Freedom in Iraq. These situations have led DoD, the Congress, and the President to review and increase the end-strength for the Army and Marine Corps. These increases in end-strength along with the need to adapt training and testing to meet evolving challenges across all Services will drive changes in ranges to meet new demands.

### **2.1.3. Overseas Basing and Global Defense Posture Realignment**

United States (U.S.) military forces must be strategically positioned around the world so they can respond to events in an efficient and expeditious manner. Maintaining this position has historically required the establishment of permanent installations in many host nations. Activities conducted on these overseas installations, as with installations in the U.S., have the potential to effect the natural environment. Each host nation also has its own local issues, such as noise, destruction of flora and fauna habitats, and contamination of drinking water. These issues are addressed in self-imposed requirements of DoD policy, the provisions of U.S. law made applicable to overseas military operations, and the political relationship of the U.S. and the host nation, as reflected in Status of Forces Agreement and other international

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<sup>6</sup> Department of Defense (DoD). *Strengthening U.S. Global Defense Posture, Report to Congress*, September 2004, at [http://www.defensecommunities.org/ResourceCenter/Global\\_Posture.pdf#search=%22Global%20Defense%20Posture%20Review%22](http://www.defensecommunities.org/ResourceCenter/Global_Posture.pdf#search=%22Global%20Defense%20Posture%20Review%22)

agreements. The cumulative affect of these requirements and agreements have the potential to restrict the days, times, and location of military training in a manner similar to the restrictions being faced in the United States.

With the emergence of the GWOT and the increased attention to asymmetrical threats posed not only *within* regions, but *across* regions, DoD initiated the Global Defense Posture Realignment (GDPR), a comprehensive, strategy-based reassessment of the size, location, types, and capabilities of its forward military forces. Based on the GDPR, DoD developed a new global posture strategy that was announced in August 2004 by President Bush as the most comprehensive restructuring of U.S. military forces overseas since the end of the Korean War.<sup>7</sup> The GDPR will have less emphasis on permanent overseas installations, and more emphasis on non-permanent, temporal ‘places and spaces’ to train and operate overseas. The GDPR will also result in increased demands on U.S. installations as they absorb forces being re-stationed from overseas.

The effects of GDPR on Army training lands and live fire ranges in the U.S. are easy to understand. Approximately 50,000 soldiers – with their individual and unit raining requirements – will be re-stationed to the CONUS from Europe and Korea. Each one of those soldiers will qualify twice annually with their individual weapon. In other words, there will be an increased requirement to support 100,000 weapon qualification events on a specific type of range on the CONUS installations. As these requirements expand to include other individual, crew and weapons systems training, they quickly exceed current range capabilities. When these increased requirements are matched to the Army’s intent to modernize its ranges in order to provide soldiers with the most realistic training conditions, the impact of GDPR is substantial. Aggressive and well-planned range construction and modernization can meet the GDPR challenge.

Similar effects on training ranges and OPAREAs are expected for all Services in the U.S., as more units will require more training days on these assets. There is a limit to how much innovative scheduling of training lands and ranges can meet the increased requirements for time and space. Current and potential encroachment restrictions on training land and range use can further degrade the ability of units to train and achieve the required readiness levels in this constrained environment.

The Department is also assessing impacts of GDPR on ‘traditional’ overseas ranges and operational areas. These overseas ranges and operational areas will be used for joint DoD training and exercises, cooperative training and exercises with host nations and other allies, individual Service operations, etc. The Department anticipates that these locations will be in varying states of environmental health – from very polluted, to near pristine. The Department understands it will need to devise policies and procedures to ensure flexible approaches to meet training, testing, and exercise needs at these locations while not further degrading the environment, nor taking on the responsibility to clean up the remains of past practices from previous owners.

#### **2.1.4. Other Factors to Consider**

##### **2.1.4.1. Base Realignment and Closure (BRAC)**

The preliminary 2005 Base Realignment and Closure (BRAC) list was released by DoD on May 13, 2005, and on November 9, 2005, this list of actions was enacted into law. The BRAC 2005 proposal recommended the closing of 33 major U.S. military installations and the realignment (either enlarging or shrinking) of 29 other installations. The Secretary of Defense must begin implementing the BRAC 2005 recommendations by September 15, 2007 and complete implementation no later than September 15, 2011.

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<sup>7</sup> The White House, *Making America More Secure by Transforming Our Military*, at <http://www.whitehouse.gov/infocus/defense/>

BRAC will concentrate training requirements at the remaining installations and could require the Services to modify or modernize their existing range inventories. The demands for land (maneuver and impact areas), sea, and air operational areas may increase at receiving BRAC locations. As an example, the Army will consolidate the Armor and Infantry Schools at Fort Benning, Georgia, to form the Maneuver Center of Excellence. Each School has high demands for mounted and dismounted training areas and the entire suite of ranges – from individual weapons to Abrams Tank and Bradley Fighting vehicle qualifications.

#### **2.1.4.2. Energy-Related Encroachment**

Increased energy demand nationally and globally has stimulated requirements for new energy production and transmission infrastructure in many parts of the U.S. At the same time, local community opposition and environmental concerns have frequently made it more difficult to site new facilities. To address these concerns, Congress enacted the Energy Policy Act (EPACT) of 2005 to create important new mechanisms to streamline and expedite permitting and siting processes for energy facilities.

EPACT Section 368 seeks to enhance the Nation's energy infrastructure by designating energy transmission corridors on federal lands. Section 368 initially requires designation of corridors in the eleven contiguous Western states for the transmission of oil, gas, hydrogen, and electricity.<sup>8</sup> An energy corridor is defined as a parcel of land (linear or aerial) that has been identified through the land use planning process as being a preferred location for existing and future utility rights-of-way, and also as being suitable for one or more utility rights-of-way that are similar, identical, or compatible in nature. Specifically, Section 368 requires the Secretaries of Energy, Agriculture, Interior, Commerce, and Defense to:

- Designate corridors for oil, gas, and hydrogen pipelines and electricity transmission facilities on federal land in 11 contiguous western states.
- Perform any environmental reviews required to complete the designation of such corridors.
- Incorporate the designated corridors into the relevant agency land use and resource management plans.
- Conduct all of the above requirements for the West within 24 months of EPACT enactment.
- Conduct all of the above requirements for the East by 2009.

The appointed agencies have determined that designating corridors as required by Section 368 of the EPACT constitutes a major federal action that may have a significant impact upon the environment within the meaning of NEPA. Therefore, the Agencies are involved in preparing a draft Programmatic Environmental Impact Statement to address the environmental impacts from the proposed action and explore a range of reasonable alternatives.

DoD is working with other agencies to ensure that incompatible development or expansion of new or existing energy corridors does not negatively impact testing and training missions. Some encroachment concerns regarding the enhancement of existing energy corridors include transmission towers, which can reach 600 feet, interfering with low-level military flight training routes and SUA. Also, the number and location of the corridors might influence quiet radar testing areas and terrain-following routes. Aboveground pipelines could also impede mechanized vehicles during training exercises on public land

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<sup>8</sup> Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming

between installations, and even buried transmission lines could interfere with artillery or aerial bombing range operations.<sup>9</sup>

Other energy initiatives besides transmission corridors can also pose challenges to military testing and training. Wind farm sitings and off-shore oil and gas exploration and development in areas where DoD tests and trains are examples of other potential encroachment concerns. The Sustainable Ranges Integrated Product Team (IPT) has created an energy encroachment subgroup to monitor such issues and to help coordinate DoD responses when required on this important subject.

#### **2.1.4.3. Undocumented Immigrant Trespass on Ranges**

Military installations and ranges located on or near U.S. borders are potentially vulnerable to an only-recently recognized form of encroachment: criminal trespass by undocumented immigrants that adversely affects test or training. This is of particular concern along the southern border with Mexico, where high numbers of undocumented immigrants and the associated border protection activities of the U.S. Customs and Border Patrol have in specific locations caused disruptions to military readiness. At the Barry M. Goldwater Range (BMGR) and at Fort Huachuca in Arizona, as well as at Fort Bliss, Texas, trespassing immigrants have at times closed ranges or otherwise altered mission-critical training events. OSD and the Services are responding to this challenge, stepping up DoD's efforts to counter immigrant trespass effects and working hand-in-hand with the Customs and Border Patrol to coordinate respective agency actions.

Congress recently recognized the importance of the issue, requiring DoD to provide a "*Report regarding effects on military readiness of undocumented immigrants trespassing upon operational ranges*" under Section 354 of Title III, Subtitle F of the FY 2006 National Defense Authorization Act (NDAA)<sup>10</sup> Conference Report to accompany H.R. 1815 (December 18, 2005). This report, submitted to Congress on 15 January, 2007, contains an assessment of the impact on military readiness caused by undocumented immigrants whose entry into the U.S. involves trespassing upon DoD ranges, and describes implementation of measures to prevent such trespassing. The report identifies ranges adversely affected by the trespassing of undocumented immigrants, and describes the types of range activities affected by such trespassing. The time lost for range activities, and the increased costs incurred, are also documented.

As directed by Congress, DoD intends to provide six-month implementation updates on immigrant trespass mitigation measures and planning. DoD will continue to work with the Department of Homeland Defense/Customs and Border Patrol and other interested parties, to assess future impacts and to take necessary measures to prevent undocumented immigrants from trespassing upon training and test ranges. This approach at BMGR has resulted in fewer range closures in the past 18 months and has enhanced the working relationship between the USMC and the Border Patrol.

#### **2.1.4.4. Marine Mammal Protection and Sonar**

The Department employs active sonar as a fundamental part of its anti-submarine warfare capability. The use of sonar in testing, training, and operations is critical to the national defense. At the same time, DoD is committed to protecting maritime resources, and is a leader in marine mammal research. While balancing these two critical responsibilities is a challenge, DoD is taking steps to ensure that both can be fully satisfied.

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<sup>9</sup> U.S. Army Environmental Command (AEC). *Energy Corridor Development Begins* (Winter 2006 issue), at <http://aec.army.mil/usaec/publicaffairs/update/win06/win0608.html>

<sup>10</sup> *National Defense Authorization Act for Fiscal Year 2006. Conference Report to Accompany H.R. 1815*. December 18, 2005, at [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109\\_cong\\_reports&docid=f:hr360.109.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_reports&docid=f:hr360.109.pdf)

In the 2004 NDAA, Congress clarified aspects of the Marine Mammal Protection Act as applied to military activities. These changes are critical, helping to ensure that the safety of Service personnel is a top priority when carrying out DoD's national security mission. An essential part of this mission is the ability to defend DoD's fleet from current and future submarine threats, and the best way to counter such threats is training with active sonar at sea under simulated combat conditions.

Navy policy requires that major fleet exercises be reviewed for environmental compliance and for potential effect on marine mammals and other marine life. Guidance and protective measures, which may be geared to a specific geographic area and date of an exercise, are developed and transmitted to fleet operators as an integral part of fleet exercise planning. Protective measures may include planning to conduct exercises in areas not known to have concentrations of marine mammals; posting highly trained lookouts; listening for marine mammals with passive hydrophones; creating buffer zones within which operations will be altered or delayed if marine mammals are present; ceasing sonar operations if marine mammals are detected within 200 yards of an active sonar dome; and conducting aerial searches for marine mammals in the area before, during, and after sonar operations.<sup>11</sup>

## **2.2. DOD RESPONSE TO U.S. MILITARY READINESS CHALLENGES**

In response to challenges outlined earlier in this report, DoD has implemented the Sustainable Ranges Initiative. Through this initiative, DoD is facilitating policy development, community outreach, regional and state coordination, compatible land use partnering and planning, natural resource management, and training.

The Department's Sustainable Ranges Initiative includes the consideration of policy, organization, leadership, programming, outreach, legislative clarification, and related efforts that work collaboratively to foster range sustainment. To address range sustainability issues on a continual basis, DoD established the Sustainable Ranges Working Integrated Product Team (WIPT). New policy directives promote a long-term, sustainable approach to range management. DoD is taking a proactive role in developing programs to protect facilities from urbanization, and working with states or state governments and nongovernmental organizations to promote compatible land use. The sustainable ranges outreach effort provides stakeholders with an improved understanding of readiness needs, addresses concerns of state and local governments and surrounding communities, works with nongovernmental organizations on areas of common interest, and partners with groups outside DoD to reach common goals. Significant efforts are being made to address frequency spectrum challenges through Central Test and Evaluation spectrum enhancement investments and World Wide Radio Conference proposals for additional spectrum. In addition, where possible, DoD is working with other federal and state agencies to develop administrative and regulatory solutions to encroachment pressures.

The Department, working in cooperation with the surrounding communities and governments, has implemented a broad range of compatible land use programs around military installations. The Department is expanding programs, such as the Joint Land Use Study (JLUS) program, to promote active Service planning and coordination for land use at the local and regional levels, and developing action plans for test ranges already under pressure from private development and growth. The Office of Economic Adjustment, in conjunction with the Services, is exploring ways to expand application of its JLUS program around DoD's ranges. This effort is intended to help communities plan the development around DoD lands more effectively before urban growth encroachment begins to affect range activities.

Compatible land use partnerships, which establish conservation buffers, have become an increasingly important tool for DoD to ensure that land outside the military installations and ranges is used in ways

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<sup>11</sup> U.S. Navy. *Marine Mammal Protection*, at [http://www.whalesandsonar.navy.mil/marine\\_mammal\\_protection.htm](http://www.whalesandsonar.navy.mil/marine_mammal_protection.htm)

that are consistent with the military operations within the fence line. As residential, commercial, or other types of development near military installations have increased, DoD has become more interested in using this tool to protect its military installations and ranges. Partnering efforts aimed at achieving easements have accelerated since the authorization of their use by Congress.

The Department has established a suite of policies and directives that require installations to (1) assess the environmental impacts of munitions use on ranges, including the potential off-range migration of munitions constituents; and (2) begin any necessary remediation. These policies and directives require multi-tiered (e.g., national, regional, and local) coordination and outreach programs that promote the sustainment of the Department's ranges. A DoD directive requires that inventories of ranges are completed, updated every five years, and maintained in a geographical information system that is readily accessible by installation and range decision-makers. The Services are actively executing policy guidance to ensure their ranges are assessed and remediation activities, where necessary, are initiated.

The Department is developing analytical models and tools aimed at quantifying encroachment, evaluating encroachment impacts at installations, and prioritizing incompatible land use issues. These measures can be used to assess the severity of encroachment on training and to prioritize mitigation efforts. In addition, as models are developed that link encroachment issues to training, scenarios can be created to anticipate constraints prior to the re-stationing or realignment of troops. The Department's outreach and communication efforts ensure the involvement of the communities, conservation experts, and other stakeholders to protect military missions and benefit communities, land-owners, and a wide variety of stakeholders.

Finally, each of the Services has developed its own approach within the general framework of the Sustainable Ranges Initiative (SRI). These approaches are defined by the overall strategy, current and future requirements, data collection and management systems, assessment tools and quantification of encroachment impacts, and documentation and implementation plans. The approaches are marked by their ability to work with regions, states, and local communities across the country to address each party's interests.

The SRI is closely linked to the Training Transformation Initiative to help ensure the availability and maintenance of DoD ranges for all current and future military readiness activities. The Training Transformation Initiative is designed to provide dynamic, capabilities-based training for DoD in support of national security requirements across Active and Reserve Components of the Services and other agencies. There are several new developments across the Services as well as long-term funding schedules with established goals to monitor, evaluate, and overcome training transformation and range sustainment challenges. These integration efforts and issues are further discussed throughout this report.

The U.S. military involvement in Iraq, Afghanistan, and elsewhere demonstrates that the Services are conducting significantly more complex wartime operations that require increased joint training and interoperability among the Services, combatant commands, and other DoD and non-DoD organizations. Combat missions are conducted in many different theatres of war and environments, making the diverse training landscapes provided by DoD's training ranges a vital component to preparing military personnel.

**3. COMPREHENSIVE PLANNING**

**3.1. GOALS, ACTIONS AND MILESTONES (UPDATE)**

In the 2005 Sustainable Ranges Report to Congress, the Department of Defense (DoD) listed several goals it was working toward. These goals address the following areas: (1) Modernization and Investment, (2) Operations & Maintenance, (3) Environmental, and (4) Encroachment. The goals and their definitions are based on DoD programmatic guidance. For each goal, a set of actions and milestones has been identified for fulfillment during fiscal years (FYs) 2005-2011. For the purposes of the FY 2007 Sustainable Ranges Report, DoD has provided an update on these goals, actions, and milestones, with respect to actions taken in 2006, in the tables below.

**Modernization and Investment Goal:**

*Resource for standardized land management structure and operations that mitigate encroachment and provide for range sustainment. Maximize and sustain the availability of military range infrastructure and land assets.*

**Table 3-1 Modernization and Investment Actions and Milestones**

2005 Actions and Milestones	Progress to Date
<p><b>Office of the Secretary of Defense (OSD) and U.S. Joint Forces Command (USJFCOM) establish global Joint National Training Capability (JNTC) infrastructure requirements</b></p> <p>As part of the JNTC concept, sites and systems will be required to create a realistic joint environment for training/mission rehearsals of joint tasks. These sites and systems will require certification of their capability to support their joint training role. Certification of sites and systems will be event independent and ensure the technical infrastructure is capable of supporting the selected event with the evolving standards and architectures.</p>	<p><b>Marine Corps:</b> The USJFCOM Joint Warfighting Center has completed the accreditation and certification of the Marine Air Warfare Training Squadron One at Marine Corps Air Station Yuma, Arizona. Similar accreditations/certifications will take place for the Marine Corps Air Ground Combat Center and the Marine Corps Mountain Warfare Training Center in 2007.</p> <p><b>Navy:</b> The USJFCOM Joint Warfighting Center has completed certification of the Southern California Offshore Range (SCORE) and the Virginia Capes (VACAPES) range capability and will complete certification of the Naval Strike and Air Warfare Center range capability before the end of FY 2007. Accreditation of Joint Task Force Exercises (JTFEXs) on the east and west coasts is complete and Carrier Air Wing (CVW) Fallon exercise training will be complete by the end of FY 2007.</p>
<p><b>OSD, USJFCOM, and Services establish JNTC technical standards to ensure future interoperability between JNTC systems</b></p> <p>Office of the Deputy Under Secretary of Defense (Readiness) has initiated an effort to develop a set of Open Net-Centric Interoperability Standards for Test and Training (ONISTT). This effort has laid the standards framework and is currently pursuing the air-to-air piece. In the meantime, a Test and Training Enabling Architecture is being pursued as a middleware solution to enable range interoperability for existing systems. A DoD Training Community of Interest has been chartered to, among other things, be the umbrella point of contact for Service Oriented Architecture efforts involving the Training community.</p>	<p><b>Marine Corps:</b> Conducted JNTC-sponsored Research, Development, Test and Evaluation on the ability of certain legacy range systems to be compatible with the Test and Training Enabling Architecture.</p> <p><b>Navy:</b> The Navy is supporting ONISTT goals and objectives to develop a net-centric approach to interoperability and standards through the funded Tactical Combat Training System (TCTS), which is interoperable with the USAF P5 CTS system. TCTS is the training instrumentation system being used to establish the ONISTT use-case.</p>

2005 Actions and Milestones	Progress to Date
<p><b>Services continue to develop and annually update Service Range Complex Plans</b></p> <p>Although at different stages of development, all the Services are actively working on developing standardized plans.</p>	<p><b>Marine Corps:</b> Working on completing its sixth plan with two awaiting funding.</p> <p><b>Navy:</b> Completed twelve out of sixteen Range Complex Management Plans (RCMPs). Four RCMPs are due for completion by end of 2007. RCMP updates are due every five years with the first scheduled to begin in 2009.</p> <p><b>Army:</b> Developing an automated RCMP tool. The first format test was completed in 2006. The tool is due to be fielded in FY 2008.</p>
<p><b>Services identify and document management processes for determining range requirements</b></p>	<p><b>Marine Corps:</b> Created the Marine Corps Training Ranges Required Capabilities Document (RCD) in 2006 as its validated requirement statement for ranges and training area capabilities within a ten-year planning horizon.</p> <p><b>Navy:</b> Navy is continuing to examine range management practices.</p> <p><b>Army:</b> Implemented process defined in AR: 350-19.</p>
<p><b>OSD and Services develop a T&amp;E Strategic Plan that provides a systematic approach to determining DoD's T&amp;E resource and infrastructure needs.</b></p> <p>It is designed to provide a guide for programming and budgeting for the continued transformation of the T&amp;E infrastructure to meet the transformational needs of the department.</p>	<p>The inaugural strategic plan was published in FY 2003. The FY 2005 Strategic Plan was published in September 2005 and presented a comprehensive assessment of test resources needs. The FY 2007 Strategic Plan is the third in the series and builds on the FY 2005 Plan.</p>
<p><b>OSD and Services develop requirements for a web-based library of best practices</b></p>	<p><b>Army:</b> Developed the SRPWeb Portal, which is a single entry point for Sustainable Range Program (SRP) information, tools, and capabilities related to SRP activities and management. It provides a tool for outreach, integrates management, and facilitates information exchange.</p>

**Operations and Maintenance Goal:**

*Resource for standardized land management structure and operations that mitigate encroachment and provide for range sustainment. Maximize and sustain the availability of military range infrastructure and land assets.*

**Table 3-2 Operations and Maintenance Actions and Milestones**

2005 Actions and Milestones	Progress to Date
<p><b>Office of the Secretary of Defense (OSD) and Services conduct at least six Working Integrated Product Team (WIPT) meetings and report to Senior Readiness Oversight Council</b></p>	<p>Complete</p>
<p><b>Services ensure that plans for new ranges consider the entire lifecycle</b></p>	<p>Complete</p>
<p><b>Services brief WIPT on range sustainment funding</b>  <b>DoD begins to develop requirements for career program</b></p>	<p><b>Marine Corps:</b> Taken steps to include standardizing manning, and training towards career development of range professionals.</p> <p><b>Army:</b> Completed the Range Officer Professional Development Program of eight modules, which will be deployed through the Army Learning Management System and/or the Soldier Opportunity College and will</p>

2005 Actions and Milestones	Progress to Date
	<p>support the Range Officer career track.</p> <p><b>OSD:</b> Defense Acquisition University has developed a set of courses within Acquisition Management specifically aimed at elements of the professional RDT&amp;E range workforce.</p>
<p><b>OSD and Services continue to develop range clearance policy</b></p>	<p><b>Marine Corps:</b> Contracted the study, "U.S. Marine Corps Operational Range Clearance (ORC) and Processing Plan," which was completed in August 2006. A Marine Corps range clearance order is under development.</p> <p><b>Navy:</b> Navy's ORC policy is in effect. Policy is currently being implemented through the completion of ORC Plans (two out of ten complete) as well as increased funding to enable both annual and expanded (five-year) range clearance.</p> <p><b>Army:</b> Developed policy to address clearance of operational ranges, which is found in AR 350-19. Range clearance is conducted to allow safe access to ranges and preclude accumulation of munitions and debris (Section 4-12, AR 350-19).</p>

**Environmental Goal:**

*Focus the environmental management systems to fully support sustained access to ranges.*

**Table 3-3 Environmental Actions and Milestones**

2005 Actions and Milestones	Progress to Date
<p><b>Services continue to assess off-range migration</b></p>	<p><b>Marine Corps:</b> Conducted eight site visits between FY 2004 and FY 2006. Analysis and modeling is on-going at these eight sites. During FY 2007 Marine Corps will conduct an additional four site visits.</p> <p><b>Navy:</b> Initiated range assessments under the Range Sustainability and Environmental Program Assessment process on eleven training range complexes and two Major Range and Test Facilities Base (MRTFB) sites.</p> <p><b>Air Force:</b> Introduced the Air Force Operational Range Assessment Plan (ORAP) in March of 2006, which provided guidance for the execution and implementation of munitions constituent migration assessments at operational ranges. By the end of calendar year 2006, eight major air-to-ground ranges or range complexes have been assessed, with three more scheduled to begin in 2007.</p> <p><b>Army:</b> Army is assessing approximately 9,650 ranges under its Operational Range Assessment Program. As of December 2006, 3,323 ranges have been assessed under Phase One (qualitative assessment). A summary of assessment results can be found in Appendix C.</p>
<p><b>Services conduct required remediation</b></p>	<p><b>Marine Corps:</b> Will re-assess operational ranges at a minimum of every five years once the initial baseline assessment has been completed.</p> <p><b>Navy:</b> Completed range assessments, which to date do not show any off-range migration of munitions constituents that</p>

2005 Actions and Milestones	Progress to Date
	<p>present an unacceptable risk to human health or to the environment.</p> <p><b>Air Force:</b> In July 2006 the Air Force began the development of an Operational Range Response Plan that will provide guidance on conducting response actions at operational ranges to address munitions constituent migration issues that are identified as a result of an operational range assessment.</p> <p><b>Army:</b> The Army is currently conducting remediation activities at the Massachusetts Military Reservation.</p>
<p><b>Services complete more than 80% of required reviews and updates of Integrated Natural Resource Management Plans (INRMPs) and Integrated Cultural Resource Management Plans (ICRMPs)</b></p>	<p><b>Marine Corps:</b> Completed 16 out of 17 required INRMPs. Blount Island, FL being prepared as recently acquired installation. Completed 12 ICRMPs. HQMC guidance anticipated requiring ICRMP completion by remaining installations. Full implementation programmed.</p> <p><b>Navy:</b> Complete</p> <p><b>Army:</b> Completed 172 out of 177 required INRMPs. Completed 132 out of 143 required ICRMPs.</p>
<p><b>Services brief the WIPT on selected Research, Development, Testing &amp; Evaluation projects</b></p>	<p>Continuing.</p>

**Encroachment Goal:**

*Maximize the accessibility of DoD ranges by minimizing restrictions brought about by encroachment factors. Implement sustainment outreach efforts that will improve public understanding of DoD requirements for training and testing, and support coalition-building and partnering on range sustainment issues important to DoD readiness.*

**Table 3-4 Encroachment Actions and Milestones**

2005 Actions and Milestones	Progress to Date
<p><b>Office of the Secretary of Defense (OSD) and Services coordinate encroachment quantification efforts</b></p> <p>OSD coordinates with Services through bi-weekly meetings of Sustainable Ranges Working Integrated Product Team (WIPT) and meetings of the DoD Natural Infrastructure Capability Work Group (NICWG). Encroachment quantification efforts and progress are discussed when applicable.</p> <p><b>OSD to report annually on encroachment quantification developments in Sustainable Ranges Report.</b></p>	<p><b>Marine Corps:</b> Training Range Encroachment Information System Tool (TREIS-T) to automate range and training capability analyses that will interface with and provide capabilities assessment data to the Marine Corps' Range and Training Area Management System and the Range Complex Management Plans (RCMPs). TREIS-T is entering a proof-of-concept phase to be completed in 2007.</p> <p><b>Navy:</b> In late 2006, Navy completed initial development of a Navy-wide encroachment database to include encroachment issues identified by installations, ranges, and regions identified in EAPs, as well as Commander, Fleet Forces Command, and Commander, Pacific Fleet through the Tactical Training Theater Assessment and Planning (TAP) program. Navy will work to finalize database development and link it to established repositories of information. Navy will use this repository of information to prepare reports and testimony to Congress and for encroachment program funding justification.</p> <p><b>Air Force:</b> The Natural Infrastructure Management concept continues to evolve. Working the development of the Natural Infrastructure Assessment Process to evaluate the availability or lack of availability of the natural infrastructure needed to support current and future mission requirements at major installations and ranges. This assessment includes quantifying mission impacts caused by encroachment. This process will assist Commanders in identifying</p>

2005 Actions and Milestones	Progress to Date
	<p>and prioritizing initiatives to address mission inefficiencies and encroachment, and leverage excess capacities to extract military value. The Resource Capability Methodology was pilot tested at over 30 Air Force installations.</p> <p><b>Army:</b> The Installation Status Report (ISR) – Infrastructure provides facility-level ratings for each range and its supporting infrastructure to include ratings from related encroachment criteria as well as improvement costs. The Encroachment Condition Model (ECM) is an objective, centralized Geographical Information System database that quantifies encroachment on Army training lands and ranges. The ECM is currently under final development. ISR-Natural Infrastructure, which will replace ISR-Environment, will provide an analysis of the capability of natural infrastructure to support mission requirements at the base, region, and HQDA level. ISR-Natural Infrastructure will tie range capability to encroachment factors.</p>
<p><b>OSD and Services continue to identify candidate locations for buffer initiatives and execute agreements subject to funding limits to support range operations</b></p> <p>The Services are developing programs to support new authority under 10 USC 2684(a) on conservation buffer partnerships.</p>	<p><b>OSD:</b> Developing a program guide to provide an overarching structure to these already successful Service-based programs.</p> <p><b>Marine Corps:</b> Published the Marine Corps Installation Commanders' Guide to Encroachment Partnering in February 2006 to assist planning and execution per 10 USC 2684a authority.</p> <p><b>Navy:</b> This year Navy released the Chief of Naval Operations Instruction 11010.40 for the Encroachment Management Program. The instruction establishes Navy's Encroachment Partnering Program.</p> <p><b>Air Force:</b> Submitted 12 projects to ODUSD (I&amp;E) for consideration for FY 2007 funding under the Readiness and Environmental Protection Initiative. These projects cover installations and ranges across the country and will compliment existing Air Force Compatible Land use strategies.</p> <p><b>Army:</b> Increased its number of approved Army Compatible Use Buffers (ACUBs) from nine to sixteen in 2006. The Army expects an additional 50% increase in the number of approved ACUBs in 2007.</p>
<p><b>OSD to develop Service-wide range inventory and database using Geographic Information System (GIS)</b></p>	<p>Currently, OSD maintains a Service-wide inventory of ranges and installations using GIS, which is provided in list and map format in the appendixes of this report.</p> <p><b>Army:</b> The Army is updating its operational range data layers (Operational Range Inventory Sustainment) and storing this GIS data on a central server/repository under the Office of the Assistant Chief of Staff for Installation Management.</p>
<p><b>OSD and Services participate in at least two national or regional meetings with key stakeholders on range sustainability issues</b></p>	<p><b>OSD and Services:</b> Participated in several national and regional meetings with key stakeholders on Range Sustainability issues in 2006, such as the following:</p> <ul style="list-style-type: none"> <li>• Joint Services Environmental Management Conference</li> <li>• Southeast Regional Partnership on Planning and Sustainability</li> <li>• Western Regional Partnership</li> </ul>
<p><b>Conduct periodic updates to Air Installations Compatible Use Zones (AICUZ) and Range Air Installations Compatible Use Zones (RAICUZ) studies</b></p> <p>The Services are actively tracking and updating the currency of their plans.</p>	<p><b>Marine Corps:</b> Completed the Noise Management Program Review in August 2006. Marine Corps installation AICUZ and RAICUZ studies planned and executed per OPNAVINSTs 11010.36B and 3550.1 respectively.</p> <p><b>Navy:</b> Funded program to update these studies as necessary. Currently revising the RAICUZ instruction (OPNAVINST 3550.1) to provide more technical details on establishing range compatibility</p>

2005 Actions and Milestones	Progress to Date
	<p>zones and to revise the roles and responsibilities of the Department of Navy Commands.</p> <p><b>Air Force:</b> Determining how to apply the AICUZ concepts to the range environment. Using the Department of Navy's RAICUZ program as a template, the Air Force is identifying differences in range management and range capabilities to determine if changes might be needed to create a range compatible use program framework for the Air Force. Development and implementation efforts of the RAICUZ program were initiated in July of 2006.</p> <p><b>Army:</b> Army does not use AICUZ or RAICUZ to manage noise. Army tools for assessing and mitigating noise are discussed in Appendix C.</p>
<p><b>Issue Outreach Policy</b></p>	<p><b>Marine Corps:</b> Conducted a workshop in October 2006 to coordinate regional issues in promoting Marine Corps installations operational capabilities while balancing the concerns and needs of neighboring communities and governmental and non-governmental stakeholders. A similar Community Plans and Liaison Office (CPLO) regional workshop is to be conducted by MCI-West in FY 2007.</p> <p><b>Navy:</b> Navy RCMPs incorporate a proactive engagement/outreach strategy conveying the Navy's environmental stewardship initiatives in balance with the need to train at its ranges as part of the TAP program.</p> <p><b>Army:</b> Complete. Army developed its Sustainable Range Program Outreach Policy and Communications Plan in 2003. The plan provides policy guidance and tools that assist installations in effectively communicating live training requirements and encroachment challenges. Its two main components are the "Core Messages" and Training Support Package.</p>

### 3.2. FUNDING DISCUSSION

For the last several years, DoD has discussed its efforts to implement a standardized framework for consistent and accurate reporting of sustainable ranges funding in response to the Section 366 requirement to report on funding requirements associated with implementing its plans for addressing training restraints caused by encroachment. There are several challenges DoD faces in meeting this requirement. First, funding for Range Sustainment is managed by each individual Service in a manner that best suits the way their ranges are operated to meet the Service-specific missions. Second, funding for range sustainment is spread across multiple funding lines (e.g., manpower, training, environmental, real property, utilities, etc.) and types of funds (e.g., operations and maintenance, military personnel, procurement, military construction). Third, Service funding for the coming Fiscal Year is not fully defined and approved until the annual President's Budget submission, which is due at the same time as this report. Therefore, finalized financial information is not available during the development of this report.

The Department recognizes and appreciates Congress' desire for information on funding associated with range sustainment and is committed to working with Congress to give meaningful insight into the range sustainability funding situation. OSD, as in the past, will work with the Services to determine the best approach for identifying and tracking range sustainment in the future and present this approach to Congressional staffs to ensure it meets the spirit and intent of the NDAA language. The Department recommends that the reporting of such information be delayed until the spring to allow incorporation of finalized budget information.

### **3.3. LEGISLATIVE AND REGULATORY CHANGES**

There is an existing process in place via which DoD must submit all requests for legislative language that includes, amongst other things, obtaining approval from DoD's Office of Legislative Affairs and the Office of Management and Budget. The deadline for this established process is the same as for this report. Therefore, final DoD legislative or regulatory proposals cannot be incorporated into this report. The Department recommends that the requirement to address these items in this report be omitted. Alternatively, DoD can provide an update on proposed legislative or regulatory changes separately in the spring after they have been submitted with the President's Budget.

In February 2007, the Department resubmitted the three remaining Readiness and Range Preservation Initiative (RRPI) proposals as part of the President's Budget submission to Congress. These proposals address provisions of the Clean Air Act (CAA), the Resource Conservation and Recovery Act (RCRA), and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The CAA proposal would provide states with the authority to accommodate military readiness activities subject to the federal conformity requirements under the Act. The proposed RCRA/CERCLA proposal would provide for protection against litigation concerning the longstanding, uniform regulatory policy that use of munitions for testing and training on an operational range is *not* a waste management activity or the trigger for cleanup requirements. The proposed language remains substantially unchanged from last year. The specifics of the proposals are discussed more thoroughly in Chapter 9.

The Navy also included a legislative proposal to amend the Federal Land Policy and Management Act as part of the 2008 National Defense Authorization package. This proposal would give the Secretary of the Interior the authority to grant temporary and limited authorizations for the military to conduct training on Bureau of Land Management (BLM) land in Nevada. Currently, the Secretary of the Interior has the authority to issue land use authorizations to the military in Alaska only. The proposed amendment will help to ensure military units ground access for joint field training between naval aviation units and Army Patriot units. This joint capability training is aimed at preventing surface to air fratricide events. For this kind of training to be most effective, the Patriot batteries would need to be placed on BLM land beneath the Fallon Training Range Complex Special Use Airspace. If approved, the land use authorization would allow the military to conduct the training without requiring a formal land withdrawal. Land use authorizations are an alternative because they allow for joint use and because they are temporary and have a shorter lead time.

### **3.4. READINESS AND ENVIRONMENTAL PROTECTION INITIATIVE**

In the face of increasing urban sprawl, DoD developed the Readiness and Environmental Protection Initiative (REPI). Launched in 2004, REPI is part of DoD's overall Sustainable Ranges Initiative, a multi-level effort designed to ensure the future use of military testing and training land by addressing issues of potential encroachment on military training. This effort emphasizes the need for installations to look outside the fence to work constructively and creatively with communities and other stakeholders.

The REPI program was established as a way for DoD to implement the authority provided by Congress in Section 2684a of Title 10 United States Code (USC), enacted in 2002, as part of the NDAA for FY 2003. Section 2684a allows the Services to enter into agreements with private conservation organizations or with state and local governments. These agreements permit ranges and installations to cost-share the acquisition of conservation easements from willing sellers – a way to preserve high-quality habitat and limit incompatible development around these ranges and installations.

Congress has shown increasing support for the REPI program, raising its funding from \$12.5 million in FY 2005 to \$37 million in FY 2006, and to \$40 million in FY 2007. The REPI program has already led

to more than two dozen conservation buffer projects across the country. Projects receiving FY 2005 REPI funding are now in the main completed. Completed FY 2005-funded projects have secured 14,688 acres of valuable buffer lands. In addition, the ability of REPI funds to leverage additional outside funding has become a hallmark of the program. FY 2005 funding not only leveraged \$13.9 million in additional Service funding, it leveraged \$35.95 million in funding from non-DoD sources.

Examples of REPI project successes thus far include:

- **Fort Carson, Colorado.** A conservation easement brought about through the Army and several partners now protects 4,960 acres of land on the southern border of Fort Carson, keeping viable a private working ranch and allowing the military to continue use of its major firing ranges. The Denver Post has called the project, “a three-way win for the military, ranchers, and conservation...”
- **Marine Corps Base Camp Lejeune, North Carolina.** The Marine Corps and the North Carolina Wildlife Resources Commission partnered to protect more than 1,000 acres near Camp Lejeune. The land – which had been slated for development – has become a wildlife preserve for the public to enjoy and its preservation has allowed for continued training at the base.
- **NAS Fallon Churchill County, Nevada.** In May 2006, the Navy and Churchill County entered into a 5-year Agreement to protect nearly 6,000 acres of land surrounding NAS Fallon, the Navy’s premier air warfare training facility. The area is experiencing extremely rapid population growth and development which could threaten NAS Fallon’s ability to support the Fallon Range Training Complex. Through 2006, five restrictive use easements totaling 688 acres have been acquired by the partnership, with more planned in 2007.

As a way to further institutionalize the program and advance its implementation, DoD developed a program guide in 2006 that describes the program’s objectives, elements, and implementation. The guide includes factors to be taken into consideration in assessing Service project proposals. Such factors include the project’s benefit to military readiness, its ability to limit incompatible growth, its enhancement to preserving habitat, and its financial viability and partner commitments. The Department applied these program guide criteria with success in the selection of the FY 2007-funded REPI projects. As DoD continues to learn lessons from the implementation of the REPI program, it looks forward to sharing those lessons with all interested parties and to revising the program guide accordingly.

The Department has reinforced the REPI program with a number of other compatible land use initiatives and outreach efforts. One recent example is DoD’s recent signing of a Memorandum of Understanding (MOU) with the Department of Agriculture’s Natural Resources Conservation Service (NRCS). The MOU pledges that the two agencies will work together to promote compatible land use near installations, and that NRCS will give special consideration to assisting land conservation efforts that build on DoD’s REPI program.

For more information on how DoD is working outside the fence line, please see Chapter 6 of this Report. For a more detailed description of the REPI program, please see DoD’s 2007 Report to Congress on REPI; which is being submitted in response to Section 2822 of the NDAA for FY 2006.

### **3.5. SUSTAINABLE RANGES POLICY AND GUIDANCE**

The DoD has issued numerous policy documents and guidance that deal with range sustainment. Based on this information the Services have built individual policy strategies and supporting guidance to address specific range sustainment issues and requirements within their Services.

### **3.5.1. Existing DoD Sustainable Ranges Policy and Guidance**

The following is a description of existing and planned DoD policy and guidance pertaining to range sustainment as well as comparable service policy documents and strategies.

**DoD Directive 3200.11, *Major Range and Test Facility Base (MRTFB)***, establishes policy and assigns responsibilities for the sizing, operation, and maintenance of the MRTFB.

**DoD Directive 3200.15, *Sustainment of Ranges and Operating Areas (OPAREAs)***, establishes policy and assigns responsibilities for the sustainment of training and test ranges and OPAREAs in DoD. It includes information and requirements focused on operational and mission requirements, encroachment concerns, data needs, planning and budgeting, range management, and stakeholder involvement.

**DoD Instruction 3200.16, *Operational Range Clearance***, assigns responsibilities and prescribes procedures for conducting range clearance. It includes information on the use and management of operational ranges in ways that ensure their safety and long-term sustainability, and a requirement to periodically review operational range management policies and procedures to determine the degree and frequency of range clearance required to support DoD's Sustainable Range Management Program.

**DoD Directive 4715.11, *Environmental and Explosives Safety Management on Operational Ranges Within the United States***, establishes policy and assigns responsibilities for the sustainable use and management of operational ranges located within the United States (U.S.), and for the protection of DoD personnel and the public from explosive hazards on operational ranges located within the U.S. It includes information and requirements focused on managing operational ranges in a manner that maintains readiness, ensures the long-term viability of operational ranges, limits the potential for explosives mishaps and damages, and addresses environmental issues surrounding munitions constituents.

**DoD Directive 4715.12, *Environmental and Explosives Safety Management on Operational Ranges Outside the United States***, assigns responsibilities for the sustainable use and management of operational ranges located outside the U.S. and for the protection of DoD personnel and the public from explosive hazards on operational ranges located outside the U.S. It includes information and requirements focused on managing operational ranges in a manner that maintains readiness, ensures the long-term viability of operational ranges, limits the potential for explosives mishaps and damages, and addresses environmental issues surrounding munitions constituents.

**DoD Directive 4715.13, *Department of Defense Noise Program***, establishes policy and assigns responsibilities for a coordinated DoD Noise Program. It also provides for establishment of a DoD Noise Working Group. For the purposes of this instruction, noise is defined as unwanted sound generated from the operation of military weapons or weapons systems (e.g., aircraft, small arms, tank guns, artillery, missiles, bombs, rockets, mortars, and explosives) that affects either people, animals (domestic or wild), or structures on or in areas in proximity of a military installation; occupational noise exposure and underwater sound associated with ship testing and training activities are specifically excluded from this definition. The program focuses on identifying, researching, and effectively reducing adverse effects from the noise associated with military test and training operations consistent with maintaining military readiness, without degrading mission capabilities.

**DoD Instruction 4715.14, *Operational Range Assessments***, establishes and implements procedures to assess the potential environmental impacts of military munitions use on operational ranges. The purpose of these procedures is to assist Components in determining whether there has been a release or substantial threat of a release of munitions constituents from operational ranges to off-range areas and whether that release or substantial threat of a release creates an unacceptable risk to human health or the environment.

**DoD Instruction 3030.3, *Joint Land Use Study (JLUS) Program***, implements policies, assigns responsibilities, and prescribes procedures for executing the JLUS Program as administered by the Department of Defense, Office of Economic Adjustment (OEA). The purpose of the JLUS Program is to help local communities fund comprehensive plan development to resolve perceived community/installation land use incompatibilities. The JLUS program also can provide technical and financial assistance to the planning agencies for developing master plans that are consistent (when economically feasible) with the noise, accident potential, and safety concerns of the local installation.

### **3.5.2. Air Force Sustainable Ranges Policy and Guidance**

*Transforming the Air Force – The Relevant Range...Enabling Air Force Operations* is the Air Force's strategic vision for its ranges and airspace. This document provides guidance for building and sustaining relevant ranges to meet the needs of the war fighter. This document emphasizes the development of comprehensive range planning, which includes MAJCOM roadmaps and individual comprehensive range plans, based upon ten key investment areas. The investment areas provide the foundation for supporting a relevant range and a mechanism to articulate range and airspace requirements. This document also implements a continuous review process, linked to the programming cycle, to ensure the vision, policy and guidance, roadmaps, and range management plans, remain current and resourced for the future.

**Air Force Policy Directive 13-2, *Air Traffic Control, Airspace, Airfield, and Range Management***, encourages the sustainment of a flying environment that promotes safety and permits realistic training by providing policies to govern the use of airspace, training weapons ranges, and support facilities and equipment controlled by the Air Force, the Air National Guard (ANG), and the U.S. Air Force Reserve (USAFR).

**Air Force Instruction (AFI) 13-201, *Air Force Airspace Management***, provides guidance and procedures for developing and processing Special Use Airspace (SUA). It covers aeronautical matters governing the efficient planning, acquisition, use, and management of airspace required to support Air Force flight operations. It applies to activities that have operational or administrative responsibility for using airspace. It establishes practices to decrease disturbances from flight operations that might cause adverse public reaction and provides flying unit Commanders with general guidance for dealing with local problems.

**AFI 13-212, *Range Planning And Operations***, sets forth an integrated operational and engineering approach to range management. It is the primary document governing Air Force planning as it relates to training and test ranges. AFI 13-212 consists of three volumes, each addressing a different aspect to range management: Volume 1, Range Planning and Operations; Volume 2, Range Construction and Maintenance; and Volume 3, SAFE-RANGE Program Methodology.

The **Operational Range Assessment Plan (ORAP)** was developed to provide Air Force facilities with guidance for consistently completing a defensible assessment of potential environmental impacts to off-range receptors from military munitions used on training and test ranges and range complexes. Headquarters U.S. Air Force, Office of the Civil Engineer, Asset Management and Operations Division (HQ USAF/A7CA) developed the ORAP as part of the Air Force Operational Range Environmental Program. The program's goal is to ensure that the operational range natural infrastructure is capable and available to support the Air Force's test and training mission. In order to ensure the long-term viability of training and test ranges, a standardized and scientifically defensible methodology is required for assessing off-range munitions constituent migration and for responding to any associated threats to human health. This plan complies with requirements set forth in DoDD 4715.11, DoDI 4715.11, and DoDI 4715.12.

HQ USAF/A7CA is in the process of developing an Operational Range Response Plan. This plan will provide Air Force facilities with guidance for consistently completing environmental response actions, if required due to results of operational range assessments, at, near, or on Air Force training and test ranges. This plan is under development and is slated for completion and distribution to the Major Commands in August 2007.

The Air Force is committed to sustaining its operational training and test ranges. As a demonstration of this commitment, HQ USAF/A7CA developed an Integrated Program Plan to assist Air Force installations with a systematic approach for aligning environmental asset planning and management with mission requirements for training and test ranges. This approach is necessary to satisfy natural infrastructure management responsibilities, a fundamental element of the Air Force's overall Range Sustainment Initiative framework.

The time period for the Integrated Program Plan is FY 2006 through FY 2010. It details the Air Force Operational Range Environmental programmatic vision, mission, overall and specific interim goals, and the near- and mid-term strategic actions required for success. Each strategic objective is documented, to include background details, performance measures, and specific steps necessary to accomplish the objective. The plan will be updated annually based on a combination of performance measurement and evaluation and application of the knowledge gained through execution of range sustainment activities.

HQ USAF/A7CA is in the process of developing a Natural Infrastructure Assessment Guide. It will be finalized and distributed in by the end of FY 2007. It provides HQ USAF, MAJCOM and installations with a methodology for conducting and maintaining the Natural Infrastructure Assessment (NIA). The NIA provides a series of indicators that illustrates the relative degree of encroachment for each NI asset. These indicators shall be considered by senior leaders, at all levels, in making subsequent management decisions regarding the sustainment, restoration, and modernization of NI assets to support mission requirements within the existing planning, programming, and budgeting system.

### **3.5.3. Marine Corps Sustainable Ranges Policy and Guidance**

**Marine Corps Range Operations Order (OpOrd)** will be a comprehensive Service-level plan to sustain and modernize Marine Corps ranges and training areas. The objective of the OpOrd is to integrate and synchronize range and training area initiatives at Headquarters, Marine Corps (HQMC) and Training and Education Command (TECOM)/RTAM with Marine Corps operational training requirements and range current and planned required capabilities. The OpOrd is a coordinated family of documents that addresses the status of Marine Corps training ranges, their future development, and the administration and resourcing of range management. The OpOrd will include a review of Marine Corps training requirements, Marine Corps range policies and planning initiatives, Marine Corps range capabilities and shortfalls, JNTC and Joint Universal Task List requirements, and other Marine Corps specific range issues.

**Marine Corps Order (MCO) 3550.10, *Range Management and Control***, establishes the responsibilities, policies, and procedures pertaining to the safety and management of operational ranges, training areas, and associated training facilities within the Marine Corps. It further defines and describes the functions associated with ranges and training areas, and the responsibilities attendant to those functions.

**MCO 3550.9, *Range Certification and Recertification***, is an integral part of the Marine Corps' overarching ground range safety program. Range certification is the function by which safety and environmental compliance are enhanced without compromising training requirements and standards. The order defines the certification and re-certification process that meets an approved set of requirements

applicable to an assigned role and mission. Applied appropriately, the range certifications/re-certification will allow for the effective and efficient use of existing training ranges, while not compromising safety and the environment.

**MCO 3570.1B, Range Safety**, establishes the range safety policies and responsibilities for all Marine Corps ranges and training areas. It establishes the minimum safety standards through Surface Danger Zones (SDZs) and institutes the requirements for individual range safety programs for all live fire and non live fire ranges and training areas. The order establishes a risk-management process to identify and control range hazards by defining the principles and deviation authorities that control range operations.

**MCO 3570.3, Aviation Range Safety**, is under development. It will contain policy and procedures to conduct aviation activities at Marine Corps installations. Included will be a weapons danger zone tool for mission planning, range management, and environmental oversight.

#### **3.5.4. Navy Sustainable Ranges Policy and Guidance**

The Navy has established an Operational Range Clearance Policy for all Navy training and test ranges. The policy establishes detailed requirements governing range clearance as well as roles and responsibilities of certain Navy commands with respect to Range Clearance.

**The Navy's Mid-Frequency Active Sonar Effects Analysis Interim Policy** of 6 March 2006 provides consistent interim policy and internal guidance to Fleet Commanders and other Echelon II commands to assess potential effects of mid-frequency (1 kHz - 10 kHz) active sonar use incident to Navy military readiness and scientific research activities. The policy establishes deadlines by which affected commands must develop and submit plans and programming requests to implement this Interim Policy.

**OPNAV Instruction 11010.40, Encroachment Management Program**, forms the foundation of the Navy's Encroachment Management program. The instruction defines the roles and responsibilities of certain Navy Commands, defines encroachment challenges and impacts, establishes a database to capture issues, establishes the Encroachment Action Plan process, and establishes the Encroachment Partnering program.

**OPNAV Instruction 3550.1, RAICUZ Program**, is a joint instruction with the Marine Corps currently under revision. The purpose of this revision is to provide more technical details on establishing range compatibility zones and to revise the roles and responsibilities of the Department of Navy Commands.

The Navy has developed a **draft range sustainment policy**. The policy defines roles and responsibilities of Navy Commands with respect to range sustainment and the Navy's TAP programs. The range sustainment policy also established deadlines for completion of range sustainment programs, to include RSEPA, RCMPs, and environmental planning documents.

The Navy has developed a **Draft Range Sustainability Environmental Program Assessment (RSEPA) Policy Implementation Manual**. RSEPA is the Navy's program for assessing the environmental condition of land-based training and test ranges within the U.S. and its territories. The manual outlines roles and responsibilities for the RSEPA program and establishes standards for how the program should be implemented.

### **3.5.5. Army Sustainable Ranges Policy and Guidance**

The Army's requirement for proficiency across a broad spectrum of operations and the demand for ranges and training land continue to strain our available assets. The Army's Sustainable Range program sets the framework for meeting these challenges both in policy and implementation.

**Army Regulation 350-19, *The Army Sustainable Range Program***, was published in August 2005 by the Office of the Deputy Chief of Staff (ODCS) G3. The regulation defines responsibilities and prescribes policies for implementing the Sustainable Range Program (SRP) on Army controlled training and test ranges and lands. The regulation assigns responsibilities and provides policy for programming, funding, and execution of the Army's SRP, which is made up of its two core programs: the Range and Training Land Program, which includes range modernization and range operations; and the Integrated Training Area Management Program for land maintenance and repair. The regulation also provides policy and guidance on integrated planning to support sustainable ranges at the installation level, a focused Outreach Communications Campaign, and tools for identifying and assessing current and future encroachment challenges.

## 4. RANGE SUSTAINABILITY ASSESSMENT

Section 366 of the FY 2003 of the National Defense Authorization Act (NDAA) and Section 320 of the FY 2004 NDAA requires the Department of Defense (DoD) to develop methods to:

- Assess range sustainability by comparing the adequacy of DoD range resources against current and anticipated DoD training requirements.
- Identify and examine external pressures that may constrain the use of resources to support range requirements (e.g., encroachment).

The Department strategy for addressing Section 366 reporting requirements centers on comprehensive range planning that identifies and analyzes critical factors to support the sustained viability of those ranges' missions. The Department has established policy and guidance to meet these requirements in DoD Directive 3200.15, Sustainment of Ranges and Operating Areas (OPAREAs). Under this directive, the Services are responsible to issue or revise policy and guidance that identifies range and OPAREA requirements and associated encroachment and other concerns and develop and implement responsive range management plans; planning, programming, and budgeting resources necessary to support sustainable test and training initiatives; implement standards and assess the sustainability of ranges and OPAREAs; and assign responsibility for range and OPAREA sustainment management at the Service headquarters and organizational levels. They are also required to identify and quantify the affects of external encroachments on the ability to conduct required testing and training activities.

### 4.1. CAPABILITIES ASSESSMENT

To provide an initial picture of the adequacy of current resources to meet required range capabilities, the Services were asked to assess and provide summaries of their range capabilities. These assessments examine various required range attributes and include an evaluation of their adequacy to meet current and future range missions. These evaluations indicate the severity of mission impacts caused by or anticipated by various gaps between required and actual or forecast conditions. These preliminary assessments were based on best available data – both quantitative and qualitative. In some cases, these assessments were actually based on subjective evaluation by subject matter experts as opposed to objective analysis against a hard and fast set of factors. In other cases, the available data may not accurately reflect current conditions. As will be seen, the attributes, the impact scales, and the completeness of assessments against each inventory vary widely from Service to Service. In all cases, the assessments serve as a starting point to develop logical methodologies that can be presented in easy to understand graphic formats.

#### 4.1.1. Army Range Capabilities Assessment Summaries

Figures 4-1 through 4-3 are the Army's assessment of its Tier 1 installations: those major training installations identified by the Office of the Deputy Chief of Staff G3/5/7 as having strategic training value to the Army and forward deployed locations. The rating is based on data derived from the Army Range Requirements Model and program assessment. The Range Area Capabilities Assessment Summary demonstrates the level of impact that capability shortfalls may have on a range or range complex's mission.

The Army evaluated its ranges defining range attributes as types of required training, equipment, and certain other attributes as follows:

- **Small Arms:** Small arms refer to ranges that accommodate weapons systems that fire rounds of less than 50 caliber.

- **Collective Instrumented:** Collective instrumented refers to instrumented ranges that provide weapons proficiency at the team and unit level for battlefield operations.
- **Special Operations:** Special operations refer to ranges designed for the training of individuals and units in unconventional warfare tactics.
- **MOUT Facilities:** Military Operations in Urban Terrain (MOUT) facilities refer to terrain complexes that replicate urban environments.
- **Maneuver Land:** Maneuver land refers to terrain used primarily for land-based training. The maneuver land areas are generally categorized by the type of forces they best support (i.e light, heavy and amphibious maneuvers). Some land may also be designated for impact and/or detonation of ordnance.
- **Instrumentation:** Instrumentation refers to procurement-based range systems that include downrange targetry and IT support that operates targetry and simulates/stimulates Army combat systems in a live fire environment. Instrumented ranges provide new and modern ranges the capability of training, evaluating and stressing today's Soldiers with a realistic train-as-you-fight environment. Instrumented ranges use all available combat systems capabilities, and digitally integrate those systems to challenge units undergoing individual and collective live fire training and qualification.
- **Range Scheduling System:** Range scheduling system refers to the Range Facility Management Support System (RFMSS), the Army's standard, integrated system to schedule and manage training lands and ranges at Army installations and in theaters of operation.
- **Range Clearance:** Range clearance refers to the rendering safe of unexploded ordnance on operational ranges performed primarily for safety reasons.
- **Range Environmental NEPA:** Range environmental NEPA refers to a decision process that describes a proposed government action, identifies the alternative methods for accomplishing the proposed action, and discloses to the public and the decision makers the likely environmental effects or consequences of each alternative, to include the preferred alternative required under the National Environmental Policy Act.
- **Range Operations:** Range operations refer to the day-to-day operations of the range to include, but not limited to, scheduling, maintenance, range safety, and clearance of unexploded ordnance.

The Army used a severity of impact scale ranging from severe to no requirement.

- **Severe Impact:** A severe impact is one that prohibits a training event or activity or makes the training event or activity ineffective when measured against training standards.
- **Moderate Impact:** A moderate impact marginalizes training to the extent that the training can be done, but must use alternative standards and methods that detract from otherwise optimum training.
- **Minimal Impact:** A minimal impact does not effectively detract from training content, procedure, or outcome.

The Army also identified the level of training accomplished at each range or range complex.

- **Combat Training Center:** Combat Training Centers (CTCs) refer to designated training sites that support brigade-level collective training, including Joint operations. The CTCs provide realistic joint and combined arms training, according to Army and joint doctrine, approximating actual combat. The CTCs are designed to increase unit collective proficiency on the most realistic and challenging training battlefield available.
- **Operational Unit:** Operational Unit refers to a range supporting the required individual, team, and collective training of a locally based operational unit that must take place to maintain readiness and proficiency.

- **Institutional Service School:** Institutional Service School refers to a school that supports institutional training. Fort Benning is the home of the Infantry School.

**Figure 4-1. Army Range Area Capabilities Assessment Summary**

Legend =  Severe  Moderate  Minimal  No Requirement

Range Attributes ↓	Fort Irwin	Fort Polk	Fort Bragg	Fort Lewis + Yakima TNG CTR	Fort Hood	Fort Benning
	Combat Training Center	Combat Training Center & Operational Unit	Operational Unit	Operational Unit	Operational Unit	Operational Unit & Institutional Service School
Small Arms	Yellow	Yellow	Yellow	Red	Yellow	Red
Collective Instrumented	Red	Yellow	Red	Red	Yellow	Red
Special Operations	Yellow	Green	Green	Green	White	Green
MOUT Facilities	Red	Yellow	Yellow	Green	Red	Red
Maneuver Land	Yellow	Yellow	Red	Red	Red	Red
Instrumentation	Red	Red	Red	Yellow	Yellow	Red
Range Scheduling System	Green	Green	Green	Green	Green	Green
Range Clearance	Green	Yellow	Green	Green	Yellow	Yellow
Range Environmental NEPA	Green	Green	Green	Green	Green	Green
Range Operations	Green	Green	Green	Green	Green	Green

**Figure 4-2. Army Range Area Capabilities Assessment Summary**

Legend = ■ Severe ■ Moderate ■ Minimal  No Requirement

Range Attributes ↓	Fort Bliss	Fort Drum	Fort Campbell	Fort Stewart + Hunter AAF	Fort Carson + Pinon Canyon Mvr Site	Hawaii Training Complex
	Operational Unit & Institutional Service School	FORSCOM & TRADOC	Operational Unit	Operational Unit	Operational Unit	Operational Unit
Small Arms	■	■	■	■	■	■
Collective Instrumented	■	■	■	■	■	■
Special Operations	□	□	■	■	■	□
MOUT Facilities	■	■	■	■	■	■
Maneuver Land	■	■	■	■	■	■
Instrumentation	■	■	■	■	■	■
Range Scheduling System	■	■	■	■	■	■
Range Clearance	■	■	■	■	■	■
Range Environmental NEPA	■	■	■	■	■	■
Range Operations	■	■	■	■	■	■

**Figure 4-3. Army Range Capabilities Assessment Summary**

Legend =  Severe  Moderate  Minimal  No Requirement

Range Attributes ↓	Fort Wainwright	EUROPE	Fort Riley
	Operational Unit	Operational Unit	Operational Unit
Small Arms			
Collective Instrumented			
Special Operations			
MOUT Facilities			
Maneuver Land			
Instrumentation			
Range Scheduling System			
Range Clearance			
Range Env. NEPA			
Range Operations			

#### 4.1.2. Navy Range Capabilities Assessment Summaries

Figures 4-4 through 4-6 present the Navy's assessment of its training range complexes capabilities sorted by geographic region. Figure 4-7 presents an assessment of Navy test ranges' abilities to support training. The Range Capabilities Assessment Summary demonstrates the level of impact that requirements shortfalls have or will have on a range or range complex's mission. The Navy uses such initial gap analysis to inform the identification and prioritization of future budgetary requirements.

The Navy evaluated its range complexes using the following nine range attributes:

- **Land Area:** Land Area refers to the amount, configuration, and type of terrain and its proximity and availability (a temporal measure).
- **Airspace:** Airspace refers to the volume, configuration, and type of airspace and its proximity and availability (a temporal measure). Types of airspace could include Restricted Areas, Warning Areas, Military Operating Areas, Air Traffic Control Assigned Airspace, Altitude Reservations, etc.
- **Sea Space:** Sea Space refers to the size, configuration, and characteristics of marine operating areas and their proximity and availability (a temporal measure).
- **Undersea Space:** Undersea Space refers to the volume, configuration, and characteristics of marine operating areas and their proximity and availability.
- **Communications Systems:** Communication systems refer to the necessary components and elements used by range personnel to establish and maintain communications with range operators, range maintainers, range users, and safety and command and control entities. They include inter- and intra-range systems point-to-point, range support networks, fiber optic and

microwave backbones, information protection systems such as encryption, and radio, data link, and instrumentation frequency management systems.

- **Targets:** Targets refer to various air, land, sea, and undersea presentations designed for live or simulated weapons engagement. Associated target control systems for mobile presentations are included. This category also includes target augmentation systems used to enhance or alter the basic signature of a target to more closely represent the actual hostile threat. It includes the proper types and quantities of targets such as conventional, strafe, urban warfare, undersea, and other target configurations.
- **Scoring and Feedback Systems:** Scoring and feedback systems refer to equipment that provides weapons impact and systems/operator accuracy information whether virtual or live. It also includes radars, optical, and other tracking systems that provide time, space, and position information for use in monitoring, controlling, and debriefing operator performance. This category also includes electronic warfare systems such as threat emitters, analysis systems, visual simulators, and decoy systems.
- **Range Scheduling Systems:** Range scheduling systems refer to all necessary components and elements (including software applications) of a common range management system endorsed by Service headquarters. The scheduling system is used by range personnel and range users to determine range capability, availability, and assignment for use. The scheduling system also includes those components and elements that assist range management personnel in capturing and reporting range usage data.
- **Range Clearance:** Range clearance refers to the destruction or removal and proper disposition of used military munitions (e.g., unexploded ordnance (UXO) and munitions debris) and other range-related debris (e.g., target debris and military munitions packaging and crating material) in accordance with Service guidelines (implementing DoDI 3200.16) to maintain or enhance range safety or prevent the accumulation of such material from impairing or preventing range use. "Range clearance" does not include removal, treatment, or remediation of chemical residues or munitions constituents from environmental media, nor actions to address discarded military munitions (e.g. burial pits) on ranges.

The shortfall impacts depicted in the summary tables below indicate the average capability shortfall impact for each range attribute based on assessments of all the mission requirements for that range complex. A downward arrow (↓) in a box indicates the current situation is estimated to be worsening. An upward arrow (↑) in a box indicates the current situation is estimated to be improving. Severity is defined as follows:

- **Severe Impact:** A severe impact is one that prohibits a training event or activity or makes the training event or activity ineffective when measured against training standards.
- **Moderate Impact:** A moderate impact marginalizes training to the extent that the training can be done but must use alternative standards and methods that detract from otherwise optimum training.
- **Minimal Impact:** A minimal impact does not effectively detract from training content, procedure, or outcome.

Figure 4-4. Navy East Coast Training Range Capabilities Assessment Summary

Legend = ■ Severe ■ Moderate ■ Minimal  No Requirement **NA** Not Assessed

Required Range Attributes ↓	Northeast (Atlantic City, Boston & Narragansett)	VACAPES	Cherry Point (Navy)	Jacksonville	Key West	Gulf of Mexico / Meridian	Guantanamo Bay
Land Area	<span style="color: green;">■</span>	<span style="color: yellow;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>
Airspace	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>
Sea Space	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>
Undersea Space	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: yellow;">↑</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>
Communications Systems	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>
Targets	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>
Scoring and Feedback Systems	<span style="color: green;">■</span>	<span style="color: yellow;">↑</span>	<span style="color: yellow;">↑</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>
Range Scheduling Systems	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>	<span style="color: green;">■</span>
Range Clearance	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px; vertical-align: middle;"></span>	<span style="color: yellow;">↑</span>	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px; vertical-align: middle;"></span>	<span style="color: yellow;">↑</span>	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px; vertical-align: middle;"></span>	<span style="color: yellow;">↑</span>	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px; vertical-align: middle;"></span>

**Figure 4- 5. Navy West Coast/Mid Pacific Training Range Capabilities Assessment Summary**

Legend =  Severe  Moderate  Minimal  No Requirement **NA** Not Assessed

Required Range Attributes ↓	El Centro	Fallon	Southern California (SOCAL)	Northern California (NOCAL)	Northwest Training Range Complex	Hawaiian Islands
Land Area						
Airspace						
Sea Space						
Undersea Space						
Communications Systems						
Targets						
Scoring and Feedback Systems						
Range Scheduling Systems						
Range Clearance						

**Figure 4-6. Navy West Pacific (WESTPAC) Training Range Capabilities Assessment Summary**

Legend =  Severe  Moderate  Minimal  No Requirement **NA** Not Assessed

Required Range Attributes ↓	Marianas	Japan	Okinawa
Land Area			
Airspace			
Sea Space			
Undersea Space			
Communications Systems			
Targets			
Scoring and Feedback Systems			
Range Scheduling Systems			
Range Clearance			

**Figure 4-7. Capabilities Assessment Summary of Navy MRTFB Ranges Supporting Training**

Legend =  Severe  Moderate  Minimal  No Requirement **NA** Not Assessed

Required Range Attributes ↓	Atlantic Undersea T&E Center	Atlantic Test Range (Patuxent River)	Point Mugu Sea Range	China Lake	Dabob & Nanoose RANGES
Land Area					
Airspace					
Sea Space					
Undersea Space					
Communications Systems					
Targets					
Scoring and Feedback Systems					
Range Scheduling Systems					
Range Clearance					

**4.1.3. Marine Corps Range Capabilities Assessment Summaries**

Figure 4-8 presents the Marine Corps’ assessment of its training range complexes based on its Range Complex Management Plan program and the Required Capabilities Document (RCD). The Range Capabilities Assessment Summary demonstrates the level of impact that range capability shortfalls have or will have on a range or range complex’s mission. The Marine Corps evaluated its range complexes using the same attributes as the Navy.

The shortfall impacts depicted in the summary tables below indicate the most severe capability shortfall impact for each range attribute based on assessments of all the mission requirements for that range complex. A downward arrow (↓) in a box indicates the current situation is estimated to be worsening. An upward arrow (↑) in a box indicates the current situation is estimated to be improving. The Marine Corps used the same definitions for their severity scale as did the Navy.

**Figure 4-8. Marine Corps Range Capabilities Assessment Summary**

Legend =  Severe  Moderate  Minimal  Not Observed NA Not Assessed

Required Range Attributes ↓	MCB Camp Lejeune	MCAS Cherry Point	MCAGCC 29 Palms	MCAS Yuma/ Bob Stump	MCB Hawaii
Land Area					
Airspace					
Sea Space			NA	NA	
Undersea Space			NA	NA	
Communications Systems					
Targets					
Scoring and Feedback Systems					
Range Scheduling Systems					
Range Clearance					

- MCB Camp Pendleton RCMP assessment is scheduled for completion in 2007. Capabilities data are not yet available.
- MCB Camp Butler has not yet been scheduled for an RCMP. Capabilities data will be in the RCMP when completed.
- MCB Quantico is scheduled for an RCMP, to commence in 2007. In advance of the RCMP, capabilities will be assessed using TREIS-T during the fall through spring, 2006/2007.
- MCAS Beaufort/Townsend, MCAS Miramar, MCLB Albany, MCLB Barstow, MCMWTC Bridgeport, and MCRD Parris Island will not have USMC RCMPs. Capabilities assessments are being considered.

**4.1.4. Air Force Range Capabilities Assessment Summaries**

The Air Force continues to study the ability of its ranges to meet required training capabilities as first reported in 2004. Subsequent reports have continued to build on previous information and the current Air Force study will update the full impact on ranges in 2007. Figures 4-9 and 4-10 present the Air Force’s assessment of its ranges and range complexes. The Range Capabilities Assessment Summary demonstrates the level of impact that requirements shortfalls have or will have on a range or range complex’s mission. The Air Force evaluated its ranges using the following seven attributes:

- **Targets:** Includes the types and quantity of ground targets such as conventional, strafe, urban warfare, and other target configurations to include Camouflage, Concealment & Detection (CCD) and urban target complexes.
- **Threats:** Covers the types and quantities of training equipment required for training and exercising against Integrated Air Defense Systems (IADS). This area also includes training needs for Information Warfare/Information Operations and Space Warfare.
- **Scoring and Feedback Systems:** Includes air-to-surface scoring systems, air combat mission record and replay capabilities, and electronic countermeasures (ECM) analysis systems for feedback on Electronic Combat Ranges.

- **Adequate Hours:** Measures the extent to which the range provides adequate hours of operation to meet user needs.
- **Infrastructure:** Involves the identification of long- and short-range infrastructure requirements, including the construction, upgrade, and maintenance of facilities and the repair and improvement of roads and utilities and other recurring physical structure maintenance. Responsibilities for maintenance, repair, and construction must be delineated between the contractor and the Civil Engineer.
- **Land:** Covers land lease/purchase and associated costs related to meeting mission needs while trying to accommodate competing land uses. Related issues involve range location, distance from user airfields, sufficient surface area, and the attributes of designated airspace that allows effective use of the land.
- **Airspace:** Covers actions taken in designating and reserving airspace. Considerations include proximity to user airfields, airspace volume, airspace attributes, and airspace requirements and availability. Other considerations include the land underneath and the airspace's interrelationship with the National Airspace System (NAS).

The severity of impacts for shortfalls in each of the seven attribute categories was determined as follows:

1. Targets

- Green: >90% operational. Targets meet training requirements (relevant, realistic, & affordable).
- Yellow : 50 – 90% operational. Inadequate number / type of targets.
- Red: <50% operational. Targets are outdated and do not meet training requirements.

2. Threats

- Green: >90% operational. Threat density and types (i.e. single vs. double digit) meet training requirements.
- Yellow : 50-90% operational. Insufficient threat density and/or types.
- Red: <50% operational. Lack of necessary threat density and types – severely impacts training.

3. Scoring and Feedback Systems

- Green: >90% equipment operational. Range can score weapons and lasers and provide accurate, detailed feedback to aircrews.
- Yellow : 50-90% equipment operational. Range has limited scoring or feedback capability in one or all areas.
- Red: <50% equipment operational. Range has no scoring or feedback capability.

4. Adequate Hours

- Green: 60 hours/week of operation.
- Yellow: Between 40 and 60 hours/week of operation.
- Red: Less than 40 hours/week of operation.

5. Infrastructure

- Green: Range infrastructure meets all training requirements (includes all building, facilities, roads).
- Yellow: Some / all Infrastructure requires repair or upgrade.
- Red: Some / all Infrastructure requires immediate replacement.

6. Land and Airspace

- Green: Available land and airspace to meet current training & safety requirements.
- Yellow: Limited land and/or airspace; some training or safety requirements not met.
- Red: Lack of adequate airspace or land to meet training or safety requirements.

**Figure 4-9. Air Force Range Capabilities Assessment Summary**

Legend =  Severe  Moderate  Minimal  Not Observed **NA** Not Assessed

Required Range Attributes ↓	NTRR	UTTR	DARE CO.	POINSETT	GRAND BAY
Targets					
Threats					
Scoring and Feedback Systems					
Adequate Hours					
Infrastructure					
Land					
Airspace					

**Figure 4-10. Air Force Range Capabilities Assessment Summary**

Legend =  Severe  Moderate  Minimal  Not Observed **NA** Not Assessed

Required Range Attributes ↓	AVON PARK	MELROSE	HOLLOMAN	MOUNTAIN HOME	BELLE FOURCHE ESS	SNYDER ESS
Targets						
Threats						
Scoring and Feedback Systems						
Adequate Hours						
Infrastructure						
Land						
Airspace						

**4.2. ENCROACHMENT QUANTIFICATION**

In analyzing the shortcomings of range capabilities, it is necessary to ascertain what is causing or impacting such shortfalls. As part of their comprehensive range planning and management processes, the Services have various programs underway to identify and quantify external influences threatening or constraining range and OPAREA activities. What follows are preliminary assessments by each of the Services depicting the impacts of various encroachment issues on their ranges' or range complexes' training missions. Like the capabilities assessments, these are preliminary assessments based on best available data, both quantitative and qualitative, with variations between Services in the issues examined,

the impact scales used, and the number of ranges assessed. Again in some cases, these assessments were actually based on subjective evaluation by subject matter experts as opposed to objective analysis against a hard and fast set of factors. In other cases, the available data may not accurately reflect current conditions.

Unlike the capabilities assessments, the Services started their encroachment analysis with a common set of issues. These issues or factors are described as follows:

- **Endangered Species/Critical Habitat:** Military ranges often become the only large undeveloped areas available to support threatened and endangered species, leading to increased regulatory oversight and restrictions on military use.
- **Unexploded Ordnance/ Munitions:** Application of environmental laws and regulations to unexploded ordnance and munitions in ways unanticipated or unintended when first enacted can reduce range access, availability, capacity, and capability.
- **Frequency Encroachment:** Commercial spectrum uses are increasingly coming into conflict with military requirements. The reallocation of this spectrum and increased commercial RF interference, along with military systems demands for bandwidth, put important training and testing activities at an increased risk.
- **Maritime Sustainability:** Training and testing at sea is complicated by the demands of regulatory compliance, which can adversely affect the ability of naval forces to sustain operations, training exercises, and testing in the maritime environment.
- **Airspace Restrictions:** Special use airspace is vital to military training and testing, but is in conflict with the growing demands of the deregulated commercial airlines and general aviation that compete with military aviation activities for the same airspace.
- **Air Quality:** Readiness limitations can arise due to application of the Clean Air Act to emissions generated on military installation and ranges.
- **Airborne Noise:** Noise associated with military readiness activities at installations, under low-level flying routes, and at training and testing ranges can produce noise complaints and inhibit test and training flexibility.
- **Urban Growth:** Urban growth is the root cause of many encroachment concerns. Urban growth in close proximity to military installations can lead to operational challenges and may reduce the ability to perform activities on and near ranges.
- **Cultural Resources:** Military installations and ranges must accommodate cultural sites by protecting or mitigating interference with them in accordance with federal and state requirements. This may result in restrictions on use of areas intended for range activities.
- **Water Quality:** Protection of ground and surface water quality remains an important issue for DoD and all stakeholders near testing and training ranges and can come into conflict with munitions use, ground disturbance, or range activities.
- **Wetlands:** Range management and operations must consider the impacts of wetlands on current training and testing and must develop sustainment strategies to accommodate future training and testing requirements.
- **Range Transients:** Unannounced people (hunters, scrappers, undocumented immigrants, etc.), livestock, aircraft, or watercraft are problematic to range operations requiring swift decisive action to curtail or modify range activities such as immediate cease fire decisions for live fire training.

Again, not all Services used all factors. DoD Directive 3200.15 defines range encroachment as “external influences threatening or constraining range and OPAREA activities required for force readiness and weapons RDT&E”. It includes, but is not limited to, the encroachment issues listed above. Accordingly, some Services used additional factors. These are pointed out and defined under the appropriate Service

assessment. In all cases, the assessments serve as a starting point to develop logical methodologies that can be presented in easy to understand graphic formats.

#### 4.2.1. Army Range Encroachment Assessment Summaries

Figures 4-11 through 4-13 are the Army’s assessment of its Tier 1 installations: those major training installations identified by the Office of the Deputy Chief of Staff G3/5/7 as having strategic training value to the Army and forward deployed locations. The rating is based on information gathered from the Army's Installation Status Report - Infrastructure and Army Major Command input.

The Army rated the severity of impacts as follows:

- **Severe Impact:** A severe impact is one that prohibits a training event or activity or makes the training event or activity ineffective when measured against training standards.
- **Moderate Impact:** A moderate impact marginalizes training to the extent that the training can be done but must use alternative standards and methods that detract from otherwise optimum training.
- **Minimal Impact:** A minimal impact does not effectively detract from training content, procedure, or outcome.

Additionally, a downward arrow (↓) in a box indicates the current situation is estimated to be worsening. An upward arrow (↑) in a box indicates the current situation is estimated to be improving.

**Figure 4-11. Army Range Encroachment Assessment Summary**

Legend =  Severe     Moderate     Minimal     Not Observed    **NA** Not Assessed

ENCROACHMENT ISSUES ↓	Fort Irwin	Fort Polk	Fort Bragg	Fort Lewis	Yakima	Fort Hood
Endangered Species/ Critical habitat						
Unexploded Ordnance/ Munitions						
Frequency Encroachment						
Maritime Sustainability	NA	NA	NA	NA	NA	NA
Airspace Restrictions	NA	NA	NA	NA	NA	NA
Air Quality						
Airborne Noise						
Urban Growth						
Cultural Resources						
Water Quality						
Wetlands						
Range Transients	NA	NA	NA	NA	NA	NA

**Figure 4-12. Army Range Encroachment Assessment Summary**

Legend =  Severe  Moderate  Minimal  Not Observed **NA** Not Assessed

ENCROACHMENT ISSUES ↓	Fort Benning	Fort Bliss	Fort Drum	Fort Campbell	Fort Stewart + Hunter AAF	Fort Riley
Endangered Species/ Critical habitat						
Unexploded Ordnance/ Munitions						
Frequency Encroachment						
Maritime Sustainability	NA	NA	NA	NA	NA	NA
Airspace Restrictions	NA	NA	NA	NA	NA	NA
Air Quality						
Airborne Noise						
Urban Growth						
Cultural Resources						
Water Quality						
Wetlands						
Range Transients	NA		NA	NA	NA	NA

**Figure 4-13. Army Range Encroachment Assessment Summary**

Legend = ■ Severe ■ Moderate ■ Minimal  Not Observed NA Not Assessed

ENCROACHMENT ISSUES ↓	Fort Carson	Pinon Canyon Maneuver Site	Hawaii Training Complex	Fort Wainwright
Endangered Species/ Critical habitat	↑	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	<span style="color: red;">■</span>	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>
Unexploded Ordnance/ Munitions	<span style="color: yellow;">■</span>	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	<span style="color: yellow;">■</span>	<span style="color: yellow;">■</span>
Frequency Encroachment	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	NA	<span style="color: green;">■</span>	<span style="color: green;">■</span>
Maritime Sustainability	NA	NA	NA	NA
Airspace Restrictions	NA	NA	NA	NA
Air Quality	↑	↑	NA	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>
Airborne Noise	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	<span style="color: yellow;">■</span>	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>
Urban Growth	<span style="color: red;">■</span>	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	<span style="color: yellow;">■</span>	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>
Cultural Resources	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	↑	<span style="color: red;">■</span>	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>
Water Quality	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>
Wetlands	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>
Range Transients	NA	NA	NA	NA

**4.2.2. Navy Range Encroachment Assessment Summaries**

Figures 4-14 through 4-17 present the Navy’s assessment of encroachment impacts on its training range complexes sorted by geographic region. Figure 4-18 presents an assessment of encroachment impacts on Navy test ranges’ abilities to support training.

The severity of impacts depicted in the summary tables below indicates the average impact on training mission accomplishment for each encroachment issue assessed for that range complex. A downward arrow (↓) in a box indicates the current situation is estimated to be worsening. An upward arrow (↑) in a box indicates the current situation is estimated to be improving. Severity is defined as follows:

- **Severe Impact.** A severe impact is one that prohibits a training event or activity or makes the training event or activity ineffective when measured against training standards.
- **Moderate Impact.** A moderate impact marginalizes training to the extent that the training can be done but must use alternative standards and methods that detract from otherwise optimum training.
- **Minimal Impact.** A minimal impact does not effectively detract from training content, procedure, or outcome.

**Figure 4-14. Navy East Coast Training Range Encroachment Assessment Summary**

Legend =  Severe  Moderate  Minimal  Not Observed **NA** Not Assessed

ENCROACHMENT ISSUES	Northeast (Atlantic City, Boston & Narragansett)	VACAPES	Cherry Point (Navy)	Jacksonville	Key West	Gulf of Mexico / Meridian	Guantanamo
Endangered Species/ Critical habitat							
Unexploded Ordnance/ Munitions							
Frequency Encroachment							
Maritime Sustainability							
Airspace Restrictions							
Air Quality							
Airborne Noise							
Urban Growth							
Cultural Resources							
Water Quality/ Supply							
Wetlands							
Range Transients							

**Figure 4-15. Navy West Coast/Mid Pacific Training Range Encroachment Assessment Summary**

Legend =  Severe  Moderate  Minimal  Not Observed NA Not Assessed

ENCROACHMENT ISSUES ↓	El Centro	Fallon	Southern California (SOCAL)	Northern California (NOCAL)	Northwest Training Range Complex	Hawaiian Islands
Endangered Species/ Critical habitat				NA		
Unexploded Ordnance/ Munitions				NA		
Frequency Encroachment				NA		
Maritime Sustainability				NA		
Airspace Restrictions				NA		
Air Quality				NA		
Airborne Noise				NA		
Urban Growth				NA		
Cultural Resources				NA		
Water Quality/ Supply				NA		
Wetlands				NA		
Range Transients				NA		

**Figure 4-16. Navy West Pacific (WESTPAC) Training Range Encroachment Assessment Summary**

Legend =  Severe  Moderate  Minimal  Not Observed **NA** Not Assessed

<b>ENCROACHMENT ISSUES ↓</b>	<b>Marianas</b>	<b>Diego Garcia</b>	<b>Japan/ Okinawa</b>
Endangered Species/ Critical habitat		NA	
Unexploded Ordnance/ Munitions		NA	
Frequency Encroachment		NA	
Maritime Sustainability		NA	
Airspace Restrictions		NA	
Air Quality		NA	
Airborne Noise		NA	
Urban Growth		NA	
Cultural Resources		NA	
Water Quality/ Supply		NA	
Wetlands		NA	
Range Transients		NA	

**Figure 4-17. Encroachment Assessment Summary of Navy MRTFB Ranges Supporting Training**

Legend =  Severe  Moderate  Minimal  Not Observed  NA Not Assessed

ENCROACHMENT ISSUES ↓	Atlantic Undersea T&E Center	Atlantic Test Range (Patuxent River)	Point Mugu Sea Range	China Lake	Dabob & Nanoose RANGES
Endangered Species/ Critical habitat					
Unexploded Ordnance/ Munitions					
Frequency Encroachment					
Maritime Sustainability					
Airspace Restrictions					NA
Air Quality					
Airborne Noise					
Urban Growth					
Cultural Resources					
Water Quality/ Supply					
Wetlands					
Range Transients					

**4.2.3. Marine Corps Range Encroachment Assessment Summaries**

Figures 4-18 and 4-19 present the Marine Corps’ assessment of its training range complexes based on its Range Complex Management Plan program and the Required Capabilities Document (RCD). The Range Encroachment Assessment Summary demonstrates the level of impact that a given encroachment issue has or will have on a range or range complex’s mission.

The severity of impacts depicted in the summary tables below indicate the most severe impact on training mission accomplishment for each encroachment issue assessed for that range complex. A downward arrow (↓) in a box indicates the current situation is estimated to be worsening. An upward arrow (↑) in a box indicates the current situation is estimated to be improving. The Marine Corps used the same definitions for their severity scale as did the Navy.

**Figure 4-18. Marine Corps Range Encroachment Assessment Summary**

Legend =  Severe  Moderate  Minimal  Not Observed **NA** Not Assessed

ENCROACHMENT ISSUES ↓	MCB Camp Lejeune	MCB Camp Pendleton	MCAS Cherry Point	MCAGCC 29 Palms	MCAS Yuma/ Bob Stump	MCB Hawaii
Endangered Species/ Critical habitat		NA				
Unexploded Ordnance/ Munitions		NA				
Frequency Encroachment		NA				
Maritime Sustainability		NA				
Airspace Restrictions		NA				
Air Quality		NA				
Airborne Noise		NA				
Urban Growth		NA				
Cultural Resources		NA				
Water Quality		NA				
Wetlands		NA				
Range Transients		NA				

- MCB Camp Pendleton RCMP assessment is scheduled for completion in 2007. Encroachment data are not yet available.
- MCB Camp Butler has not yet been scheduled for an RCMP. Encroachment data will be in the RCMP when completed.
- MCB Quantico is scheduled for an RCMP to commence in 2007. In advance of the RCMP, encroachment will be assessed using TREIS-T during 2007.

**Figure 4-19. Marine Corps Range Encroachment Assessment Summary**

Legend =  Severe  Moderate  Minimal  Not Observed NA Not Assessed

ENCROACHMENT ISSUES	MCAS Beaufort/Townsend	MCAS Miramar	MCLB Albany	MCLB Barstow	MCMWTC Bridgeport	MCRD Parris Island
Endangered Species/ Critical habitat	NA	NA	NA	NA	NA	NA
Unexploded Ordnance/ Munitions	NA	NA	NA	NA	NA	NA
Frequency Encroachment	NA	NA	NA	NA	NA	NA
Maritime Sustainability	NA	NA	NA	NA	NA	NA
Airspace Restrictions	NA	NA	NA	NA	NA	NA
Air Quality	NA	NA	NA	NA	NA	NA
Airborne Noise	NA	NA	NA	NA	NA	NA
Urban Growth	NA	NA	NA	NA	NA	NA
Cultural Resources	NA	NA	NA	NA	NA	NA
Water Quality	NA	NA	NA	NA	NA	NA
Wetlands	NA	NA	NA	NA	NA	NA
Range Transients	NA	NA	NA	NA	NA	NA

- MCAS Beaufort/Townsend, MCAS Miramar, MCLB Albany, MCLB Barstow, MCMWTC Bridgeport, and MCRD Parris Island will not have USMC RCMPs. Encroachment assessments are being considered.

**4.2.4. Air Force Range Encroachment Assessment Summaries**

The Air Force continues to study the impacts of encroachment on its ranges as first reported in 2004. Subsequent reports have continued to build on previous information and the current Air Force study will update the full impact on ranges in 2007. Figures 4-20 through 4-23 present the Air Force’s assessment of its ranges and range complexes.

The ongoing Air Force study will assess the mission impact of each type of encroachment. The current table shows each encroachment factor that had and observable impact on operations as yellow and those with negligible or no impact as green.

**Figure 4-20. Air Force Range Encroachment Assessment Summary**

Legend =  Impact Observed  Negligible or No Impact

ENCROACHMENT ISSUES	Avon Park	Belle Fourche ESS	Holloman Ranges <sup>12</sup>	Dare County	Poinsett <sup>13</sup>	Grand Bay	Mountain Home Ranges <sup>14</sup>	Melrose
Endangered Species/ Critical habitat <sup>15</sup>								
Unexploded Ordnance/ Munitions		NA	NA	NA	NA	NA	NA	NA
Frequency Encroachment								
Maritime Sustainability								
Airspace Restrictions <sup>16</sup>								
Air Quality								
Airborne Noise								
Urban Growth								
Cultural Resources <sup>17</sup>								
Water Quality								
Wetlands								
Range Transients	NA	NA	NA	NA	NA	NA	NA	NA

<sup>12</sup> Holloman ranges include Centennial, Oscura and Red Rio.

<sup>13</sup> Poinsett ranges include Game B/C/D/I, Poinsett Low, and Bulldog A/B.

<sup>14</sup> Mountain Home Ranges include Saylor Creek and Juniper Butte.

<sup>15</sup> For Mountain Home Ranges, ESA and Critical Habitat is categorized as moderate for Juniper Butte Range but minimal for Saylor Creek Range.

<sup>16</sup> For Holloman ranges, Airspace restrictions are categorized as moderate for Red Rio and Oscura. Airspace restrictions at Centennial are categorized as minimal.

<sup>17</sup> For Holloman Ranges, Cultural Resources are categorized as moderate for Red Rio Range only. Cultural Resources at Centennial and Oscura are categorized as minimal.

**Figure 4-21. Air Force Range Encroachment Assessment Summary**

Legend =  Impact Observed  Negligible or No Impact

ENCROACHMENT ISSUES	NTRR	Snyder ESS	UTTR	Eglin	BMGR	Edwards	Claiborne	Falcon
Endangered Species/ Critical habitat								
Unexploded Ordnance/ Munitions	NA	NA	NA	NA	NA	NA	NA	NA
Frequency Encroachment								
Maritime Sustainability								
Airspace Restrictions								
Air Quality								
Airborne Noise								
Urban Growth								
Cultural Resources								
Water Quality								
Wetlands								
Range Transients	NA	NA	NA	NA		NA	NA	NA

**Figure 4-22. Air Force Range Encroachment Assessment Summary**

Legend =  Impact Observed  Negligible or No Impact

ENCROACHMENT ISSUES	Adirondack	Airburst	Atterbury	Bollen	Cannon	Grayling	Hardwood	Jefferson
Endangered Species/ Critical habitat								
Unexploded Ordnance/ Munitions	NA	NA	NA	NA	NA	NA	NA	NA
Frequency Encroachment								
Maritime Sustainability								
Airspace Restrictions								
Air Quality								
Airborne Noise								
Urban Growth								
Cultural Resources								
Water Quality								
Wetlands								
Range Transients	NA	NA	NA	NA	NA	NA	NA	NA

**Figure 4-23. Air Force Range Encroachment Assessment Summary**

Legend =  Impact Observed  Negligible or No Impact

ENCROACHMENT ISSUES	McMullen	Razorback	Shelby	Smoky Hill	Townsend	Warren Grove	Oklahoma	Yukon	Blair Lakes
Endangered Species/ Critical habitat									
UXO	NA	NA	NA	NA	NA	NA	NA	NA	NA
Frequency Encroachment									
Maritime Sustainability									
Airspace Restrictions									
Air Quality									
Airborne Noise									
Urban Growth									
Cultural Resources									
Water Quality									
Wetlands									
Range Transients	NA	NA	NA	NA	NA	NA	NA	NA	NA

**4.3. READINESS REPORTING**

The Department is in the process of changing how it thinks about, plans for, and assesses the ability of the Armed Forces to conduct operations. The Department is developing the Defense Readiness Reporting System (DRRS) to support this transformational change in perspective. The DRRS readiness reporting process will provide a common reporting framework, which is mission focused, capabilities-based, and adaptive to provide near real-time readiness reporting. The system will provide the combatant commanders, military services, Joint Chiefs of Staff (JCS), and other key DoD users the ability to manage and report readiness to support or execute the National Military Strategy.

The Department is refining the process and measures for unit, range, facility, and resource assessments within DRRS. Entities reporting within the system will assess their readiness via a common mission list that will improve the thoroughness and reliability of the department’s readiness reporting. In support of the sustainable range discussion, ultimately the DRRS development will work to provide the ability to relate changes in reported unit readiness to training constraints caused by limitations on the use of military lands, marine areas, and airspace. A series of meetings and workshops during 2007 will bring together various DoD range stakeholders with the aim of establishing clear expectations, and coordinating actions, to support this readiness reporting functionality during the DRRS development process.

#### **4.4. THE WAY AHEAD**

The results of all the Services' capabilities and encroachment assessment activities are used by Commanders at various echelons to inform the development of strategies to mitigate range and training area shortfalls, bring required capabilities up to standards, and stem negative impacts from encroachment. They may be particular to an individual location and handled at the unit level or they may cut across a number of training and test ranges or issues and be handled at a Major Command, Service Headquarters, or Office of the Secretary of Defense level. As such, the myriad of corrective actions and the individual intricacies of each action for all situations across all the Services' training and test ranges would be too detailed and cumbersome for this report, and are overseen at an individual Service, not a DoD, level, as are the detailed assessments of individual range requirements.

OSD will continue to exercise its oversight responsibility to ensure ranges and operational areas meet the Department's test and training requirements. OSD will continue to work with the Services to improve the quality and ease of reporting on their range capabilities and address encroachment.

## **5. RANGE INFORMATION ENTERPRISE**

### **5.1. BACKGROUND & VISION**

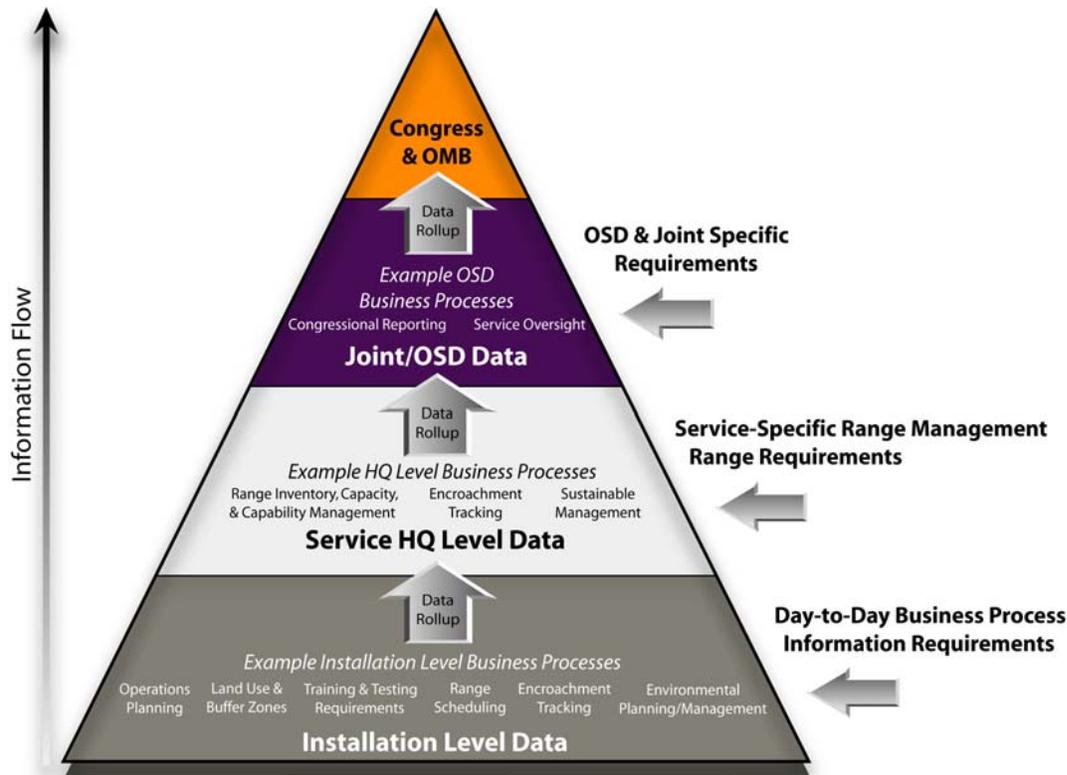
The Department of Defense (DoD) is working towards a more integrated training and testing Range Information Enterprise (RIE) that improves DoD's ability to support training and testing at ranges across air, land, sea, undersea, and electromagnetic spectrum domains. As DoD evolves to face a broader set of security challenges, including the Global War on Terrorism mission, a number of significant challenges, including information sharing, posting, and processing, must be addressed.

Currently, the RIE effort is focused on developing requirements for improved information sharing that support cross-Service and cross-functional collaboration. During the past year, the RIE effort has focused on coordinating with stakeholders. In the coming year, the effort will focus on eliciting input from stakeholders to support the requirements development process and the strategic planning necessary for implementation. This planning consists of coordinating and gaining the support of stakeholders and range users to ensure greater integration with DoD enterprise planning efforts. Initial input from the Services identified a need to construct an environment that provides wider distribution and access to range and training and testing data. Through leveraging the Training Community of Interest (TCOI) as a collaborative forum and coordinating body, the RIE effort will focus on developing an integrated enterprise architecture that complies with established federal and DoD regulations

The RIE architecture efforts will begin by establishing a concept of operations, and plan for the development of the operational architecture. In this effort, the Lines of Business (LOBs) that support operations, sustainment, and range management, were identified and analyzed. During this next year, the RIE effort will select one LOB and execute a pilot project that will demonstrate the future state architecture, leveraging net-centric concepts and a data-sharing environment. The end state of this demonstration will be a set of operational and system requirements that describe how the enterprise will function in order to support the selected LOB. The TCOI will analyze the requirements and assist in the identification of solutions. The RIE is intended to realize efficiencies (e.g., joint system development, reduce information duplication, sharing or standardizing data, sharing of tools and capabilities) associated with the training and testing mission while increasing information flow throughout the enterprise. To accomplish this, the enterprise effort will continue to examine and develop an architecture that models each LOB and generates associated requirements. These requirements will help define a process and system solution that shares information across DoD.

### **5.2. CURRENT STATE OF RANGE INFORMATION**

Figure 5-1 depicts the conceptualized layers of an RIE. These four tiers show the locations where data and applications would exist and how the data would "roll up" within the enterprise. Each layer of the triangle represents a level of data and the associated range business processes and the interfaces between tiers. These levels are installation, Service HQ, Joint/OSD, Congress, and OMB. At the base of the pyramid is the installation level, which represents the most detailed data in the enterprise. The data are used for the day-to-day operation of ranges and represents the collection point for operational data that is needed throughout the entire enterprise. The next level of the RIE pyramid, Service HQ, represents a smaller data set. This level encompasses higher order information used to manage a number of ranges collectively. The third level of the enterprise, the Joint/OSD level, represents data derived from the lower tiers that is used to support broad strategic management decisions related to Congressional and Service oversight for the range mission area. The fourth and final level represents data used to report to Congress and OMB, where funding decisions are made. Each of these levels has a business requirements component that drives processes and procedures throughout the RIE framework as well as the data needed to support those processes and procedures.

**Figure 5-1. RIE Information Flow Diagram**

The Department is working toward achieving this RIE vision by facilitating change related to business processes and information systems to ensure the Services can maximize the use of range assets at dedicated ranges, ocean operating areas, and airspace to meet training and testing requirements. The Department recognizes the need to lay a foundation for successfully capturing and reporting information associated with range business processes.

### 5.3. DOD/SERVICES VISION FOR TRANSFORMATION

In response to current information technology (IT) initiatives, the Services and DoD have developed transformation strategies that outline the vision, mission, and goals for each Service and DoD. Both the Services and DoD have developed enterprise-level priorities to guide the development of transformation across the business enterprise. The Department is focusing on six business enterprise priorities: Personnel Visibility, Acquisition Visibility, Common Supplier Engagement, Material Visibility, Real Property Accountability, Financial Visibility. These priorities provide a foundation for the training and testing domain, at the OSD Readiness and Training level, to organize current and future lines of business and facilitate the integration of multiple information sources.

At the Service level, the Army, Air Force, Navy, and Marine Corps are developing transformation strategies, built on DoD's business enterprise foundation, that address the challenges facing war fighters in today's combat operations. These strategies are forming the foundations for enterprise-level IT development, which could facilitate a greater data sharing capacity, integrated business process, and limit redundant system functionality between the Services.

These transformation strategies promote a net-centric operational and systems view for IT systems development. As the net-centric visions for 2010 and 2020 begin to spread throughout DoD, it is important to design or re-design current information systems in accordance with net-centric strategies and concepts. As part of its business transformation efforts, DoD has issued several policies and guidance documents to promote the development of net-centric concepts in emerging information systems. These documents include (but are not limited to) the following:

- DoDD 8100.1: Global Information Grid (GIG) Overarching Policy
- DoDD 8500.1: Information Assurance
- DoDD 8320.2: Data Sharing in a Net-Centric Department of Defense
- Net-Centric Checklist Version 2.1.3
- Management Initiative Decision (MID) 905
- Net-Centric Data Strategy

Each document contributes to DoD's overall net-centric vision to provided program managers and system developers with guiding concepts that will link their systems into the overarching Transformation goals. However, policies and IT technology are not the only components of net-centricity. The IT infrastructure that hosts and distributes net-centric information systems and data is the GIG. The GIG provides the infrastructure to deliver fast, reliable, and secure data anywhere in the world.

## **5.4. CURRENT RANGE INFORMATION EFFORTS**

### **5.4.1. Training Community of Interest (TCOI)**

The TCOI is a key group within the DoD that serves as a collaborative environment for establishing the data and services that provide the capability to efficiently and effectively meet current and future training requirements.

The COI concept was developed by the Assistant Secretary of Defense for Networks and Information Integration [ASD(NII)] to help implement the Department's Data Strategy in a net-centric environment. The COIs also function as a single interface point for a particular community to the Global Information Grid.

The TCOI is charted for the purpose of:

- Providing a collaborative forum for developing DoD training data, metadata, and information services to support net-centric implementation of advanced war fighter training capabilities.
- Coordinating technical activities related to transforming DoD's training infrastructure to a SOA environment.
- Providing a single interface point for GIG training issues to ASD(NII) and their supporting organizations.<sup>18</sup>

The scope of the TCOI is derived from the Training Transformation Initiative and is defined, per the 2006 Quadrennial Defense Review, to encompass DoD's Total Force (Active Component/Reserve Component, military components, civil servants, and contractors). Additionally, the TCOI is intended to cover DoD's spectrum of training needs—from individual to joint. Range processes are under the umbrella of the TCOI. Ranges are critical resources that provide capabilities to meet current and future training requirements.

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<sup>18</sup> Training Community of Interest Charter (Nov 2006)

### 5.4.2. RIE Lines of Business

The RIE domain contains a number of multi-faceted functional business areas, each of which has multiple, highly complex business processes associated with it. These Lines of Business are shown in Figure 5-2 below.

**Figure 5-2. Range Information Enterprise Lines of Business Diagram**



Information associated with each of these areas is required by users at the range level, some at the Service HQ level, and some at the OSD level. This information is continually refined to address the needs of stakeholders at each tier of the information triangle. Each tier includes multiple user groups requiring access to range-related information across multiple DoD functions, particularly in installations and environment, as well as personnel and readiness and operational test and evaluation. Furthermore, users outside DoD have needs for range information. Some of these users include state and federal agencies, partnering organizations, and the public.

### 5.4.3. RIE Architecture

Traditionally, range information systems have been developed, utilized, and supported in a “stove-piped manner” by individual Services, thereby hindering information sharing between one Service and another. The development of an RIE architecture that enables the sharing of data between air, ground, and sea operational users and across Services is intended to support the transformation of the current range domain. In building the foundation for RIE, DoD faces a number of challenges (e.g., emerging requirements, evolving business processes, and changing information technologies) that will require innovative solutions, a strong commitment to cross-Service collaboration, and a strategic plan.

### 5.4.4. Range Applications/Services applying Cross-Service and Enterprise Level Planning Concepts

The Department is currently engaged in range information efforts that serve as examples for the RIE vision of cross-service and enterprise-level planning. The following sections describe examples of range applications and services that embody this vision.

#### **5.4.4.1. Aviation Range Safety**

The Marine Corps chairs an OSD working group for joint aviation range safety. In addition to gaining consensus on the range safety policy, this effort includes fielding a common DoD weapons safety footprint tool for mission planning, range management, and environmental oversight. The Services are collaborating to ensure the tool is developed to meet the needs of the Services to ensure safe range operations and realize efficiencies in sharing the application across DoD.

#### **5.4.4.2. Geospatial Information**

The Department is committed to taking an enterprise approach to range geospatial information and tools to further enable and maximize the use of range assets to meet readiness requirements. The Department has several ongoing efforts aimed at leveraging Geographic Information Systems (GIS), including geospatial data and tools to support training, testing, and long-term range sustainment. These efforts range from cross-Service working groups, new mission capabilities, and developing tools and data.

##### *5.4.4.2.1. Cross-Service Range GIS Sub-Group*

In 2004, DoD formed a working group to examine range GIS data and tools to further enable and maximize opportunities for cross-service and cross-functional use of ranges. The group is referred to as the Range GIS Sub-Group which is subordinate to the Range Use Standardization Working Group (RUSWG) and part of the DoD Training Transformation initiative. The group provides a unique community for working on geospatial standards, curriculum, policies, and standards focused on ranges. This is an area that has received minimal attention and coordination in the past.

##### *5.4.4.2.2. Defense Installation Spatial Data Infrastructure (DISDI)*

The DISDI Office is within the Office of the Deputy Undersecretary of Defense (Installations & Environment) and provides people, policies, and practices necessary to acquire, steward, and share installation, environmental, and range spatial data assets in support of defense, federal, and national goals. It is envisioned that the DISDI architecture will address both personnel and business process for the purpose of ensuring sustained availability and access to current, authoritative defense installation geospatial information. Currently, DISDI has developed a portal to enable discovery of available installation and environmental geospatial data, view maps of DoD installations and surrounding areas, and provide contact information for accessing data from the Services. The portal is comprised of three capabilities: (1) a viewer for displaying DoD installation and environmental geospatial data, (2) a metadata portal for searching and discovering available DoD installation data, and (3) web services for providing geospatial data for DoD GIS applications. Currently, the site is only available to DoD users in the .mil domain.

##### *5.4.4.2.3. Compatible Land Use and Partnering*

As part of ongoing compatible land use and partnering projects, OSD and the Services are successfully applying geospatial information and tools to assist in planning and decision-making. Additionally, the Department is effectively sharing DoD geospatial data with states and non-governmental organizations as part of partnering efforts. These efforts are facilitating partnerships by assisting in identifying opportunities to work together to meet common goals.

### **5.5. LOOKING FORWARD**

OSD and the Services are working together through the Sustainable Ranges IPT and the TCOI to establish an integrated RIE that transforms the existing range domain into a combined, joint training and testing environment. This effort is aimed at complying with ASD(NII) policy and guidance on net-centricity and developing enterprise architecture. As efforts to implement changes from the Training Transformation and Business Transformation continue, enterprise planning will play a key role in helping

OSD and the Services develop an interoperable, joint training and testing environment. As part of this approach, the Department is looking to partner with industry through groups, such as the Net-Centric Operations Industry Consortium. As the DoD moves ahead, future enterprise efforts are focused on continuing to coordinate this effort with other DoD enterprise planning efforts and improving the ability to share range data and services within a net-centric environment.

## **6. WORKING BEYOND THE FENCE LINE**

### **BACKGROUND**

In his memorandum of December 4<sup>th</sup>, 2001, the Deputy Secretary of Defense tasked several offices within the Office of the Secretary of Defense (OSD) with developing an approach to assure future sustainability of its ranges. In 2002, the Sustainable Ranges Initiative (SRI) was chartered under the authority of the Senior Readiness Oversight Council. One key element of the SRI was the development of a comprehensive, multi-tiered outreach effort focusing on encroachment issues and challenges facing DoD range managers and users.

Now in its fifth year, the outreach portion of the SRI is broadly connected with other federal agencies, states, communities, non-governmental organizations (NGOs), and other public and private stakeholders on readiness and land use issues affecting the military and its neighbors. The program employs communication, partnering, education, and outreach as cornerstones for success.

### **VISION**

The goal of SRI is to ensure the long term sustainment of military testing and training ranges while providing good stewardship of the resources on these properties. The strategy to achieve this overarching goal is to focus on four thrust areas:

- (1) Compatible land use planning (including the REPI efforts described earlier in this report)
- (2) Community partnering
- (3) Education and outreach
- (4) Regional partnerships

Each of these thrust areas is comprised of a suite of specific projects, initiatives, and events. These activities are performed in coordination with the Services, other federal agencies, state and tribal governments, local government agencies and officials, and NGOs. Examples of initiatives under each of these primary thrust areas are outlined in the remainder of this chapter.

### **6.1. COMPATIBLE LAND USE PLANNING**

#### **6.1.1. Readiness and Environmental Protection Initiative**

The Readiness and Environmental Protection Initiative (REPI) enables DoD to work with willing partners to establish cost-sharing land conservation solutions that limit incompatible development and protect valuable open space and habitat around key test and training areas. Under REPI, DoD provides funding for the Services to work with state and local governments, NGOs, and willing land owners to secure conservation easements that help prevent encroachment of test and training areas. The easements typically allow the land owner to maintain ownership of the property as a farm, forest, or ranch but prevent or restrict future residential, commercial, or industrial development.

#### **6.1.2. Military Service Land Use Programs**

Each of the Services has their own tailored conservation buffer initiatives that are designed to promote compatible land use partnerships. The Army has developed the Army Compatible Use Buffers (ACUB)

Program, the Navy and Marine Corps have developed Encroachment Partnering (EP) Programs, and the Air Force is developing an enhanced Air Installations Compatible Use Zone (AICUZ) program. The Services use these programs to participate in the overall REPI program, as well as to apply their own Service funding to key buffer projects.

### **6.1.3. Other Programs Addressing Compatible Land Use**

There are also a number of other programs in which DoD is working to promote compatible land use. Some important compatible land use programs include the following:

- Joint Land Use Study (JLUS) Program
- Air Installations Compatible Use Zones (AICUZ) Program
- Range Air Installations Compatible Use Zones (RAICUZ) Program
- DoD Noise Program

Increasingly, the SRI is working with the Office of Economic Adjustment (OEA) on the Joint Land Use Study (JLUS) Program. This program is a cooperative land use planning effort between an affected local government and a military installation to help achieve compatibility through planning and land use control processes. OEA has completed 48 JLUS studies from 1985 through 2006, and an additional 44 studies are underway.

The AICUZ program is designed to assist officials in protecting public health and safety within designated AICUZ areas, as well as protecting the installation's operational capability from the effects of land use that are incompatible with aircraft operations. The Navy and Marine Corps' RAICUZ program is an extension of the AICUZ program for air-to-ground ranges. The DoD Noise Program, based on the new DoD Instruction 4715.13, provides for coordinated efforts to address sound generated from military operations that have the potential to impact nearby populations.

## **6.2. PARTNERSHIPS**

### **6.2.1. Non-Governmental Organization Conservation Partnerships**

The Department has reached out to a number of NGOs through SRI by participating in conferences and conventions, speaking at events, and hosting an educational DoD booth at events across the country. In 2006, these organizations included the following:

- Land Trust Alliance
- The Trust for Public Land
- American Farmland Trust
- National Tree Farmer Convention (American Forest Foundation)
- The Nature Conservancy
- The Conservation Fund

The Department's willingness to discuss policies, programs and long-term goals with these organizations has allowed active and beneficial partnerships to form, adding to the success of SRI. They often provide, for example, map data, regional scientific data, and a forum for meeting with local and regional community members and officials that may not have otherwise been available to DoD.

## **6.2.2. State and Local Government Collaboration**

The Department continues to engage with a number of organizations that enhance collaboration and partnering with state and local governments.

### **6.2.2.1. Environmental Council of States**

The Department is an active participant in several groups within the Environmental Council of States (ECOS), which is an association of state environmental and natural resource officials:

- ECOS/Federal Facilities Forum was created in the Spring of 2004 by combining the ECOS Department of Energy (DOE) Forum and the ECOS DoD Forum. It allows DoD, the Department of the Interior, DOE, and the Environmental Protection Agency (EPA) to interact with ECOS regarding federal facilities.
- ECOS-DoD Sustainability Work Group serves as a focal point within the ECOS Federal Facility Forum on sustainability issues regarding DoD installations. For example, this work group has sub-groups to study Emerging Contaminants and Compatible Land Use and Sustainability.
- ECOS-DoD Sustainability Workgroup has sponsored two special seminars that focused on specific sustainability issues. From these seminars, collaborative solutions are being developed that address emerging issues.

### **6.2.2.2. International City/County Management Association**

The Department hosted an information booth at the 2006 annual convention of the International City/County Management Association, which represents professional city and county managers. The Department also participated in a Military Communities Roundtable to reach out to city and county managers of installation communities and exchange information about goals and concerns that are common to both DoD and communities.

### **6.2.2.3. Western Governors' Association**

The Department participated in the Winter Meeting of the Western Governors' Association to encourage collaborative partnerships on conservation buffers around military installations and the formation of regional partnerships to address planning issues that cross state borders.

### **6.2.2.4. National Association of Counties**

The Department continues to focus on improved communication between county officials and local military installations, as it is imperative to installation/range sustainability. The National Association of Counties (NACo) is a key partner for local networking and workshop opportunities. They facilitate interactive workshops that focus on collaborative land use and the institutionalization of regional communications around military installations that meet both county and DoD goals. The most important piece of this type of interaction is for NACo to help county officials understand efforts by DoD, in order to work collaboratively on encroachment issues.

### **6.2.2.5. National Conference of State Legislatures**

The National Conference of State Legislatures (NCSL) serves as an educational service for state legislators and their staffs in all 50 states and territories. NCSL offers access for DoD to state government in order to promote a better understanding of compatible and incompatible development, and how such development affects DoD. The DoD-NCSL partnership goals are to assist DoD and state legislators to better understand their respective roles in ensuring the sustainability of military installations

within the communities in which they operate. At least 18 states have passed legislation to help protect military installations through better land use planning.

### **6.2.3. Federal Interagency Coordination: National Resources Conservation Service**

The Department and the United States Department of Agriculture (USDA) signed a Memorandum of Understanding on November 6, 2005 at Fort Riley, Kansas to create a partnership between USDA's Natural Resources Conservation Service (NRCS) and DoD to conserve land near military installations as part of DoD's REPI program. This partnership will allow DoD to better harness various programs designed to assist private landowners who farm and ranch to conserve working lands, while protecting neighboring military installations.

## **6.3. EDUCATION AND OUTREACH**

### **6.3.1. Outreach Policy Development**

The DoD is preparing to issue a policy on *Partnering and Engagement* that will implement the requirements of DoDD 3200.15 and DoDD's 4715.11 through 13, and establish a foundation and further framework for the Services to implement active community engagement. Partnership and outreach endeavors over the past five years have enabled DoD to begin to develop effective policy based on research, workshops, relationships with civilian communities, and effective non-governmental organizations.

### **6.3.2. Educational Tools**

#### **6.3.2.1. PRIMERS**

In 2006, DoD's SRI coordinated the development of a series of primers addressing the purpose and perspective of the military and various stakeholders, including the following:

- *Working with Land Trusts: A Guide for Military Installations and Land Trusts*
- *Working with State Legislatures: A Guide for Military Installations and State Legislators*
- *Working with Local Governments: A Practical Guide for Installations*
- *Collaborative Land Use Planning: A Guide for Military Installations and Local Governments*
- *Working to Preserve Farm, Forest, and Ranch Lands: A Guide for Military Installations*

The primers were written by the appropriate NGO partners and are designed for range and installation Commanders and outreach coordinators, as well as civilian partners. They present information in a civilian-friendly format and highlight best practices so they can be used effectively by both the military and its stakeholders. Since their release in 2006, the primers are already being used in installation and range offices nationwide, incorporated into DoD coursework to train future installation leaders, as well as by several NGOs seeking to gain a better understanding of how to work with the military. Primers are available both in hard copy and electronically on the web to foster easier access and enhance learning potential.

#### **6.3.2.2. Workshops**

In 2006, DoD developed and conducted two State Wildlife Action Plan (SWAP)/Integrated Natural Resource Management Plan (INRMP) workshops for installation natural resource managers and representatives from federal and state fish and wildlife agencies. These workshops were held for the

southeast region (May 2006, Atlanta, Georgia), and for the southwest region (December 2006, in Phoenix, Arizona).

The goal of these workshops was to bring together these individuals and identify potential projects that could assist in SWAP and INRMP integration. These workshops produced nine projects throughout the southeast and southwest, including projects to achieve the following: (1) develop a strategy to manage the gopher tortoise, (2) identify areas/potential sites for habitat conversion that will clear invasive species while not hindering native species, and (3) host a local partnering workshop. These workshops have increased SRI's ability to interact more frequently and effectively with surrounding communities.

### **6.3.2.3. Toolkits**

The SRI has developed a web-based Sustainable Communities Toolbox. This Toolbox provides an overview in an easy-to-use-fashion of technology planning tools that are available for installations and communities. In 2007, OSD plans to partner with the Marine Corps and others to co-host a workshop to discuss how these technology planning tools can best be used at the local level.

### **6.3.3. Training**

#### **6.3.3.1. Community Engagement and Partnering Training**

Installation and range Commanders rotate on a regular basis, approximately every two to three years, while at the community level both decision makers and opinion leaders remain in place over a longer term. The challenge for any Commander is learning the complexity of the local situation, building relationships within the community, and thus promoting continued military viability with the community. To assist Commanders in facing these challenges, DoD is developing new outreach training to assist Commanders and their staffs in proactively working with civilian communities.

Successful community involvement is a partnership in which both parties are comfortable working with one another. To better equip the Commander for such a partnership, the training provides an overview of:

- Latest encroachment issues and their impact on the military mission.
- Importance of outreach and how it can assist the military in achieving military mission.
- Various internal structures of military installations that actively conduct outreach.
- How to develop an outreach plan.
- Best approaches in working with state and local governments.
- Outreach tools.
- Best practices in addressing sustainability issues through outreach.

The training was developed in two modules: a 30-minute executive class for the Commander and a half-day session for staff. The 30-minute class provides the Commander an overview of outreach and the half-day session provides more in-depth knowledge on how to carry out the day-to-day functions. Together, these briefs are intended to provide high-level information to assist Commanders in better engaging with the community, while providing sustainability professionals the information they need for consistent, proactive engagement with the community. Information presented was gleaned from successful military-community outreach programs and provides best practices, as well as lessons learned and other practical information. In sum, these tools will assist Commanders and their staffs in developing successful partnerships with communities. This program is being tested at various military conferences for review and feedback on information and usefulness.

### **6.3.3.2. Collaborative Land Use Training**

In partnership with DoD, NACo and the Conservation Fund (TCF) developed a workshop curriculum on Collaborative Land Use Planning around military installations, which was piloted at Fort Stewart/Hunter Army Airfield (HAAF), Georgia in the fall of 2006. The purpose of the workshop was to bring representatives from Fort Stewart/HAAF and the surrounding communities together to (1) identify obstacles and opportunities to implement the recommendations of the Joint Land Use Study completed in 2005, and (2) develop a communication network and institutionalize an effective on-going communication process for the region. The workshop was designed to accommodate approximately 50-75 workshop participants.

### **6.3.3.3. Developing and Maintaining Sustainable Integrated Natural Resource Management Plans Training**

The purpose of the Integrated Natural Resource Management Plan (INRMP) course is to improve quality and consistency of INRMPs through lessons learned by meeting the following objectives:

- Emphasize tri-party cooperation/coordination
- Assist in producing sustainable INRMPs
- Provide adaptive management tools
- Provide innovative funding tips
- Provide networking opportunity through tri-party participation in the course

This is a three-day course, which includes a half day for course critique. Participants will include USFWS, DoD, and State Fish and Game managers/operators. This course was piloted in November 2005 and December 2006. An interactive web-based version of the course will be made available in 2007 as part of an FY 2006 Legacy funded project.

### **6.3.4. Range Tours**

The SRI expanded its education, awareness and outreach efforts beginning in 2004 by offering range tours to NGO representatives, state environmental officials, and Senior Executive Service members. The purpose of a range tour can vary. In some instances, the tour is designed to highlight the natural resource programs located on a base; in other cases, participants have the opportunity to view urban sprawl and learn about how such encroachment can inhibit training on the base. Range tour participants are provided opportunities to interact with natural resource managers, servicemen, and occasionally the Commanding Officer of the base. Open dialogue during these tours is encouraged – both the range tour participants and base personnel are expected to ask “hard questions” of one another. When possible, range tour participants are also given the opportunity to view live testing and training in order to fully understand how the Services maintain military readiness.

In 2006, two range tours were conducted to enhance awareness of testing and training needs and to aid in dispelling some of the mystery of the military bases. A brief summary of some of the highlights follows:

**Marine Corps Base (MCB) Hawaii (Kaneohe Bay), Schofield Barracks, Pacific Missile Range Facility, Hawaii (February 2006).** Approximately 20 environmental NGO representatives toured three different bases over the course of five days. Ten of these representatives came from national NGOs, and the other ten representatives came from Hawaii NGOs. During the tour of MCB Hawaii, participants rode on Amphibious Assault Vehicles (AAVs), which the Marine Corps uses during their “mud-ops.” The range tour demonstrated that while AAVs provide military transportation, they also serve an

environmental purpose. Participants were able to witness how the churning of mud created small mountains and valleys for native birds, as well as brought food to the surface for certain animals.

During the visit to the Army's Schofield Barracks, participants were able to do two things: (1) view some live training exercises, as well as participate in some virtual training, and (2) view the beautiful Pupukea-Paumalu, and Waimea Valley sites. These two parcels were protected from development and urbanization through the Oahu Conservation Partnership (OCP), which is co-chaired by the Trust for Public Lands and the Office of Hawaiian Affairs (OHA). Funding for the purchase of these lands came from the Army ACUB and OSD REPI programs, the State of Hawaii, the City and County of Honolulu, the Audubon Society, the National Oceanic & Atmospheric Administration, and other public and private donors. Due to the efforts of the OCP and DoD, these sites are now back in Hawaiian hands – specifically those of the OHA – and their sacred sites and natural state will be protected in perpetuity.

Finally, during the visit to the Pacific Missile Range Facility (PMRF), participants met with the Commanding Officer who discussed the environmental program on PMRF. Afterward, the group viewed sea turtle colonies, Laysan Albatrosses, and the recovery of a shoreline/littoral zone when human traffic is limited to security vehicles and personnel.

This range tour was a huge success and generated great discussion and positive feedback from participants.

#### **Naval Air Base (NAB) Coronado and Naval Air Station (NAS) North Island, CA (October 2006).**

In conjunction with the ECOS meeting that occurred in San Diego, approximately 20 representatives from a variety of state environmental departments toured NAB Coronado and NAS North Island. Participants received a briefing on the natural resource program in the San Diego area, and then boarded tug boats and toured the San Diego Bay area. Navy environmental initiatives, such as the plastic pier pilings and the oily waste treatment systems for bilge water, were viewed first hand during the tour. The afternoon provided more opportunities for discussion during a bus tour of NAS North Island, which included a tour of the photovoltaic system that North Island has created.

This range tour was successful because it had reached many state environmental officials and gave them the opportunity to learn how bases operate and view some examples of how they conduct natural resource management. Participants were encouraged to contact local installations to learn more about their local programs and opportunities for interaction.

## **6.4. REGIONAL PARTNERSHIPS**

### **6.4.1. Southeast Regional Partnership for Planning and Sustainability**

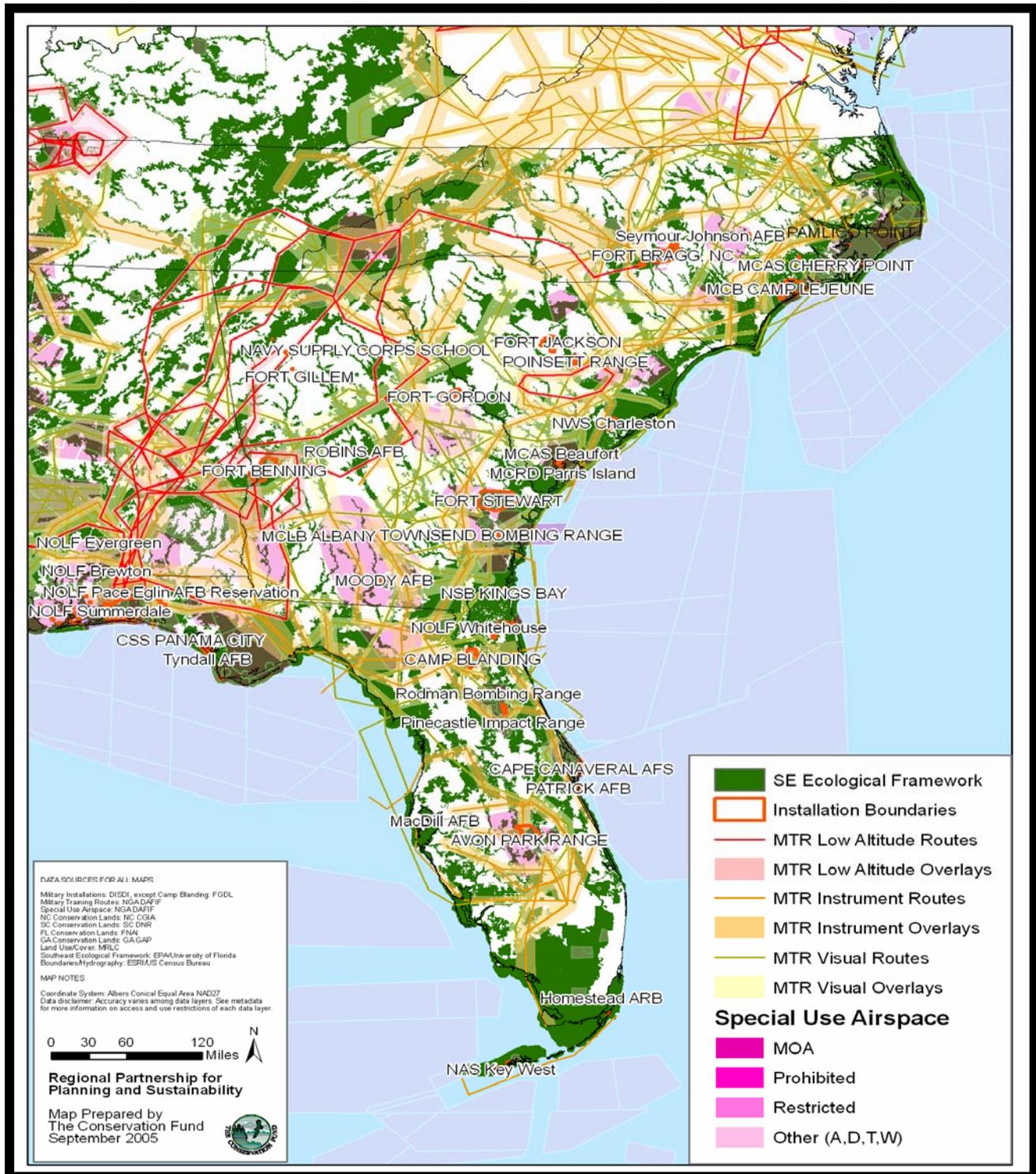
The Department has partnered with environmental and natural resource officials from five southeastern states (North Carolina, South Carolina, Georgia, Florida, and Alabama), and additional federal agencies, such as the EPA and the U.S. Fish and Wildlife Service (USFWS) to form the Southeast Regional Partnership for Planning and Sustainability (SERPPAS, Figure 6-1). Convened in 2005, SERPPAS members work to address regional planning, conservation, economic, and sustainability issues.

The mission of SERPPAS is to seize opportunities, solve, and prevent problems in a value-adding way that will provide benefits to the partners, and sustain the mission and secure the future for all the partners, region, and the nation. SERPPAS aims to prevent encroachment around military bases, encourage compatible resource use decisions, and improve coordination between states and Services. With the help of quality GIS data, a good map, and effective working relationships, SERPPAS works toward identifying

opportunities for partnership and collaboration that will lead to regional solutions and protection of ecosystems across jurisdictional borders.

In order to facilitate this regional collaboration and partnership, SERPPAS has identified projects to address key areas/issues of interest. These areas/issues include promoting compatible use of military, agricultural, and forestry lands; mapping marine/coastal areas of interest; identifying potential stakeholders; examining policy and possible legislation to support working land (i.e. farms, forests, ranches, and fisheries); promoting compatible regional resources use; and preserving the longleaf pine habitat, including the protection of species (e.g., red-cockaded woodpecker, gopher tortoise).

Figure 6-1. Southeast Regional Partnership for Planning and Sustainability Map



### **6.4.2. Western Regional Partnership**

Following the success of the Southeast Regional Partnership for Planning and Sustainability (SERPPAS), and in keeping with the increased interest in productive dialogue outside the fence line, DoD is currently exploring options for a pilot partnership project in the western United States.

In December 2006, DoD held an internal planning meeting to explore partnering options and lay the initial groundwork for a potential Western Regional Partnership (See Figure 6-2). This meeting considered issues and shared interests inherent to such a partnership, the overarching DoD objectives, the spectrum of prospective non-DoD stakeholders who should be involved, and the geographic scope of the planned partnership.

The WRP will serve as a forum through which DoD, federal and state agencies, and other stakeholders can identify regional issues of mutual interest and pursue cooperative solutions and beneficial, collaborative projects that further partnership goals. A number of collaborative forums and initiatives involving military, state, and other stakeholders already exist; however, the proposed WRP will help to highlight and leverage these within a more comprehensive, regional scope.

An overarching partnership will foster a streamlined approach to:

- Identify and address issues of importance between DoD, the states, and the federal agencies in the western U.S.
- Share best practices and technical information.
- Leverage synergies and common interests among disparate forums and collaborative efforts.
- Ensure that DoD range sustainment is addressed at a regional level in concert with other partners' planning objectives.

**Figure 6-2. Western Regional Partnership Map**



**6.5. SUMMARY**

This chapter has presented a sample of the multitude of initiatives the Department has undertaken over the past 5 years to establish improved partnering, engagement, and communications with its neighbors and other parties with vested interests. The challenge ahead of DoD is to nurture and grow this emerging framework of continuing cooperative and coordinated efforts with groups beyond installation boundaries so that it may be institutionalized and engrained in DoD’s daily business practices to safeguard America and sustain its land and resources for years to come.

## **7. AIRSPACE TRAINING REQUIREMENTS**

### **7.1. INTRODUCTION**

Per the NDAA for FY 2007 *Conference Report to Accompany H.R. 5122* (see Appendix A), this section, addresses Senate report language that asked DoD to outline our approach to establish a policy to identify military aerial training areas, determine aerial training airspace requirements to meet future training needs, and undertake necessary actions to preserve and expand those areas of airspace needed for training requirements. It provides an overview of DoD and Service policies and procedures in this area. It also discusses the issue of integrating the military's Unmanned Aerial Systems (UAS) into the National Airspace System (NAS). We will work to refine this section in subsequent submittals of this report to ensure we remain responsive to language expressed by the Senate.

### **7.2. DOD'S APPROACH TO AIRSPACE MANAGEMENT**

The Department issued DoD Directive (DODD) 5030.19 on June 15, 1997 (certified as current as of November 21, 2003), which contains policy and responsibilities for peacetime and wartime relationships between the DoD, Department of Transportation (DoT), and the Federal Aviation Administration (FAA) to better manage the Special Use Airspace (SUA) DoD owns and controls. This directive also outlines the DoD organizational structure for interfacing with the DoT, FAA, and the other agencies on air traffic control, airspace management, and other NAS issues. DODD 5030.19 also establishes the DoD Policy Board on Federal Aviation (PBFA) and designates the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (ASD(C3I)) to act as the chair of the board. The ASD(C3I) is also authorized to act on behalf of the Secretary of Defense to provide policy and oversight of DoD interface with the FAA on all NAS matters.

According to DODD 5030.19, it is DoD's policy to:

- Ensure that the Military Departments have sufficient airspace to fulfill military, training, and test and evaluation requirements for peacetime, contingency, and wartime operations.
- Cooperate with the FAA for the effective and efficient management of the NAS.
- Ensure operational interoperability between the DoD and the FAA and ensure equipment interoperability between the DoD and the FAA, except where security, military, or need-to-know issues result in a conscious design decision to isolate specific equipment.
- Actively participate in international aviation, air traffic control, and airspace management to ensure DoD requirements and needs are addressed.

The PBFA is comprised of representatives from the Under Secretary of Defense for Acquisition and Technology, Under Secretary of Defense for Policy, Under Secretary of Defense (Comptroller), General Counsel, Director of Operational Test and Evaluation, Office of the Chairman of the Joint Chiefs of Staff, and each Military Service. The PBFA advises and assists the ASD(C3I) on air traffic control, airspace management, and NAS matters. The working group provides the mechanism for addressing medium- to long-term user and interoperability requirements planning for the NAS.

The DoD and civil organizations have increasing and competing requirements for airspace—a limited resource in the continental U.S. (CONUS) and adjacent offshore areas. This competition is fueled by several factors: rapidly emerging technology capturing cost benefit for commercial air carriers, unconstrained growth in civil aviation, commercial encroachment on traditionally sparsely populated areas, the expanding footprint of current weapons systems, and changing tactics. Each Service employs its own approach to defining the airspace needed to meet mission requirements; many efforts are underway to redefine those requirements based on new weapons systems and changing mission needs.

The following sections discuss the methods used by each Service to identify the airspace needed to fulfill training requirements, the adequacy of current SUA, and an evaluation of the potential for using SUA in the upper Great Plains.

### **7.3. ARMY AERIAL TRAINING AIRSPACE REQUIREMENTS**

Headquarters Department of Army (HQDA), through its designated Executive Agent, the U.S. Army Aeronautical Services Agency (USAASA), is the focal point for Army airspace issues. An interactive process for the identification of new airspace requirements and an annual review of current airspace usage is in place and working well. This review ensures that relevant rules and procedures are followed and training airspace requirements are met.

Army airspace requirements are normally identified by the Garrison Commander or the Senior Mission Commander at the Army installation. This includes legacy and new aircraft systems (e.g. Unmanned Aircraft Systems, formerly referred to as Unmanned Aerial Vehicles). Special Use Airspace (SUA) proposals must be definitive and contain sufficient grounds to justify any resultant imposition on nonparticipating aircraft and the public. After approval by the appropriate Army chain of command, airspace proposals are forwarded to the Department of the Army Representative (DAR) at one of the FAA service centers (located in Atlanta, Fort Worth, or Seattle). The USAASA reviews and validates requests and usage. With USAASA concurrence after Commander ACOM/ASCC/DRU endorsement, the DAR submits the request to the FAA and works with them until final disposition. Annual review of airspace determines if airspace availability is appropriate, needs to be reduced, or identifies a need to be expanded. With USAASA oversight this system reaching from the user through the chain of command to the FAA and back has shown itself to be robust and flexible in meeting needs. The system also maintains a single focus at HQDA (USAASA) to ensure Army and Joint operational needs are considered and supported appropriately.

### **7.4. NAVY AND MARINE CORPS AERIAL TRAINING AIRSPACE REQUIREMENTS**

The Naval Airspace Plan, as depicted in Project Blue Air, provides an analysis of the airspace utilization and requirements of the Navy and Marine Corps, and defines and prioritizes the current and projected requirements of the Navy and Marine Corps SUA. The Naval Airspace Plan/Project Blue Air is the central basis for documentation and justification of all SUA within the Department of Navy (DoN). This allows for a focused and coordinated approach by the DoN in optimizing the use of current airspace resources and competing aggressively for the retention and expansion of airspace resources in the future. This document is produced, in part, by data provided by DoN regional airspace plans and is the basis of DoN input into the DoD Airspace Master Plan. Regional airspace plans are developed annually by the Regional Airspace Coordinators (RACs) and are utilized to develop and update the Naval Airspace Plan/Project Blue Air and provide real-time SUA information to the Chief of Naval Operations (CNO) Commandant of the Marine Corps (CMC), and NAVREP. The airspace plans specifically address:

- Documentation and justification of current SUA.
- Identification, validation, and prioritization of projected SUA requirements.
- Current or projected encroachment of SUA that impacts DoN operations and training.
- Significant environmental issues that impact current or projected SUA.
- Manning and equipment requirements necessary to support management of airspace assets.
- Current and projected non-DoN SUA issues that impact DoN SUA assets (e.g., FAA Capital Investment Plan, Transition from ground to space based dependence for Surveillance, Communications and Navigation, Free Flight, Open Skies).

The Marine Corps is currently conducting a regional study in the western portion of the U.S. to review all SUA in the region to determine how it supports the DoD mission for the next 10-20 years. The study will identify shortfalls and requirements to meet the future mission needs of the airspace users. A draft of the study is anticipated to be completed by the middle of CY 2007 with a final report anticipated in early CY 2008.

The Marine Corps developed a Training Ranges Requirements Capabilities Document (RCD) to capture a description of the required capabilities for the entire Marine Corps range infrastructure. The stated objective of the RCD was to define quantitatively the previously undefined required capabilities that will allow Navy and Marine Corps ranges to support mission essential training in an unconstrained environment for a 10-year planning horizon. The RCD defines the required capabilities for four classes of ranges, based upon the size (or level) of the unit to be trained: specifically, Individual Level, Unit Level, Marine Air Ground Task Force (MAGTF) Marine Expeditionary Unit (MEU) Level, and MAGTF Marine Expeditionary Brigade (MEB) Level. The RCD identifies a "Suite of Ranges" to describe the range "attributes," or required capabilities, for each range class. These attributes include three range operational elements (airspace, sea space, and land area) and a set of range-related systems that include scheduling, communications, meteorological, target, instrumentation, and opposition force. The RCD also identifies Thresholds (minimum required capabilities to allow training to a C-2 readiness level), Objectives (desired capabilities to support training to allow training to a C-1 readiness level), and key performance parameters (KPPs), which can be used to measure critical thresholds and objectives.

The RCD identifies the required aviation range attributes based upon the six functional areas of Marine Aviation listed below. Dimension and area attributes contained in the document were derived from doctrinal Training and Readiness (T&R) requirements as defined in Individual Training Standards (ITS).

- Offensive Air Support (OAS)
- Anti-Air Warfare (AAW)
- Assault Support
- Air Reconnaissance
- Electronic Warfare (EW)
- Control of Aircraft and Missiles

The Marine Corps is also leading an effort by the Services to develop a tool to provide a common process and enable the Services to define the air and ground space necessary to contain air-to-ground ordnance and its effects. The Weapons Danger Zone (WDZ) tool will be government-owned and available to range managers and users via the internet. For the Navy, Army, and Marine Corps, the tool will reside within the Range Manager's Tool Kit (RMTK) and serve to complement the already existing array of safety tools currently available.

The Navy and Marine Corps are experiencing encroachment and other pressures that affect the availability of adequate airspace and preclude the establishment of additional SUA. For example, the western training and maneuver area of Camp Lejeune in North Carolina is currently impacted by airspace restrictions that preclude it from conducting combined arms operations. In addition, the FAA has determined that if additional Air Traffic Control (ATC)-assigned airspace is required, large exercises cannot continue in R-2501 at Twentynine Palms, California unless a Marine Corps Air Traffic Control Detachment is present on site. The FAA must review and approve training scenarios requiring additional ATC-assigned airspace, and operations above 26,000 feet should be scheduled outside of peak commercial air traffic windows. These examples of encroachment restrictions are also evident at other installations and ranges and can lead to inadequate military training and testing capabilities.

Historically, the Marine Corps establishes and uses SUA in close proximity to its operating forces. Because Marine Corps aviation units are based in the southern tier of the U.S., most Marine Corps SUA is in the southern states of the country. Current airspace management and the Regional Airspace Plans (RAPs) indicate the SUA construct will not substantially change in the future. Deployments to northern locations of the country, such as the upper Great Plains where no Marine Corps units are currently based would be costly and interrupt efficient operations tempo at already established installations and range areas. The Marine Corps has no plan to establish forward operating locations or to enter into agreements with other Services for the purpose of aviation training in the northern SUA outside of traditional training locations.

## **7.5. AIR FORCE AERIAL TRAINING AIRSPACE REQUIREMENTS**

The Air Force has developed a strategic plan entitled *Transforming the Air Force Range...The Relevant Range...Enabling Air Force Operations* (September 2006). This document contains the vision and strategy for building and sustaining relevant ranges to meet the needs of the war fighter. Comprehensive Range Planning (CRP) provides the foundation of the Air Force process to ensure ranges and airspace meet current and future needs. According to the Air Force strategic plan, CRP is a process that examines current and projected operational needs to identify the best use for limited range development resources and the largest threats to the military value of ranges and airspace. The purpose of CRP is to identify current and projected capability shortfalls and guide sustainable range development to close the shortfalls.

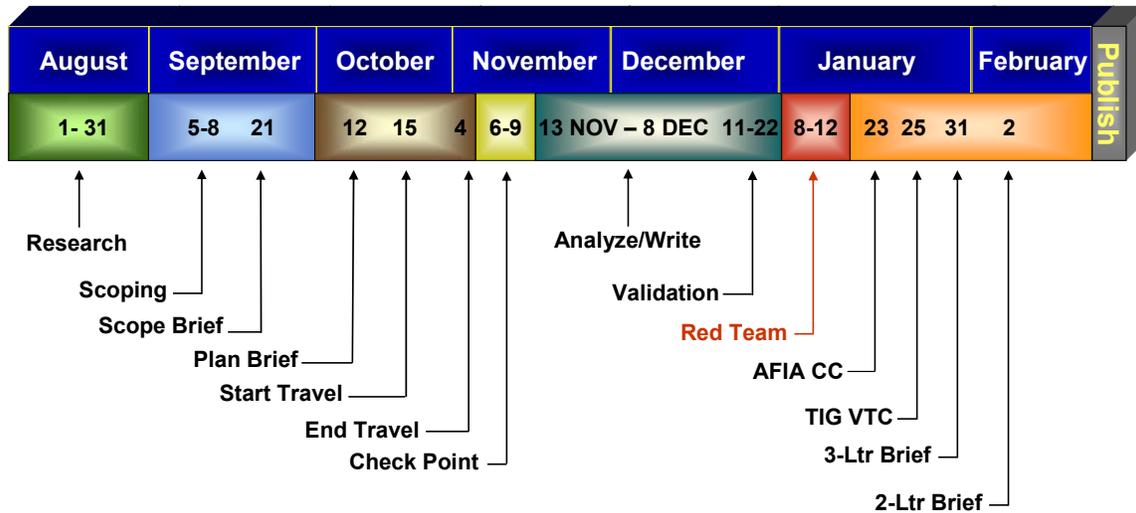
In conjunction with the CRP, the Test/Training Space Needs Statement (T/TSNS) is used to establish test and training space needs or requirements. Test/Training Space is defined as air, land, sea areas, and frequency spectrum that are specifically used to conduct readiness training activities. All actions to establish, change use, modify, or delete test/training space (including ranges or permanent airspace), except those purely administrative in nature, are reviewed by unit, MAJCOM, and HQ USAF. New and ongoing T/TSNSs are also addressed at the applicable regional councils, for the purpose of providing a regional perspective to ongoing initiatives. Proponents describe the concept, action, and alternatives in a T/TSNS, a brief document designed to facilitate the airspace review process described below, prior to initiating the formal aeronautical and environmental proposal processes. The T/TSNS is designed to aid the process and outline some of the potential issues associated with proposed test/training space actions. It provides a standard vehicle to obtain MAJCOM and Air Staff review, assistance, and validation early in the process. The T/TSNS is a preliminary step in the Air Force Environmental Impact Analysis Process (EIAP), and once validated, can serve as the starting point for developing the Description of Proposed Action and Alternatives (DOPAA).

The Air Force is in the process of developing airspace requirements, as well as addressing the adequacy of SUA in terms of requirements and encroachment. The Air Force is currently conducting an Eagle Look Process that will assess the efficiency and effectiveness of utilization processes at airspace and range complexes to support current and future operations. This process will consist of the following focus questions:

- (1) Is policy and guidance consistent and complete?
- (2) Is the Air Force utilization formula for airspace and ranges an accurate reflection of the actual utilization?
- (3) Is oversight for airspace and range consistent and complete?
- (4) How efficient are the business practices at airspace and range complexes to include operational training, test, information, and joint operations?
- (5) How efficient and effective are command and control processes at airspace and range complexes?

Figure 7-2 is an illustration of the implementation time line for the Eagle Look Process, spanning CY 2006-07:

**Figure 7-2. Implementation Time Line for Eagle Look**



The Air Force has previously conducted an analysis of four aircraft platforms to determine the resources required, including the volume of airspace needed and the time required for a single airframe in the SUA. This limited study was conducted on the following aircrafts assuming single-ship missions:

- F-15C/D
- F-15E
- F/A-22
- F-16
- F-35 CTOL and STOVL

The Air Force has reviewed the viability of SUA in the upper Great Plains and western states and solicited input from HQ, Air Combat Command (ACC) and the 28<sup>th</sup> Bomber Wing (BW) at Ellsworth Air Force Base specific to B-1 training. Both ACC and the 28<sup>th</sup> BW have stated current training requirements are supported by existing capabilities, therefore, there is no need to modify currently utilized airspace or range area. In addition, the ACC Commander (COMACC) stated that he is not inclined to pursue extensive efforts at ranges such as Nevada Test and Training Range (NTTR) or Utah Test and Training Range (UTTR) in the Powder River Military Operation Area (MOA), but would support actions to preserve existing airspace.

**7.6. INTEGRATION OF UNMANNED AERIAL SYSTEMS INTO THE NATIONAL AIRSPACE SYSTEM**

Unmanned Aircraft Systems (UAS) are playing a more significant role in the mission and operations conducted by DoD. UAS are changing the way war is fought through new and innovative tactics, techniques, and procedures as evidenced by their use in Operation Iraqi Freedom and Operation Enduring Freedom. Other federal, state, and civilian agencies are using UAS in homeland defense, domestic disaster relief operations, and local law enforcement activities and the proliferation of UAS will only continue. The challenge facing DoD and FAA today is to develop the technology, procedures, and operational requirements to meet the expanding use of UAS in the NAS without compromising public safety.

### 7.6.1. DOD Issues and Initiatives

DoD defines an Unmanned Aerial Vehicle (UAV)<sup>19</sup> as a powered, aerial vehicle that:

- Does not carry a human operator.
- Uses aerodynamic forces to provide vehicle lift.
- Can fly autonomously or be piloted remotely.
- Can be expendable or recoverable.
- Can carry a lethal or non-lethal payload.

This definition does not include ballistic or semi-ballistic vehicles, cruise missiles, and artillery projectiles. Unmanned aircraft (UA) can carry cameras, sensors, communications equipment, or other payloads for military and other missions such as intelligence, surveillance and reconnaissance; ordnance/messenger/object delivery; communication relay; day/night reconnaissance, surveillance, targeting, and acquisition (RSTA); and/or battle damage assessment (BDA). UA can be launched from runways, ships, vehicles, or by hand.

As FAA's airspace management and procedures evolve to increase the efficiency, capacity, and safety of national airspace, the military UAS expanded training and mission airspace requirements must be considered in the planning and coordinating work. UAS training and mission requirements to be considered include:

- The availability of airspace sufficient for rigorous and complex UAS combined arms/joint training within reasonable proximity to a unit's base so that the UAS operators can hone their UAS skills.
- Availability of dedicated and sterile airspace to ensure training is conducted with a high degree of efficacy and safety so that UAS training ensures operators conduct effective UAS global mission requirements during training events.
- Access to airspace outside of Restricted Areas or Warning Areas to conduct operations and meet mission requirements without undue burden or lead time.

The UAS airspace needed to meet training requirements must possess four key attributes—volume (contains sufficient operating vertical and lateral limits for UAS operations), proximity (is close to the operators airfield/military installation), quality (provides airspace over various operating environments such as open water, desert, urban facilities, mountains), and time (ensures that the training unit has sufficient time in the SUA to train effectively). Individually, each of these UAS SUA qualities are important, but in order to accomplish successful UAS training, they must all work in concert to ensure that UAS operators are trained to achieve their wartime operational obligations.

Under ideal circumstances, UAS access to airspace for training and operations would include the following four attributes. First, a UAS unit should be able to “File and Fly” on the same day, anywhere in the world and at safety levels equivalent to manned aircraft. Second, a UAS unit should have simplified military flight planning processes (use standard joint forms, such as DD175 or DD 1801). Third, UAS SUA access should be normalized and integrated with manned air traffic. Lastly, UAS airspace procedures should be standardized requirements across all FAA and International Regions. The Department has developed a plan entitled Airspace Integration Plan for Unmanned Aviation that

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<sup>19</sup> DoD has adopted the terminology unmanned aircraft (UA) vice unmanned aerial vehicle (UAV) when referring to the flying portion of the unmanned aircraft system. The use of the unmanned aircraft system is used to highlight the fact that the unmanned aircraft is only one component of the system and is in line with the FAA's decision to treat UAVs as aircraft for regulatory purposes.

discusses regulatory and technology issues that must be addressed to allow DoD to “File and Fly” UA in the NAS. The plan also acknowledges not all UA will be able to “File and Fly” in all classes of airspace and proposes three categories of UA.

- UA able to comply with applicable sections of Title 14, Part 91 (including those with the ability to see-and-avoid would qualify for “File and Fly”)
- UA not able to fully comply with Title 14, Part 91 (such as those similar to light-sport aircraft and ultralights), but would still require a Certificate of Authorization (COA) issued by the FAA
- Small UA (which would not require a COA if operations met guidelines similar to those applicable to RC model aircraft operations)

In addition, DoD released the *Unmanned Aircraft Systems Roadmap, 2005-2030* in August 2005 with the goal of providing technologists, acquisition officials, and operational planners a coordinated plan for the evolution and transition of the UAS capability. This document discusses the need for significant work to be accomplished in the areas of UA reliability, regulation, and see-and-avoid before the ability to “File and Fly” becomes reality.

The DoD Policy Board on Federal Aviation establishes policy and guidance for airspace planning and coordinates with the FAA on DoD airspace-related issues while the Office of the Under Secretary of Defense, Acquisition, Technology and Logistics [USD(AT&L)] provides oversight for technology development. The Department is committed to working with the FAA to address the issues related to integrating UAS into the NAS. The Department has identified the following priorities to address with the FAA and other agencies, as appropriate:

- Obtaining approval for all pending and future COA applications in a timely and efficient manner
- Realizing greater flexibility for small UAS operations in the NAS
- Developing standards and technology to enable UA to see-and-avoid in order to ensure safety while operating in the NAS outside of Restricted Areas or Warning Areas

### 7.6.2. FAA Issues and Initiatives

The FAA’s mission is to provide the safest, most efficient airspace system in the world. To meet this mission, the FAA has the responsibility for overseeing civilian, military, and commercial operations in the NAS and taking actions to ensure public safety not only while in flight, but also on the ground. The FAA has identified safety issues related to UAV operations in the NAS, including:

- A UAV must incorporate redundant command and control systems in the event there is a disruption in communication or if the operator loses contact with the UA.
- A UAV must incorporate an ability to “sense and avoid” other aircraft.

Currently, DoD is required to obtain FAA approval before operating UA in the NAS outside of Restricted Areas or Warning Areas.<sup>20</sup> FAA Order (FAAO) 7610.4K, *Special Military Operations*, includes requirements for using Remotely Operated Aircraft (ROA) (i.e. UA) outside of Restricted Areas or Warning Areas<sup>21</sup>. One such requirement is the need to obtain a COA from the appropriate FAA regional office before ROA operations can occur within the NAS outside of Restricted Areas or Warning Areas. An application for a COA must be submitted at least 60 days prior to the proposed commencement of ROA operations. COAs are effective for no longer than one year unless renewed or revalidated.

<sup>20</sup> With the exception of the Global Hawk UAS, which has been issued a COA.

<sup>21</sup> FAA Order JO 7610.4M, *Special Operations*, will replace FAA Order 7610.4K effective January 18, 2007. This order combined a number of other smaller controlled orders into one.

Approvals for ROA operations typically require the operator to provide an equivalent level of safety comparable to see-and-avoid requirements for manned aircraft. Methods for providing this equivalent level of safety include radar observation, forward- or side-looking cameras, electronic detection systems, visual observations from one or more ground sites, or monitoring by patrol or chase aircraft.

Other requirements listed in FAAO 7610.4K include:

- ROAs must be equipped with standard aircraft anti-collision lights that must be operated during all phases of flight.
- ROAs must be equipped with an altitude encoding transponder and set to operate on a code assigned by ATC.
- The transponder must be capable of being reset while airborne by the pilot-in-command
- Instantaneous two-way radio communication with all affected ATC.
- Compliance with ATC clearances is required.

The FAA and DoD have worked together to streamline the COA process and now have a process in place for faster approval of ROA operations in Class D airspace. In addition, DoD and its contractor worked with the FAA on airspace requirements and to obtain a national COA for the RQ-4A Global Hawk. This national COA provides the Global Hawk access to the NAS to conduct autonomous operations and participate in military exercises. The vehicle flies autonomously to altitudes of more than 60,000 feet and provides intelligence, surveillance, and reconnaissance information in near real-time.

While COAs can be used to establish Temporary Flight Restrictions (TFRs), they are a temporary fix to the issue of integrating UAs into the NAS. The FAA recognizes more exact UA certification and operational requirements are needed. The FAA has requested RTCA, Inc., a not-for-profit corporation, to develop standards and provide solutions to the issues of UA command and control and the sensing and avoiding other aircraft.

RTCA formed Special Committee 203 (SC-203), comprised of government and industry representatives, to address the issues and develop recommendations for the FAA on integrating UA in the NAS. The initial plan for the Committee was to develop three documents—UAS Minimum Aviation System Performance Standards (MASPS); Command, Control, and Communication (C3) MASPS; and Detect, Sense, and Avoid (DSA) MASPS. During initial work on the MASPS, the Committee realized the issues were more complex than originally envisioned and therefore, it was decided that an intermediate document titled, Guidance Material and Considerations for UAS (GM), would be prepared and delivered first to the FAA. SC-203 has made considerable progress on the development of the GM, however, significant work remains. Other efforts underway by the SC-203 include:

- Developing a “Best Practices” guide for small UAS (SUAS).
- Preparing white papers on spectrum and security issues as part of the C3 MASPS.
- Developing the UAS DAS standards document.

The Unmanned Aircraft Program Office (UAPO) of the FAA is also developing a five-year roadmap regarding UAS operations in the NAS. A draft of the roadmap is expected to be released for public comment in March 2007. Topics discussed in the roadmap will include an evaluation of the current state of the UAS mission needs, a forecast of near-term demands of UAS on the NAS, and a strategic plan to safely integrate UAS into the NAS.

## 8. RANGE INVENTORY

### 8.1. OVERVIEW

An accurate inventory of DoD training and testing ranges is needed to support range management and planning processes. For example, the inventory supports range managers and headquarters (HQ) staff in better understanding the distribution of ranges and associated capabilities—important information used in planning for current, emerging, and future range requirements.

This section of this year's Sustainable Ranges Report responds to the requirement of Section 366 of the FY 2003 National Defense Authorization Act (see Appendix A) to implement and report on the development of a training range inventory. As in the 2003, 2004, and 2005 reports, this year's report provides an updated inventory of training and testing ranges (see Appendix B). The inventory information included in this report represents a summary of the Service inventories. DoD recognizes that there may be additional areas used to support range activities not captured in this inventory. DoD is working to continually improve the inventory.

The Sustainable Ranges Report Inventory is organized into the following components:

- **Regional maps of training and testing ranges and Special Use Airspace (SUA).** The maps display the location of DoD training and testing ranges and SUA around the world. The maps are created using a GIS database that integrates data from the Services and the National Geospatial Intelligence Agency (NGA). Each Service maintains geospatial information on training and testing ranges. In addition, NGA publishes geospatial data on SUA as part of their Digital Aeronautical Flight Information File (DAFIF).
- **Range Inventory.** DoD maintains an inventory of range complexes and individual ranges that is updated on an annual basis and is submitted with the Sustainable Ranges Report. This component of the inventory provides a list of range complexes and descriptive information, including air, land, sea, and undersea space, as well as the range types available at each complex. The range complex inventory is compiled from individual Service inventories. The Services maintain more detailed inventories that are used to support range management and sustainment processes.
- **Special Use Airspace Inventory.** This component of the inventory provides a list of SUA and includes fields detailing the controlling agency, associated range complex or installation, altitudes, user (Military Service), and area. The SUA inventory includes Alert Areas, Military Operating Areas, Restricted Areas, and Warning Areas. The source for the SUA data is the NGA DAFIF product and associated DoD Flight Information Publications. The SUA area is calculated using a geographic information system (GIS) and is updated annually.
- **Military Training Route Inventory.** Military Training Routes (MTR) are critical training assets that provide designated areas for activities such as low-level flight training. The MTR inventory includes a listing of the three types of MTRs: Visual Routes (VR), Instrument Routes (IR), and Slow Routes (SR). The inventory provides descriptive information on each MTR, including the originating agency, scheduling agency, effective times, and length of the route. The primary source for this data is the NGA DAFIF product and associated DoD Flight Information Publications.

## **8.2. SERVICE INVENTORY EFFORTS**

This section describes the individual Service inventory efforts, including management and update processes, data elements, and supporting information systems and databases. Each Service maintains an inventory of ranges as part of their range management efforts.

### **8.2.1. Air Force**

#### **Managing the Range Inventory**

The Air Force testing and training range inventory is managed and administered by the Headquarters, U.S. Air Force, Deputy Chief of Staff, Air and Space Operations, Office of the Director of Operations and Training, Ranges and Airspace Division (HQ USAF/A3O-A).

#### **Background**

The inventory is comprised of four parts. The first part of this inventory lists all air-to-ground ranges within the U.S. The second part lists the overseas ranges that are operated by the Air Force. The third part is comprised of detailed information pertaining to the SUA used by the Air Force. The fourth part of the Air Force inventory lists detailed information pertaining to the MTRs used by the Air Force.

#### **Data Elements and Sources**

The inventory is comprised of data elements from varied sources. The inventory is managed in shapefile format that can be modified in GIS commercial software. The elements are received in a variety of formats, from tabular data to geographic information sources. MAJCOM reports are also used to update capabilities.

#### **Update Cycle**

The airspace tables are updated every fifty-six days with data from the National Geospatial-Intelligence Agency. Range information is continuously updated. The entire Air Force inventory receives an annual review.

#### **Databases and Applications**

HQ USAF, Ranges, Airspace and Airfield Operations utilize the inventory daily. The GIS format allows the inventory to be searched, filtered and displayed on a map for quick analysis. The Joint Airspace Management Enterprise System is a tool that utilizes the Air Force inventory.

### **8.2.2. Army**

#### **Managing the Range Inventory**

The Office of the Director of Environmental Programs (ODEP), Office of the Assistant Chief of Staff for Installation Management (OACSIM), and Headquarters, Department of the Army (HQDA), is responsible for the inventory and the U.S. Army Environmental Command, Training Support Division (IMAE-TS) is the program manager. The Office of the Deputy Chief of Staff, G-3/5/7, Training Directorate, Training Support Systems Division (DAMO-TRS), as the Army Staff proponent for the Sustainable Range Program, oversees the inventory.

#### **Background**

The requirement to establish and maintain an inventory of the Army's operational ranges is specifically detailed in Department of Defense Directive (DODD) 4715.11 and DODD 4715.12, Subject:

Environmental and Explosives Safety Management on Department of Defense Operational Ranges Within the United States and Outside of the United States, respectively. DODD 3200.15, Subject: Sustainment of Ranges and Operating Areas (OPAREAs), requires each Service to develop and utilize sound GIS-based range inventories and scientific data as the basis for decision-making in support of training and testing mission activities. This directive further instructs that range inventories be completed and updated every five years and maintained in a GIS that is readily accessible by installation and range decision-makers.

The Army complies with these requirements by providing a comprehensive GIS-based inventory of all operational ranges with the Army Operational Range Inventory. All real property that satisfies the definition of a military range as defined in DoDD 3200.15 and in Title 40, Section 266.201 of the Code of Federal Regulations is evaluated. The inventory serves as a base of information for supporting sustainable range management initiatives and providing environmental analysis and mapping to range and training land programs.

The IMAE-TS completed the initial inventory of Army active and inactive ranges<sup>22</sup> in December 2002. The Active/Inactive (A/I) Range Inventory recorded over 10,500 ranges on 479 installations and training sites worldwide. In June 2004, the Operational Range Inventory Sustainment (ORIS) project was begun. This project is centrally managed by IMAE-TS and employs the use of a contractor. Quality control and quality assurance measures are performed on both the contractor's end and by IMAE-TS to ensure that the data is as accurate and precise as possible. The update of all installations and training sites having operational ranges will be completed in January 2008, in accordance with DoDD 3200.15.

### **Data Elements and Sources**

The 2007 Army inventory will follow previous review processes and use the ORIS database as its primary data source.

### **Update Cycle**

This year, the Army's inventory will contain updated data for 148 installations and training sites. Next year's report will contain updated data for approximately 142 additional sites. The update of all installations and training sites having operational ranges will be completed in January 2008, in accordance with DoDD 3200.15.

### **Databases and Applications**

Data collected for the inventory is stored in the GIS Repository (GISR), the OACSIM geospatial database of record and the HQDA repository for installation-related geospatial data. Aside from the range footprint, the inventory database contains a number of tabular data elements including range name, size, range use(s), and year built. Range footprints and minimal attribute information are viewable by all AKO users in GISR. A range query tool is available through GISR upon request and approval.

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<sup>22</sup> The terms "active" and "inactive", when used with reference to ranges, are obsolete. They are used here merely in reference to antecedent documents. With the enactment of the statutory definition of "operational range", there is no longer a meaningful distinction between the part of a range that is currently being used for range activities ("active") and the part of a range that is not being used for range activities ("inactive") but is still available for range use and considered to be part of the range.

### **8.2.3. Marine Corps**

#### **Managing the Range Inventory**

The Marine Corps Training and Education Command's Range and Training Area Management Division (TECOM/RTAM) is the organization responsible for managing the Marine Corps range complex inventory. The Marine Corps' range complexes refer to a collection of training areas and ranges, airspace areas, and other designated attributes for training. The inventory is a detailed list of land, air, sea, and undersea space that comprise the Marine Corps range complexes. The intent of the range inventory is to support Marine Corps range management and sustainment processes, including capabilities assessment, investment strategy, encroachment management, operational planning, and environmental management. A summary of the Marine Corps range complex inventory is included in Appendix B.

#### **Background**

The Marine Corps first developed the inventory for the 2004 Section 366 Report based on information available in the Range and Training Area Management System (RTAMS). RTAMS, formerly designated Range Management System (RMS), is a web-enabled, institutional-level, centrally managed system. It provides Commanders, operating units, range managers, and all cross-Service users with a single source access for all range-related capabilities and resources. RTAMS uses established and developing data metrics and software. The range complex information available in RTAMS was the primary source for the initial range complex inventory.

#### **Data Elements and Sources**

The 2007 Marine Corps inventory will follow previous review processes and use the RTAMS database and the RCMPs as primary data sources.

#### **Update Cycle**

The Marine Corps inventory is updated annually using the best available sources of information. The Marine Corps inventory for the 2005 and 2006 Section 366 Reports used the previous year's inventory as a baseline. The major improvement to the inventory during these years was the initiation of Range Complex Management Plans (RCMPs). One function of the RCMP is to catalogue range complex baseline attributes and capabilities, including a comprehensive inventory of ranges and SUA. In 2003, RCMPs were barely underway and the inventories incomplete. By the end of FY 2006, the RCMP process was mature with six RCMPs underway or completed. MCB Butler and MCB Quantico RCMPs are yet to be scheduled. The development of the RCMPs has contributed significantly to improvement of the inventory.

#### **Databases and Applications**

The Marine Corps range complex inventory is currently maintained on RTAMS, as well as in spreadsheet format. The inventory uses a number of data fields: name, claimant organization, location, size, and range type. GIS data with numerous data layers are also available in RTAMS. The RTAMS inventory review process is led by TECOM/RTAM. The Marine Corps uses a QA/QC process to ensure inventory consistency and accuracy.

### **8.2.4. Navy**

#### **Managing the Range Inventory**

OPNAV N43 is the organization responsible for managing the Navy range complex inventory. The inventory encompasses major Fleet training ranges, Operating Areas (OPAREAs), SUA, and Major

Range and Test Facilities Base (MRTFB) Sites, referred to as range complexes. The inventory is a detailed list of land, air, sea, and undersea space that comprise the Navy range complexes. The inventory does not capture individual ranges and training areas that are not associated with a range complex. The intent of the range inventory is to support Navy range management and sustainment processes, including capabilities assessment, investment strategy, encroachment management, operational planning, and environmental management. A summary of the Navy range complex inventory is included Appendix B.

## **Background**

The Navy inventory for the 2005 and 2006 Sustainable Ranges Reports used the previous year's inventory as a baseline. The major improvement to the inventory during these years was the initiation of the Tactical Training Theater Assessment Planning (TAP) Program, which included the preparation of RCMPs. One function of the RCMP is to catalogue range complex baseline assets and capabilities, including a comprehensive inventory of ranges, OPAREAs and SUA. In 2003, RCMPs were in their very early stages and Navy range inventories were incomplete. By the end of FY 2006, most RCMPs had been completed with the rest nearing completion. The development of the RCMPs has contributed significantly to improvement of the inventory.

## **Data Elements and Sources**

OPNAV N43 first developed the inventory for the 2004 Sustainable Ranges Report based on multiple sources, that included the Navy's Ranges to Readiness Study, active/inactive range survey (2000), Fleet Training Area/Range Directory (Naval Warfare Assessment Station, Corona, 2003), Fleet OPAREA Instruction, and Fleet Area Control and Surveillance Facility (FACSFAC) Instructions. The Navy range complex inventory is currently maintained in a relational database, as part of the TAP Repository, and in a spreadsheet format. As the inventory spreadsheet is updated, the TAP Repository database will be updated to reflect the most current information. The inventory is comprised of the following data fields: name, claimant, location, size, and types. Additional detail on the range complex inventory is provided as part of the RCMPs, to include scheduling, operations, encroachment, and capabilities information. In the future, the inventory and associated information will be integrated as part of the TAP Repository.

## **Update Cycle**

The inventory is updated on an annual basis using the best available sources of information, as described above. The main source of updates for most of the inventory information will be the RCMPs, which the fleets will update bi-annually to coincide with the Program Objective Memorandum (POM) development cycle, beginning in FY 2009. The updates will include an assessment of each range complex's inventory and capabilities. For the remaining range complexes, range instructions and manuals will be used to update the inventory.

The inventory review process is led by OPNAV N43, and involves a review by PACFLT and USFFC to ensure the most current information is reflected in the inventory. Additionally, the Navy has a Quality Assurance/Quality Control (QA/QC) process that is used to ensure consistency and accuracy of the inventory. The process includes reviewing the inventory elements such as names, acreage, and range types/capabilities.

## **Databases and Applications**

FFC will use the Navy range complex inventory as the basis for the Navy training area geospatial library now under development in the TAP Data Repository/Environmental Information Management System (TAPR/EIMS) project. Space and Warfare Systems Center (SPAWARSYSCEN) Charleston and Naval Facilities Engineering Command (NAVFACENGCOM) developed EIMS to meet a fleet requirement for "a single, comprehensive Navy GIS-based information management system and databases for operational

and environmental planning to support operational requirements, at sea environmental issues, and range/OPAREAs compliance and encroachment concerns.” TAPR was developed to host all TAP-generated training area data, much of which is geospatial information. The fleets recognized the need for a single authoritative geospatial library in EIMS, based on a comprehensive Navy training area inventory and built on maps provided by the National Geospatial Intelligence Agency (NGA), DoD’s mapping authority. The foundational maps from NGA will include training area boundaries, with all other geospatial information developed by TAP and other authoritative sources layered on top. NGA will provide geospatial information as web services so whenever it updates training area boundaries, it will update the foundational maps in EIMS as well. Initial Operational Capability (IOC) for the geospatial library is December 2006, by which time it will contain complete foundational maps for all fleet OPAREAs and all training areas in the VACAPES, SOCAL, Fallon, Hawaii, and Jacksonville Range Complexes. Final Operational Capability (FOC) or Full Operational Capability( acronym is used differently in another part of document and in definition section), with all fleet range complexes fully populated, is planned for August 2007.

### **8.3. NEXT STEPS**

DoD is continually improving the range inventory to better support range management and planning processes. Areas of focus for the future inventory efforts include additional surveys and data collection initiatives, further integrating the inventory into range business processes, and advancing DoD’s net-centric data sharing goals by making the inventory data more understandable and accessible.

## 9. COMPLIANCE ISSUES RELATED TO CAA, RCRA, AND CERCLA

Operational ranges and installations in the United States (U.S.) are subject to applicable provisions of various federal, state, and local environmental laws and regulations governing a wide array of environmental concerns. Many of these laws and regulations were developed with little consideration of military training, testing, and readiness activities and the requirements associated with the management, operation, and use of operational ranges. As a result, application of the requirements under these laws can have unintended consequences that adversely affect the military's ability to conduct realistic testing and training.

The 2006 Sustainable Ranges Report to Congress addressed DoD's compliance requirements under the Clean Air Act (CAA), Resource Conservation and Recovery Act (RCRA), and the Comprehensive Environmental Response, Compensation, and Liability Act, (CERCLA) and discussed their impacts on DoD's current readiness needs. The Department remains concerned with three explicit provisions under the CAA, RCRA, and CERCLA that pose challenges to DoD's training and testing activities on operational ranges, in addition to affecting decisions regarding the basing of forces to maximize military effectiveness. As discussed in Chapter 3, to address these issues, DoD has proposed language to Congress as part of the Readiness and Range Preservation Initiative (RRPI). The proposed language provides clarifications under the CAA, RCRA, and CERCLA and remains substantially unchanged from the previous RRPI submission. The Department, through these remaining provisions, is requesting that Congress:

- (1) Allow DoD and states up to three years from the start of new military readiness activities to satisfy CAA State Implementation Plan (SIP) general conformity requirements when existing units are relocated or new units are moved to an installation.
- (2) Codify the premise that the use of military munitions on operational ranges does not constitute the generation of solid or hazardous wastes as defined under RCRA.
- (3) Codify the premise that the use of military munitions on operational ranges does not constitute a release as defined under CERCLA, provided that the munitions remain on the range where used and there is no migration of munitions constituents from an operational range to off-range areas.

These provisions seek to clarify specific legislative or regulatory requirements to preserve the military's capability to train its armed forces while protecting the environment and ensuring the viability of training ranges for current and future force readiness requirements. Further details on the proposed RRPI language is provided in Figure 9-1.

**Figure 9-1. Proposed RRPI Language Regarding CAA, RCRA, and CERCLA****READINESS AND RANGE PRESERVATION INITIATIVE**

**Clean Air Act (CAA):** Maintain DoD's commitment to CAA standards while providing flexibility to meet state air quality policies – allowing flexibility for training and readiness.

**Section 315** would clarify the application of the conformity provisions of the CAA to avoid unnecessarily restricting the flexibility of DoD, state, and federal regulators to accommodate new or realigned military readiness activities into applicable air pollution control schemes. This section would maintain DoD's obligation to conform its military readiness activities to applicable SIPs, but would give DoD three years to demonstrate conformity. The three-year extension could be particularly important for new weapon system beddowns or base realignments in recently designated nonattainment areas for the new 8-hour Ozone and fine particulate (PM<sub>2.5</sub>) standards. The applicable SIPs for these recently designated nonattainment areas may lack the full range of options normally relied upon to demonstrate that military readiness activities conform, or they may lack the required EPA approval, or both. In addition, under the requirements of current law, it is becoming increasingly difficult to base military aircraft near developed areas.

**Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):** Confirm that the cleanup of military munitions is not required on operational ranges. Policies governing cleanup of off-range munitions and munitions causing imminent danger on-range would remain unchanged.

**Section 314** addresses application of the Solid Waste Disposal Act (SWDA) (also known as RCRA and CERCLA) to military readiness activities.

Subsection (a)(1) would exclude military munitions, including unexploded ordnance, and the constituents thereof from the definition of "solid waste" under the SWDA when the DoD deposits such items on an operational range incidental to normal use, and such items remain thereon. Subsection (a)(2) provides that the exclusion in subsection (a)(1) does not apply to certain listed activities or circumstances such as traditional waste management activities like burial or land-filling, migration off an operational range, or firing off range. Subsection (a)(2) additionally provides that the exclusion in subsection (a)(1) ceases to apply once the operational range on which the items were deposited ceases to be an operational range. Subsection (a)(3) explicitly preserves the authority of federal, state, interstate, and local regulatory authorities to determine when, after an operational range ceases to be an operational range, these items become a hazardous waste subject to the Act.

Subsection (b)(1) would exclude from the definition of "release" under CERCLA the presence of military munitions, including unexploded ordnance, and the constituents thereof, that the DoD deposited incidental to normal use on an operational range and that remain thereon. Subsection (b)(2) provides that the exclusion in subsection (b)(1) does not apply to certain listed activities or circumstances, such as migration off an operational range or firing off range.

Subsection (b)(2) additionally provides that the exclusion in subsection (b)(1) ceases to apply once the operational range on which the items were deposited ceases to be an operational range. Subsection (b)(3) explicitly preserves the President's authority to address an imminent and substantial endangerment to the public health, welfare, or the environment under section 106(a) of CERCLA.

Subsection (c) provides definitions of terms, including incorporating by reference terms already defined in title 10, United States Code.

Subsection (d) reaffirms that the exclusions set forth in subsections (a)(1) and (b)(1) do not apply once the operational range ceases to be an operational range.

Subsection (e) reaffirms the DoD's authority to protect the environment, safety, and health on operational ranges.

## **10. OBSERVATIONS**

Since the last report, the Department of Defense (DoD) has taken several steps to assess military range capabilities, to identify existing and future areas of encroachment, and to mitigate or avoid limitations on training. However, DoD recognizes that there is still work to be done in meeting Congressional requirements under Sections 366, 320, and 352 of the National Defense Authorization Acts. The Department thanks Congress for their continuing support and looks forward to working with Congress and other stakeholders to ensure the long-term sustainability of DoD's access to the required training and testing assets needed to prepare DoD's men, women, and equipment to serve national interests.

**APPENDIX A: SECTION 366 OF THE NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2003; SECTION 320 OF THE NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2004; SECTION 348 OF THE NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2007; AND THE CONFERENCE REPORT TO ACCOMPANY H.R. 5122 OF THE NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2007**

**THE NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2003****SEC. 366. TRAINING RANGE SUSTAINMENT PLAN, GLOBAL STATUS OF RESOURCES AND TRAINING SYSTEM, AND TRAINING RANGE INVENTORY.**

(a) **PLAN REQUIRED.**—(1) The Secretary of Defense shall develop a comprehensive plan for using existing authorities available to the Secretary of Defense and the Secretaries of the military departments to address training constraints caused by limitations on the use of military lands, marine areas, and airspace that are available in the United States and overseas for training of the Armed Forces.

(2) As part of the preparation of the plan, the Secretary of Defense shall conduct the following:

(A) An assessment of current and future training range requirements of the Armed Forces.

(B) An evaluation of the adequacy of current Department of Defense resources (including virtual and constructive training assets as well as military lands, marine areas, and airspace available in the United States and overseas) to meet those current and future training range requirements.

(3) The plan shall include the following:

(A) Proposals to enhance training range capabilities and address any shortfalls in current Department of Defense resources identified pursuant to the assessment and evaluation conducted under paragraph (2).

(B) Goals and milestones for tracking planned actions and measuring progress.

(C) Projected funding requirements for implementing planned actions.

(D) Designation of an office in the Office of the Secretary of Defense and in each of the military departments that will have lead responsibility for overseeing implementation of the plan.

(4) At the same time as the President submits to Congress the budget for fiscal year 2004, the Secretary of Defense shall submit to Congress a report describing the progress made in implementing this subsection, including—

(A) the plan developed under paragraph (1);

(B) the results of the assessment and evaluation conducted under paragraph (2); and

(C) any recommendations that the Secretary may have for legislative or regulatory changes to address training constraints identified pursuant to this section.

(5) At the same time as the President submits to Congress the budget for each of fiscal years 2005 through 2008, the Secretary shall submit to Congress a report describing the progress made in implementing the plan and any additional actions taken, or to be taken, to address training constraints caused by limitations on the use of military lands, marine areas, and airspace.

(b) **READINESS REPORTING IMPROVEMENT.**—Not later than June 30, 2003, the Secretary of Defense, using existing measures within the authority of the Secretary, shall submit to Congress a report on the plans of the Department of Defense to improve the Global Status of Resources and Training System to reflect the readiness impact that training constraints caused by limitations on the use of military lands, marine areas, and airspace have on specific units of the Armed Forces.

(c) **TRAINING RANGE INVENTORY.**—(1) The Secretary of Defense shall develop and maintain a training range inventory for each of the Armed Forces—

(A) to identify all available operational training ranges;

(B) to identify all training capacities and capabilities available at each training range; and

(C) to identify training constraints caused by limitations on the use of military lands, marine areas, and airspace at each training range.

(2) The Secretary of Defense shall submit an initial inventory to Congress at the same time as the President submits the budget for fiscal year 2004 and shall submit an updated inventory to Congress at the same time as the President submits the budget for fiscal years 2005 through 2008.

(d) **GAO EVALUATION.**—The Secretary of Defense shall transmit copies of each report required by subsections (a) and (b) to the Comptroller General. Within 60 days after receiving a report, the Comptroller General shall submit to Congress an evaluation of the report.

(e) **ARMED FORCES DEFINED.**—In this section, the term “Armed Forces” means the Army, Navy, Air Force, and Marine Corps.

**NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2004****SEC. 320. REPORT REGARDING IMPACT OF CIVILIAN COMMUNITY ENCROACHMENT AND CERTAIN LEGAL REQUIREMENTS ON MILITARY INSTALLATIONS AND RANGES AND PLAN TO ADDRESS ENCROACHMENT.**

(a) **STUDY REQUIRED.**—The Secretary of Defense shall conduct a study on the impact, if any, of the following types of encroachment issues affecting military installations and operational ranges:

(1) Civilian community encroachment on those military installations and ranges whose operational training activities, research, development, test, and evaluation activities, or other operational, test and evaluation, maintenance, storage, disposal, or other support functions require, or in the future reasonably may require, safety or operational buffer areas. The requirement for such a buffer area may be due to a variety of factors, including air operations, ordnance operations and storage, or other activities that generate or might generate noise, electromagnetic interference, ordnance arcs, or environmental impacts that require or may require safety or operational buffer areas.

(2) Compliance by the Department of Defense with State Implementation Plans for Air Quality under section 110 of the Clean Air Act (42 U.S.C. 7410).

(3) Compliance by the Department of Defense with the Solid Waste Disposal Act (42 U.S.C. 6901 et seq.) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq.).

(b) **MATTERS TO BE INCLUDED WITH RESPECT TO CIVILIAN COMMUNITY ENCROACHMENTS.**—With respect to paragraph (1) of subsection (a), the study shall include the following:

(1) A list of all military installations described in subsection (a)(1) at which civilian community encroachment is occurring.

(2) A description and analysis of the types and degree of such civilian community encroachment at each military installation included on the list.

(3) An analysis, including views and estimates of the Secretary of Defense, of the current and potential future impact of such civilian community encroachment on operational training activities, research, development, test, and evaluation activities, and other significant operational, test and evaluation, maintenance, storage, disposal, or other support functions performed by military installations included on the list. The analysis shall include the following:

(A) A review of training and test ranges at military installations, including laboratories and technical centers of the military departments, included on the list.

(B) A description and explanation of the trends of such encroachment, as well as consideration of potential future readiness problems resulting from unabated encroachment.

(4) An estimate of the costs associated with current and anticipated partnerships between the Department of Defense and non-Federal entities to create buffer zones to preclude further development around military installations included on the list, and the costs associated with the conveyance of surplus property around such military installations for purposes of creating buffer zones.

(5) Options and recommendations for possible legislative or budgetary changes necessary to mitigate current and anticipated future civilian community encroachment problems.

(c) **MATTERS TO BE INCLUDED WITH RESPECT TO COMPLIANCE WITH SPECIFIED LAWS.**—With respect to paragraphs (2) and (3) of subsection (a), the study shall include the following:

(1) A list of all military installations and other locations at which the Armed Forces are encountering problems related to compliance with the laws specified in such paragraphs.

(2) A description and analysis of the types and degree of compliance problems encountered.

(3) An analysis, including views and estimates of the Secretary of Defense, of the current and potential future impact of such compliance problems on the following functions performed at military installations:

(A) Operational training activities.

(B) Research, development, test, and evaluation activities.

(C) Other significant operational, test and evaluation, maintenance, storage, disposal, or other support functions.

(4) A description and explanation of the trends of such compliance problems, as well as consideration of potential future readiness problems resulting from such compliance problems.

(d) **PLAN TO RESPOND TO ENCROACHMENT ISSUES.**—On the basis of the study conducted under subsection (a), including the specific matters required to be addressed by subsections (b) and (c), the Secretary of Defense shall prepare a plan to respond to the encroachment issues described in subsection (a) affecting military installations and operational ranges.

(e) **REPORTING REQUIREMENTS.**—The Secretary of Defense shall submit to the Committee on Armed Services of the Senate and the Committee on Armed Services of the House of Representatives the following reports regarding the study conducted under subsection (a), including the specific matters required to be addressed by subsections (b) and (c):

(1) Not later than January 31, 2004, an interim report describing the progress made in conducting the study and containing the information collected under the study as of that date.

(2) Not later than January 31, 2006, a report containing the results of the study and the encroachment response plan required by subsection (d).

(3) Not later than January 31, 2007, and each January 31 thereafter through January 31, 2010, a report describing the progress made in implementing the encroachment response plan.

**NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2007**

**SEC. 348. FIVE-YEAR EXTENSION OF ANNUAL REPORT ON TRAINING RANGE SUSTAINMENT PLAN AND TRAINING RANGE INVENTORY.**

Section 366 of the Bob Stump National Defense Authorization Act for Fiscal Year 2003 (Public Law 107-314; 116 Stat. 2522; 10 U.S.C. 113 note) is amended--

(1) in subsections (a)(5) and (c)(2), by striking 'fiscal years 2005 through 2008' and inserting 'fiscal years 2005 through 2013'; and

(2) in subsection (d), by striking 'within 60 days of receiving a report' and inserting 'within 90 days of receiving a report'.

**NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2007**  
**CONFERENCE REPORT TO ACCOMPANY H.R. 5122**

*Five-year extension of annual report on training range sustainment plan and training range inventory  
(sec. 348)*

The Senate amendment contained a provision (sec. 353) that would express the sense of Congress That the Department of Defense should establish a policy to identify military aerial training areas, determine aerial training airspace requirements to meet future training needs, and undertake necessary actions to preserve and, if necessary, expand those areas of airspace needed for training requirements. The provision would also require the Secretary of Defense to submit a report to the congressional defense committees setting forth a plan to meet the Department's airspace needs through 2025.

The House bill contained no similar provision.

The House recedes with an amendment that would extend for 5 years the annual report on the Department's training range sustainment plan and training range inventory required by section 366 of the Bob Stump National Defense Authorization Act for Fiscal Year 2003 (Public Law 107-314). The amendment would also extend the period for the Comptroller General's review of the report from 60 days to 90 days.

The conferees note that the Comptroller General's most recent assessment of the Secretary's annual report stated that, once again, the report did not include an assessment of current and future training range requirements or an evaluation of the adequacy of resources to meet current and future training requirements, even though specifically required to do so by current law.

The conferees also note, with great concern, that this assessment also indicates that some of the requirements of section 366 have not been met because Department officials consider them overly burdensome or impractical. If the Department believes that it cannot comply with some requirements of the law, or that the requirement is overly burdensome, the conferees expect the Department to ask Congress to modify the appropriate portion of the law, not to ignore the requirements of the law.

The conferees are aware of the increasing pressure on our training ranges. Urban development around many installations in some cases has resulted in restrictions on nighttime training. The growth of commercial and general aviation has put increasing pressure on current aviation training ranges and limits the possibility of expansion of those training areas in the future. Increasing capability and range of both ground and aviation systems increases the likelihood that range requirements may increase in the future.

Therefore, the conferees extend the annual reporting requirement for an additional 5 years and expect that all future reports will fully comply with the requirements specified in section 366.

**APPENDIX B:**

**MAPS AND INVENTORY OF  
DEPARTMENT OF DEFENSE RANGE COMPLEXES,  
INDIVIDUAL RANGES NOT IN A COMPLEX,  
SPECIAL USE AIRSPACE, AND  
MILITARY TRAINING ROUTES**

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Figure B-1: DoD Regional Range Complexes: Northeast

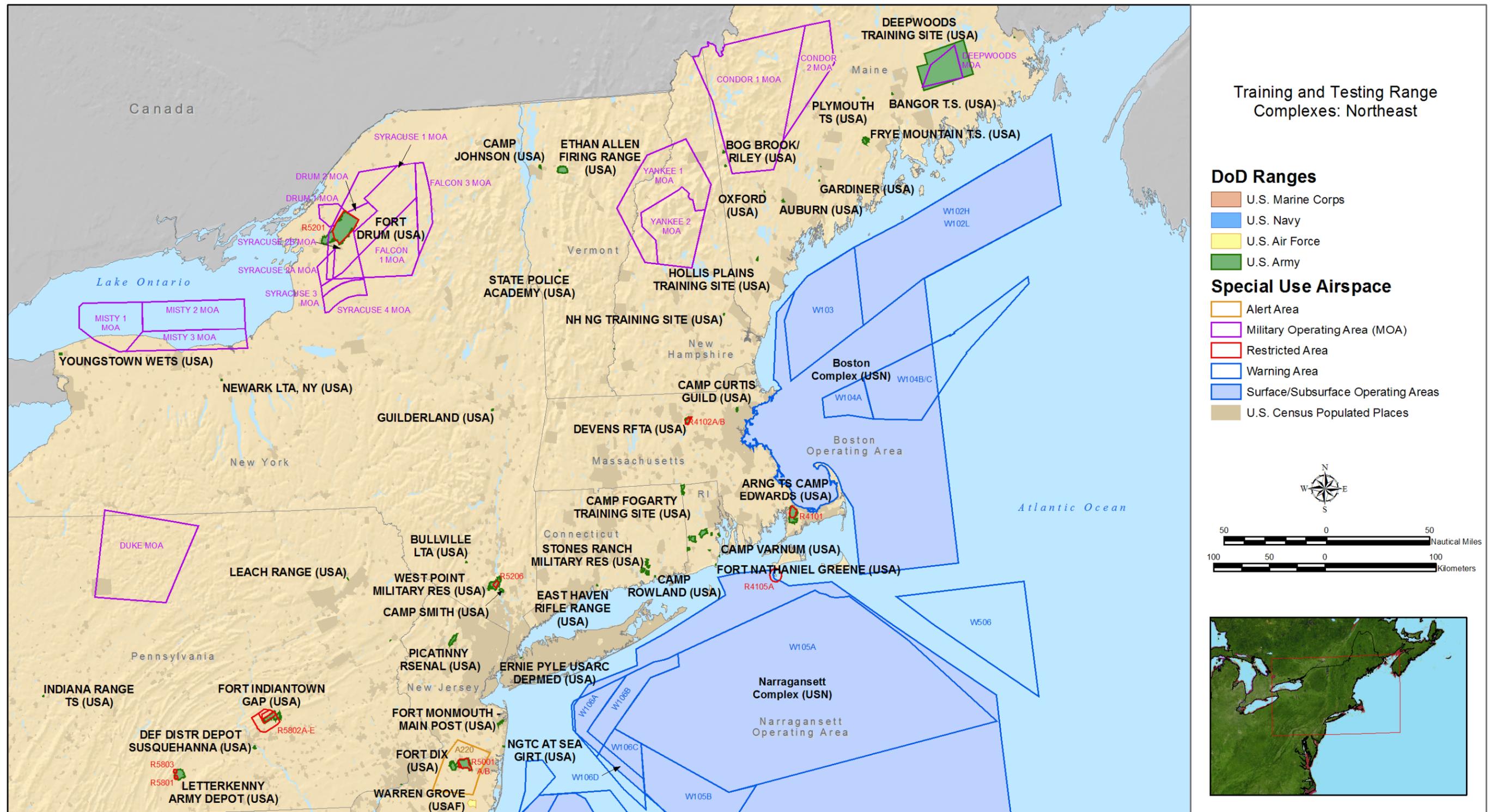


Figure B-2: DoD Regional Range Complexes: Mid-Atlantic

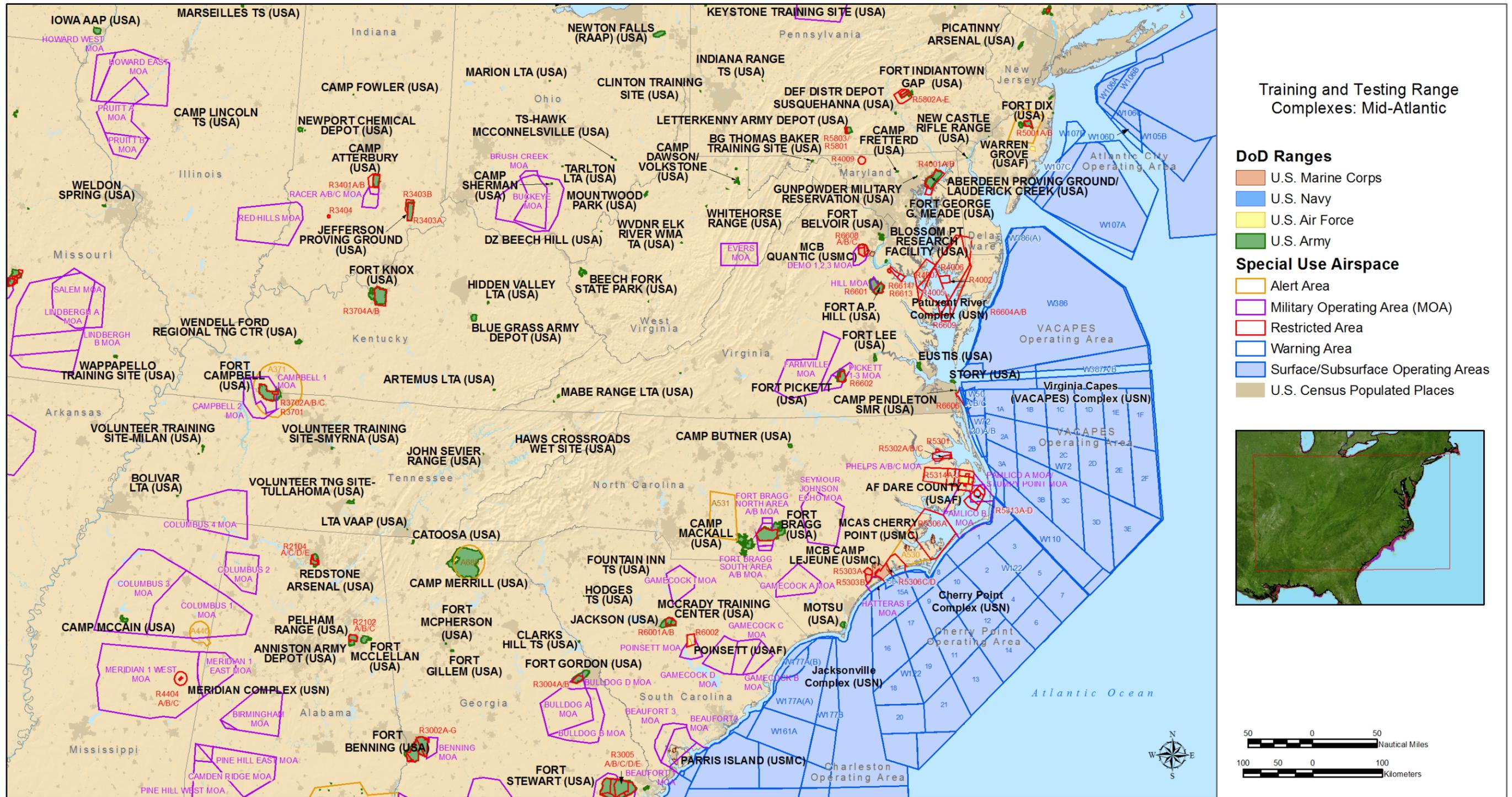






Figure B-5: DoD Regional Range Complexes: Southwest

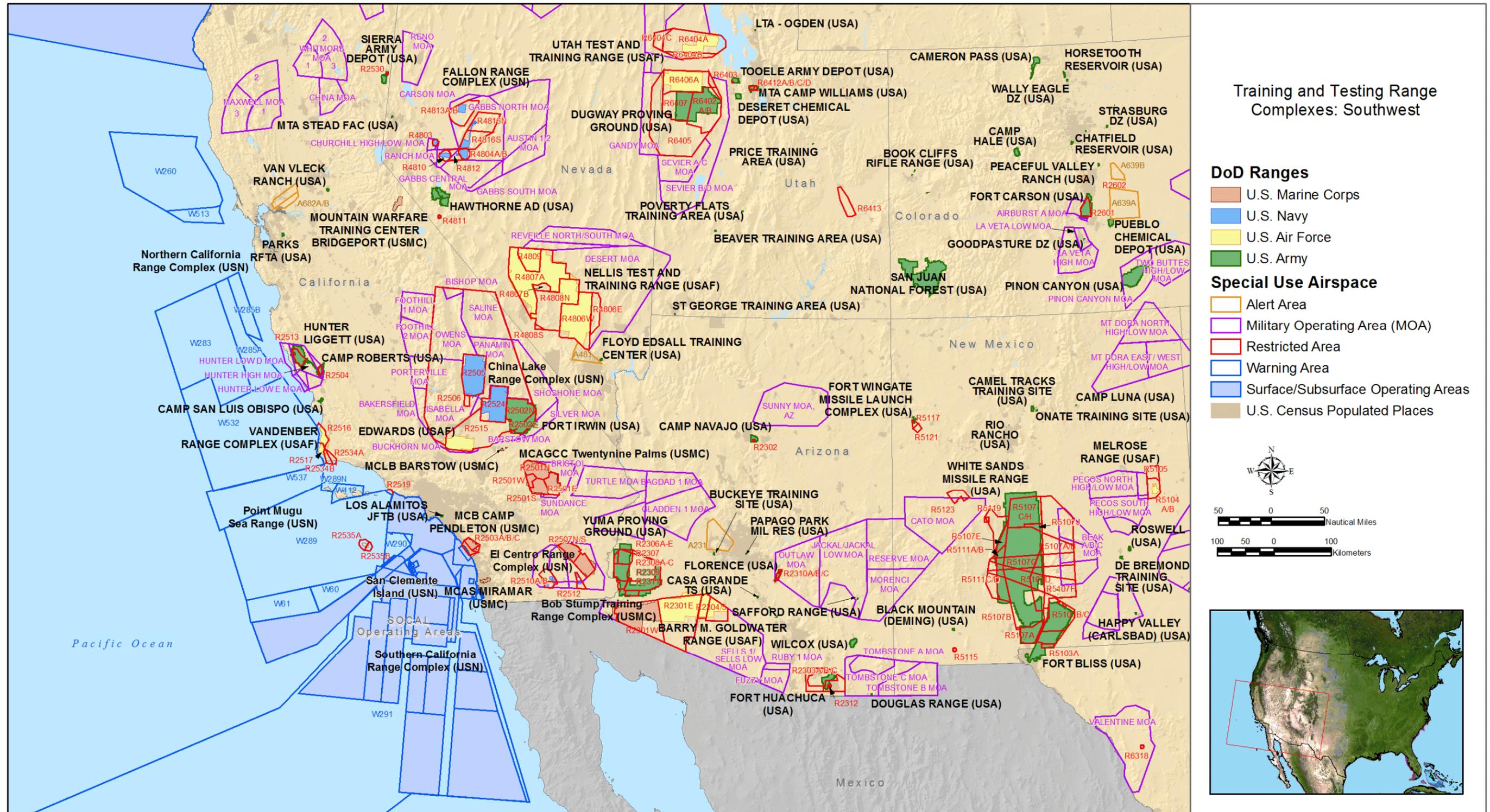


Figure B-6: DoD Regional Range Complexes: Midwest

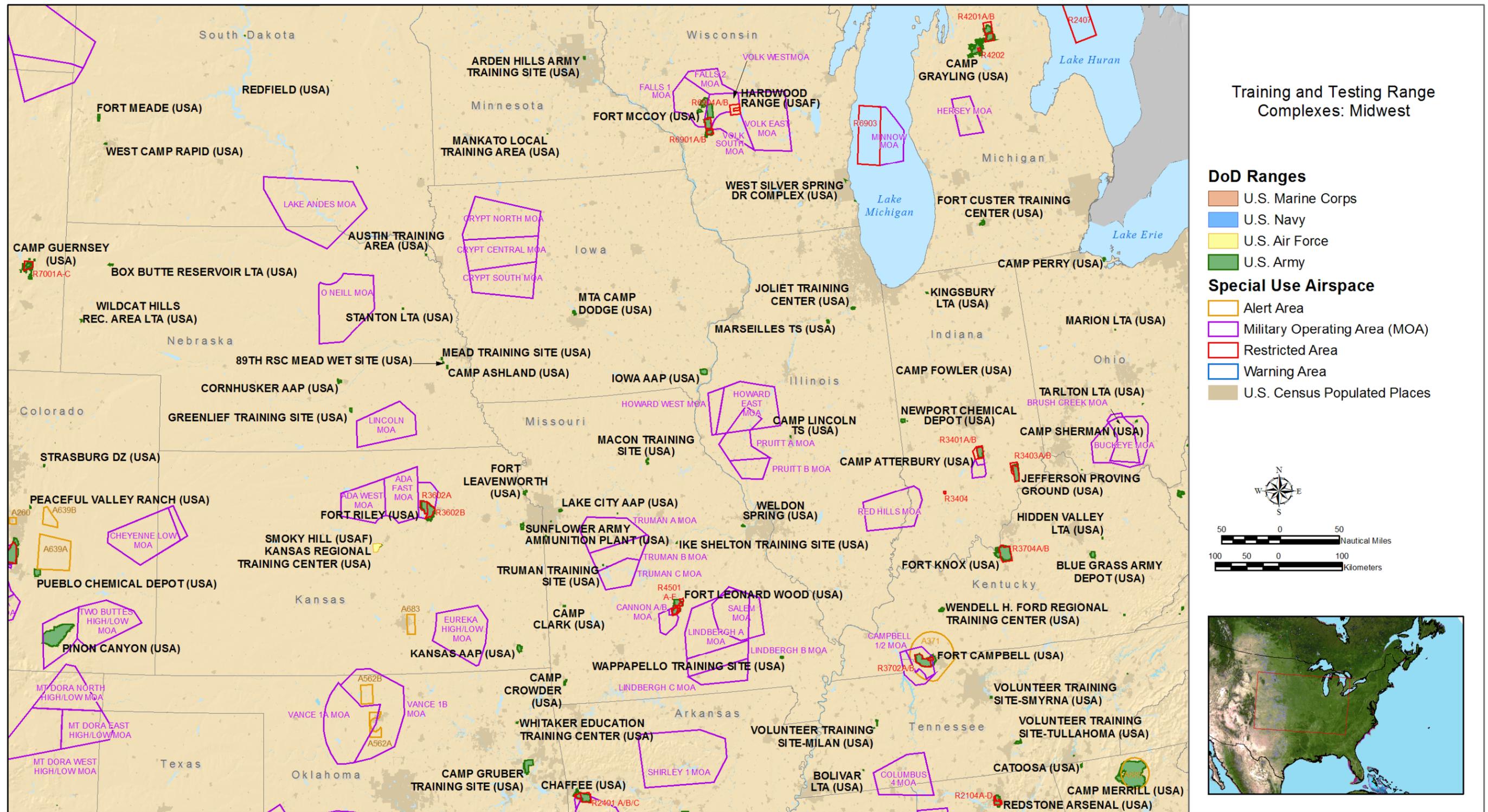


Figure B-7: DoD Regional Range Complexes: Alaska

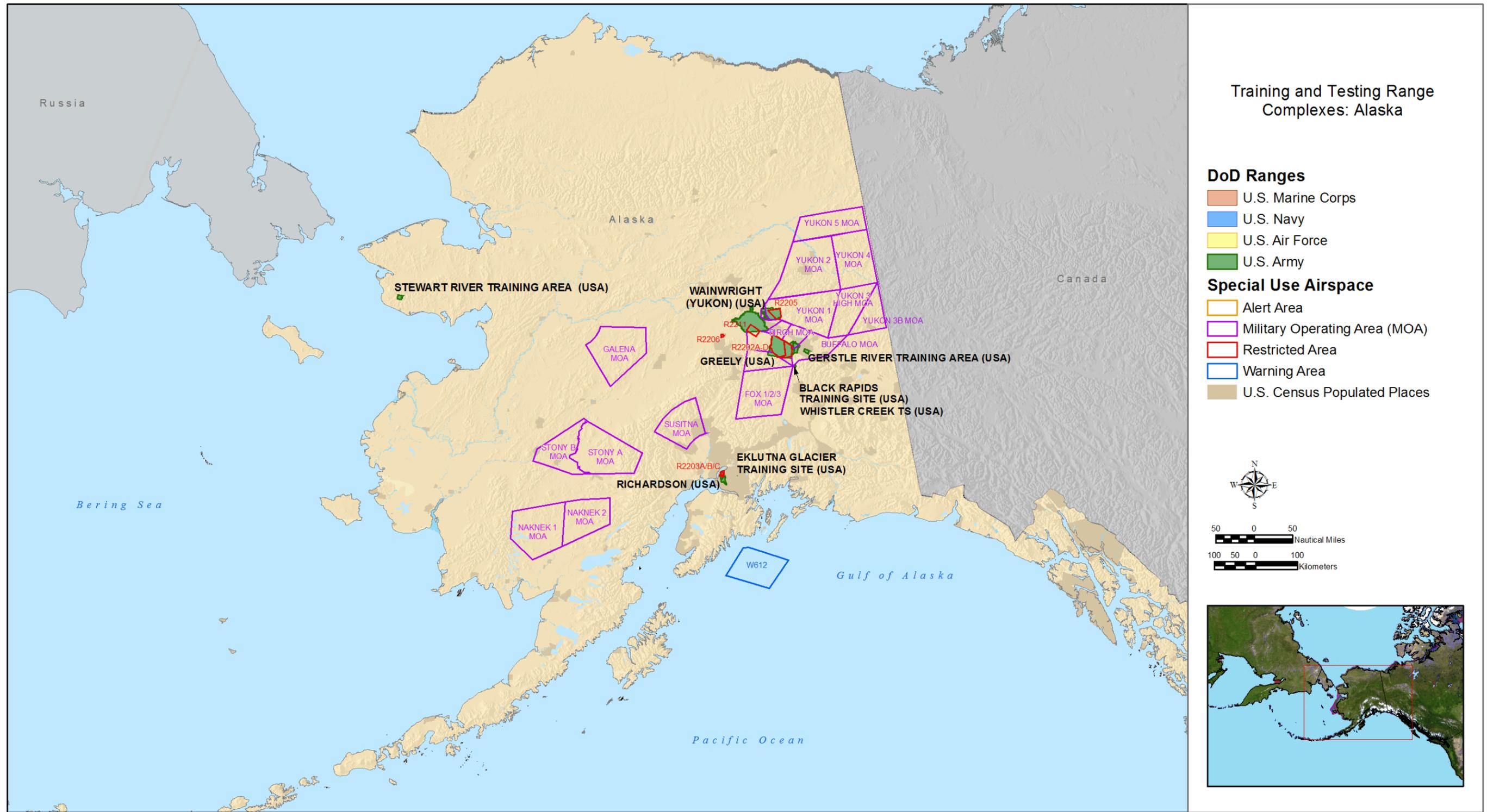


Figure B-8: DoD Regional Range Complexes: Hawaii

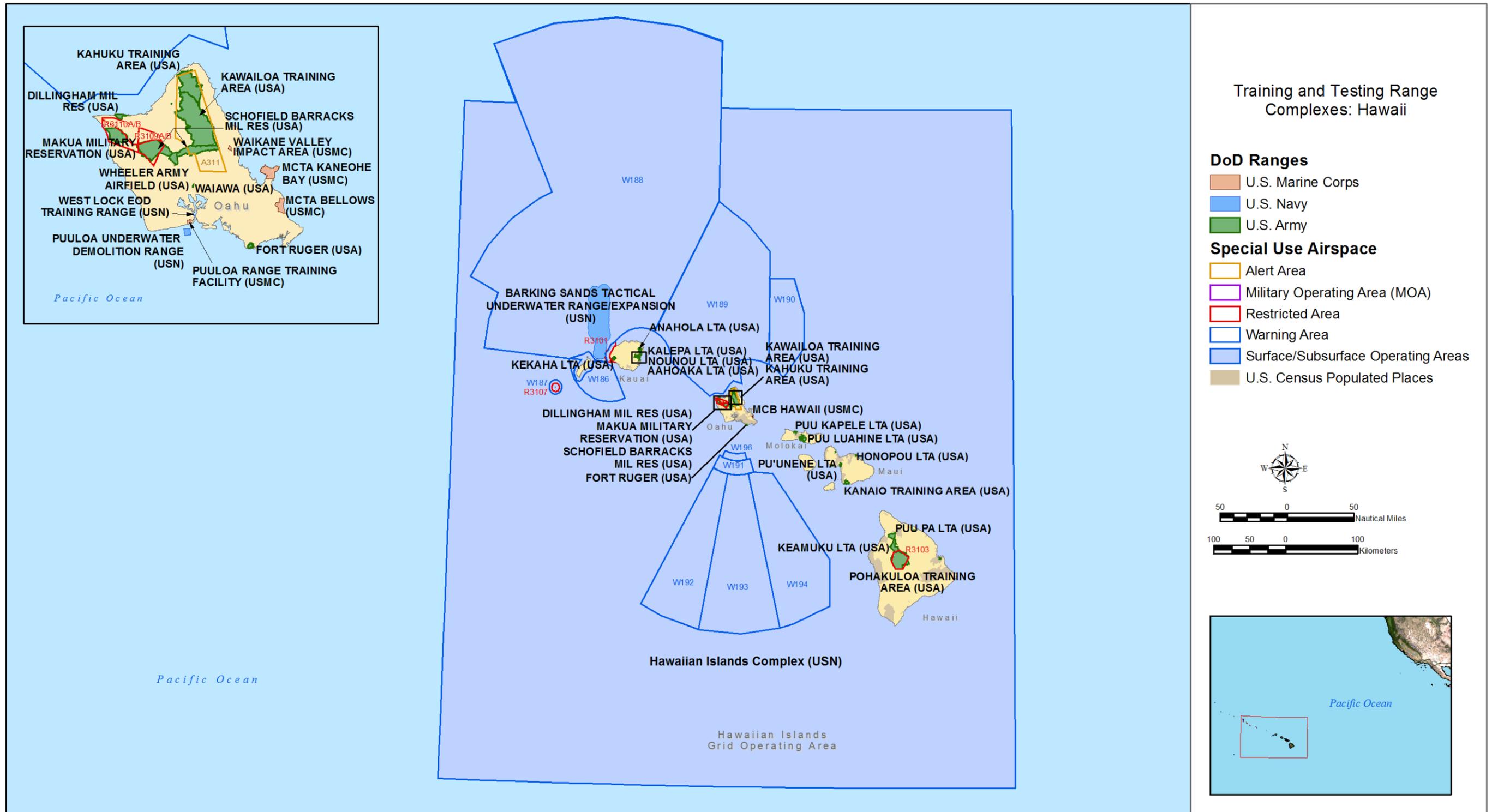


Figure B-9: DoD Regional Range Complexes: Europe



Figure B-10: DoD Regional Range Complexes: West Pacific and Indian Ocean

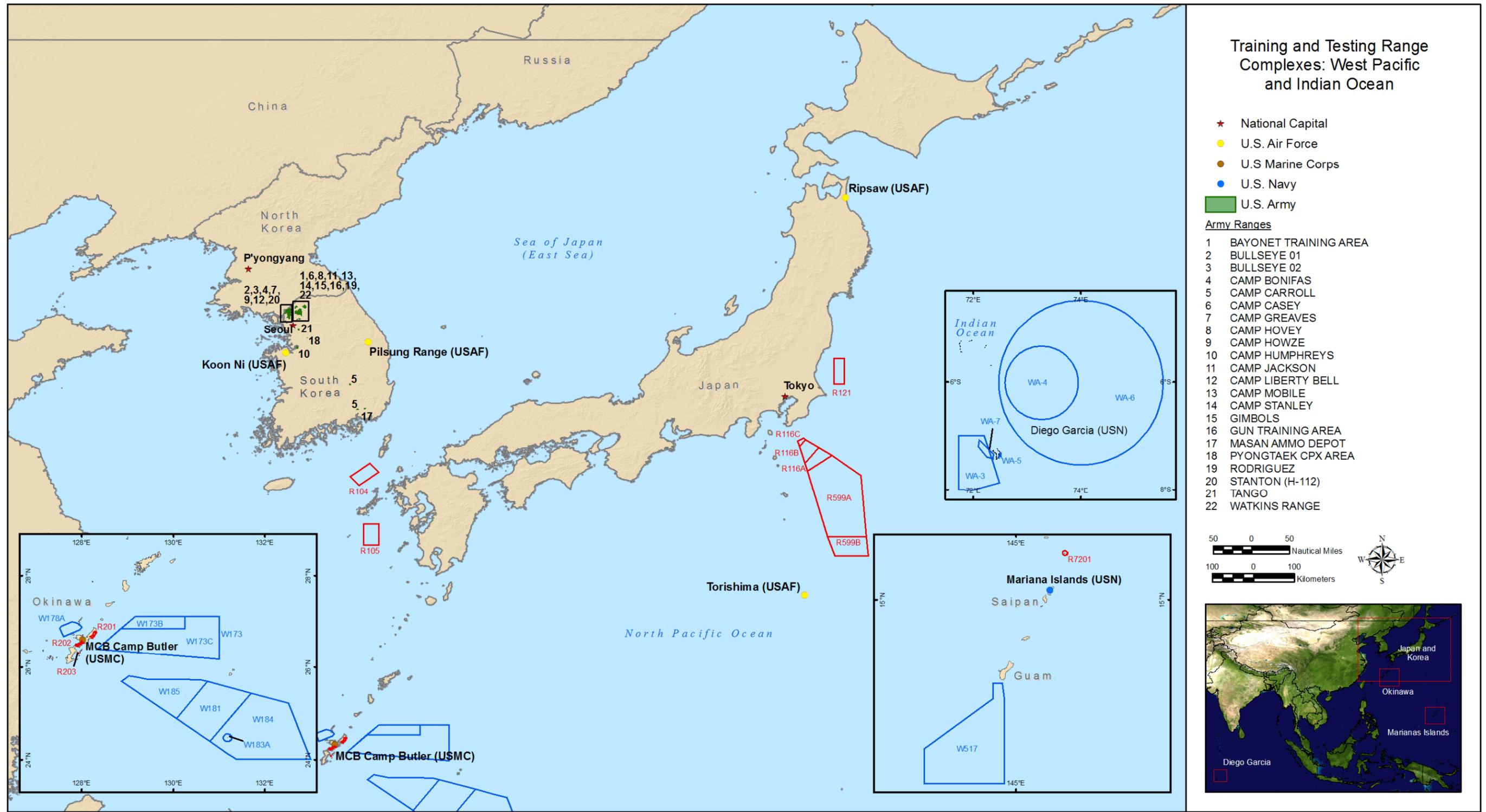


Table B-1. Range Complex Inventory

Range Complex Inventory																			
Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Command/Component	Range Description <sup>*</sup>				Range Type <sup>*</sup>										
					Land Area for Ranges (acres)	Airspace (sq nm)	Sea Surface Area (sq nm)	Underwater Tracking Area (sq nm)	Air-to-Air or Surface-to-Air	Air-to-Ground	Land Maneuver	Land Impact Area	Land Firing Range	C2/W/EW	Ocean Operating Area	MOUT	Underwater Tracking Range	Amphibious Area	Other
<b>ARMY</b>																			
	AASF	US	NM	ARNG	10	0	0	0										Y	
	ABERDEEN PROVING GROUND	US	MD	AMC	65,889	133	0	0			Y	Y	Y					Y	
	AIRPORT TRAINING AREA	US	ID	ARNG	1,831	0	0	0			Y							Y	
	ANNISTON ARMY DEPOT	US	AL	AMC	88	0	0	0					Y					Y	
	ARDEN HILLS ARMY TRAINING SITE	US	MN	ARNG	1,493	0	0	0			Y							Y	
	AREA I, ROK ARMY SITES	OS	KOREA	EUSA	28,511	0	0	0				Y	Y					Y	
	AREA II, ROK ARMY SITES	OS	KOREA	EUSA	352	0	0	0					Y			Y		Y	
	AREA III, ROK ARMY SITES	OS	KOREA	EUSA	2,046	0	0	0					Y					Y	
	AREA IV, ROK ARMY SITES	OS	KOREA	EUSA	1,749	0	0	0					Y					Y	
	ARNG TS CAMP EDWARDS	US	MA	ARNG	13,285	13	0	0			Y	Y	Y					Y	
	AUBURN TRAINING SITE	US	ME	ARNG	203	0	0	0			Y		Y					Y	
	AUSTIN TRAINING AREA	US	SD	ARNG	391	0	0	0										Y	
	BANGOR/OMS 3	US	ME	ARNG	189	0	0	0			Y		Y					Y	
	BAUMHOLDER LTA	OS	GERMANY	USAREUR	188	0	0	0			Y	Y	Y			Y		Y	
	BELTON LTA	US	MO	USARC	461	0	0	0			Y								
	BG THOMAS BAKER TRAINING SITE	US	MD	ARNG	871	0	0	0			Y							Y	
	BLOSSOM POINT RESEARCH FAC	US	MD	AMC	1,573	0	0	0			Y	Y	Y					Y	
	BLUE GRASS ARMY DEPOT	US	KY	AMC	175	0	0	0			Y	Y	Y					Y	

\* Estimates are based on currently available information from the Military Services. Estimates may change as a result of ongoing reviews. Source: Department of Defense data provided by the Military Services.

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Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Command/Component	Range Description*				Range Type*										
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	BOEBLINGEN TNG AREA	OS	GERMANY	USAREUR	1,125	0	0	0			Y		Y			Y		Y	
	BRITENWALD TRAINING AREA	OS	GERMANY	USAREUR	205	0	0	0			Y		Y					Y	
	BUCKSNORT GUN CLUB	US	MO	ARNG	10	0	0	0					Y						
	BUTZBACH LTA	OS	GERMANY	USAREUR	168	0	0	0			Y		Y						
	CAMP ASHLAND	US	NE	ARNG	1,023	0	0	0			Y		Y					Y	
	CAMP ATTERBURY	US	IN	ARNG	32,924	0	0	0			Y	Y	Y			Y		Y	
	CAMP BEAUREGARD	US	LA	ARNG	12,589	0	0	0			Y		Y			Y		Y	
	CAMP BLANDING	US	FL	ARNG	68,769	0	0	0			Y	Y	Y			Y		Y	
	CAMP BOWIE -BROWNWOOD	US	TX	ARNG	8,967	0	0	0			Y		Y					Y	
	CAMP BULLIS	US	TX	MEDCOM	27,457	0	0	0			Y	Y	Y			Y		Y	
	CAMP BUTNER TRAINING SITE	US	NC	ARNG	4,550	0	0	0			Y	Y	Y					Y	
	CAMP CARROLL	OS	KOREA	EUSA	40	0	0	0					Y					Y	
	CAMP CASEY	OS	KOREA	EUSA	2,286	0	0	0			Y		Y			Y		Y	
	CAMP CLARK	US	MO	ARNG	997	0	0	0			Y	Y	Y					Y	
	CAMP CROWDER TNG SITE/OMSP13	US	MO	ARNG	4,098	0	0	0			Y		Y			Y		Y	
	CAMP DARBY	OS	GERMANY	USAREUR	135	0	0	0										Y	
	CAMP DAVIS	US	ND	ARNG	82	0	0	0			Y		Y					Y	
	CAMP DAWSON	US	WV	ARNG	4,079	0	0	0			Y	Y	Y					Y	
	CAMP DODGE TRAINING SITE	US	IA	ARNG	4,025	0	0	0			Y	Y	Y			Y		Y	
	CAMP FOGARTY	US	RI	ARNG	17,755	0	0	0			Y	Y	Y					Y	
	CAMP GRAFTON	US	ND	ARNG	14,408	0	0	0			Y		Y			Y		Y	

\* Estimates are based on currently available information from the Military Services. Estimates may change as a result of ongoing reviews. Source: Department of Defense data provided by the Military Services.

Range Complex Inventory																		
Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Command/Component	Range Description*				Range Type*									
					Land Area for Ranges (acres)	Airspace (sq nm)	Sea Surface Area (sq nm)	Underwater Tracking Area (sq nm)	Air-to-Air or Surface-to-Air	Air-to-Ground	Land Maneuver	Land Impact Area	Land Firing Range	C2W/IEW	Ocean Operating Area	MOUT	Underwater Tracking Range	Amphibious Area
	CAMP GRAYLING	US	MI	ARNG	146,334	8680	0	0		Y	Y	Y	Y					Y
	CAMP GRUBER TRAINING SITE	US	OK	ARNG	46,893	0	0	0			Y	Y	Y			Y		Y
	CAMP GUERNSEY	US	WY	ARNG	35,062	46	0	0		Y	Y	Y	Y					Y
	CAMP HARTELL	US	CT	ARNG	31	0	0	0					Y			Y		Y
	CAMP HOVEY	OS	KOREA	EUSA	3,828	0	0	0			Y		Y					Y
	CAMP HUMPHREYS	OS	KOREA	EUSA	83	0	0	0					Y					Y
	CAMP JACKSON	OS	KOREA	EUSA	182	0	0	0					Y					Y
	CAMP JOHNSON	US	VT	ARNG	641	0	0	0			Y		Y					Y
	CAMP LINCOLN TS	US	IL	ARNG	98	0	0	0					Y					Y
	CAMP MACKALL	US	NC	FORSCOM	61,535	0	0	0			Y							Y
	CAMP MAXEY	US	TX	ARNG	6,562	0	0	0			Y	Y	Y					Y
	CAMP MCCAIN	US	MS	ARNG	12,796	0	0	0			Y		Y					Y
	CAMP MERRILL	US	GA	TRADOC	341,970	0	0	0			Y		Y					
	CAMP MURRAY	US	WA	ARNG	113	0	0	0										Y
	CAMP NAVAJO	US	AZ	ARNG	28,473	0	0	0			Y		Y					Y
	CAMP PENDLETON SMR	US	VA	ARNG	89	0	0	0			Y		Y					Y
	CAMP PERRY	US	OH	ARNG	343	0	0	0			Y	Y	Y					Y
	CAMP RIPLEY	US	MN	ARNG	50,727	0	0	0			Y	Y	Y			Y		Y
	CAMP ROBERTS	US	CA	ARNG	41,681	64	0	0			Y	Y	Y			Y		Y
	CAMP ROBINSON	US	AR	ARNG	30,806	0	0	0			Y	Y	Y			Y		Y
	CAMP SAN LUIS OBISPO	US	CA	ARNG	4,883	0	0	0			Y	Y	Y			Y		Y

\* Estimates are based on currently available information from the Military Services. Estimates may change as a result of ongoing reviews. Source: Department of Defense data provided by the Military Services.

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Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Command/Component	Range Description*				Range Type*										
					Land Area for Ranges (acres)	Airspace (sq nm)	Sea Surface Area (sq nm)	Underwater Tracking Area (sq nm)	Air-to-Air or Surface-to-Air	Air-to-Ground	Land Maneuver	Land Impact Area	Land Firing Range	C2W/IEW	Ocean Operating Area	MOUT	Underwater Tracking Range	Amphibious Area	Other
	CAMP SANTIAGO	US	PR	ARNG	12,037	0	0	0			Y	Y	Y			Y		Y	
	CAMP SHERMAN_NC	US	OH	ARNG	430	0	0	0			Y	Y	Y						
	CAMP SMITH TRAINING SITE	US	NY	ARNG	1,763	0	0	0			Y	Y	Y					Y	
	CAMP STANLEY	OS	KOREA	EUSA	31	0	0	0					Y					Y	
	CAMP STANLEY STG ACTY	US	TX	AMC	82	0	0	0					Y						
	CAMP SWIFT	US	TX	ARNG	11,663	0	0	0			Y		Y					Y	
	CAMP VARNUM	US	RI	ARNG	18	0	0	0										Y	
	CAMP VILLERE TS	US	LA	ARNG	654	0	0	0			Y		Y					Y	
	CAMP WISMER TRAINING SITE	US	WI	ARNG	3,319	0	0	0			Y		Y					Y	
	CAMP WITHYCOMBE	US	OR	ARNG	166	0	0	0			Y							Y	
	CAMPO POND TNG AREA	OS	GERMANY	USAREUR	240	0	0	0			Y							Y	
	CAO MALNISIO	OS	GERMANY	USAREUR	4,098	0	0	0			Y	Y	Y					Y	
	CASPER ARMORY	US	WY	ARNG	27	0	0	0			Y		Y						
	CASWELL TRAINING SITE	US	ME	ARNG	1,094	0	0	0			Y		Y						
	CATOOSA	US	TN	ARNG	1,515	0	0	0			Y	Y	Y					Y	
	CELLINA-MEDUNA	OS	GERMANY	USAREUR	11,558	0	0	0			Y		Y					Y	
	CLARK COUNTY COMPLEX	US	NV	ARNG	1,525	0	0	0			Y		Y					Y	
	CLINTON COUNTY MEMORIAL USARC	US	PA	USARC	154	0	0	0			Y		Y					Y	
	COLORADO SPRINGS ARMORY	US	CO	ARNG	310	1	0	0					Y					Y	
	COMMAND POST TANGO	OS	KOREA	EUSA	115	0	0	0					Y					Y	
	CONN BARRACKS	OS	GERMANY	USAREUR	127	0	0	0					Y					Y	

\* Estimates are based on currently available information from the Military Services. Estimates may change as a result of ongoing reviews.  
 Source: Department of Defense data provided by the Military Services.

Range Complex Inventory																		
Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Command/Component	Range Description*				Range Type*									
					Land Area for Ranges (acres)	Airspace (sq nm)	Sea Surface Area (sq nm)	Underwater Tracking Area (sq nm)	Air-to-Air or Surface-to-Air	Air-to-Ground	Land Maneuver	Land Impact Area	Land Firing Range	C2W/IEW	Ocean Operating Area	MOUT	Underwater Tracking Range	Amphibious Area
	CPT EURIPIDES RUBIO USARC	US	PR	USARC	51	0	0	0									Y	
	DE BREMOND TRAINING SITE	US	NM	ARNG	1,342	0	0	0			Y		Y					
	DEEPWOODS	US	ME	ARNG	340,218	0	0	0			Y		Y				Y	
	DEFENSE DISTRIB. REGION EAST	US	PA	AMC	0	0	0	0					Y				Y	
	DEMING TNG SITE, NM	US	NM	ARNG	2,114	0	0	0			Y		Y					
	DESERET CHEMICAL DEPOT	US	UT	AMC	552	0	0	0					Y				Y	
	DEVENS RFTA	US	MA	USARC	4,588	0	0	0			Y	Y	Y				Y	
	DILLINGHAM MIL RES	US	HI	USARPAC	600	0	0	0			Y						Y	
	DITTELBRUNN	OS	GERMANY	USAREUR	668	0	0	0			Y		Y				Y	
	DONNELLY TRAINING AREA	US	AK	USARPAC	631,324	0	0	0			Y	Y	Y			Y	Y	
	DUFFIELD INDUSTRIAL PARK LTA	US	VA	ARNG	75	0	0	0									Y	
	DUGWAY PROVING GROUND	US	UT	ATEC	797,152	0	0	0		Y	Y	Y	Y			Y	Y	
	EAST HAVEN RIFLE RANGE	US	CT	ARNG	113	0	0	0					Y	Y			Y	
	EASTERN KENTUCKY GUN CLUB	US	WV	ARNG	13	0	0	0			Y		Y					
	EDERLE	OS	GERMANY	USAREUR	11	0	0	0			Y					Y	Y	
	EDGEMEADE TRAINING SITE	US	ID	ARNG	132	0	0	0			Y							
	ETHAN ALLEN FIRING RANGE	US	VT	ARNG	10,966	0	0	0			Y	Y	Y				Y	
	EUSTIS	US	VA	TRADOC	5,072	0	0	0			Y	Y	Y				Y	
	FALLON TRAINING SITE	US	NV	ARNG	132	0	0	0					Y				Y	
	FLORENCE	US	AZ	ARNG	25,801	61	0	0			Y	Y	Y				Y	
	FOCE DEL RENO	OS	GERMANY	USAREUR	8,941	0	0	0					Y	Y				

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	FOCE FUME SERCHIO	OS	GERMANY	USAREUR	163	0	0	0				Y	Y						
	FORT A.P. HILL	US	VA	MDW	74,313	928	0	0			Y	Y	Y			Y		Y	
	FORT ALLEN	US	PR	ARNG	423	0	0	0			Y							Y	
	FORT BELVOIR	US	VA	MDW	2,178	0	0	0			Y	Y	Y					Y	
	FORT BENNING	US	GA	TRADOC	168,065	422	0	0			Y	Y	Y			Y		Y	
	FORT BLISS	US	TX	TRADOC	1,042,050	1597	0	0		Y	Y	Y	Y			Y		Y	
	FORT BRAGG	US	NC	FORSCOM	145,622	1718	0	0			Y	Y	Y			Y		Y	
	FORT CAMPBELL	US	KY	FORSCOM	94,763	931	0	0			Y	Y	Y			Y		Y	
	FORT CARSON	US	CO	FORSCOM	133,879	1153	0	0		Y	Y	Y	Y			Y		Y	
	FORT CHAFFEE	US	AR	ARNG	63,519	81	0	0		Y	Y	Y	Y			Y		Y	
	FORT CUSTER TRAINING CENTER	US	MI	ARNG	7,396	0	0	0			Y	Y	Y			Y		Y	
	FORT DIX	US	NJ	USARC	27,100	104	0	0			Y	Y	Y			Y		Y	
	FORT DRUM	US	NY	FORSCOM	98,873	299	0	0			Y	Y	Y			Y		Y	
	FORT GEORGE MEADE	US	MD	MDW	134	0	0	0			Y							Y	
	FORT GILLEM	US	GA	FORSCOM	474	0	0	0			Y							Y	
	FORT GORDON	US	GA	TRADOC	50,936	0	0	0			Y	Y	Y			Y		Y	
	FORT HUACHUCA	US	AZ	TRADOC	74,020	815	0	0			Y	Y	Y					Y	
	FORT HUNTER LIGGETT	US	CA	USARC	154,472	113	0	0			Y		Y					Y	
	FORT INDIANTOWN GAP	US	PA	ARNG	14,851	0	0	0			Y	Y	Y			Y		Y	
	FORT IRWIN	US	CA	FORSCOM	586,835	560	0	0		Y	Y	Y	Y			Y		Y	
	FORT JACKSON	US	SC	TRADOC	29,191	0	0	0			Y	Y	Y					Y	

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	FORT KNOX	US	KY	TRADOC	99,003	113	0	0		Y	Y	Y	Y			Y		Y	
	FORT LEAVENWORTH	US	KS	TRADOC	3,740	0	0	0			Y		Y					Y	
	FORT LEE	US	VA	TRADOC	2,753	69	0	0			Y	Y	Y					Y	
	FORT LEONARD WOOD	US	MO	TRADOC	53,654	175	0	0			Y	Y	Y			Y		Y	
	FORT LEWIS	US	WA	FORSCOM	77,080	0	0	0			Y	Y	Y			Y		Y	
	FORT MCCLELLAN	US	AL	ARNG	40	0	0	0			Y					Y		Y	
	FORT MCCOY	US	WI	USARC	125,370	0	0	0			Y	Y	Y			Y		Y	
	FORT MCPHERSON	US	GA	FORSCOM	21	0	0	0			Y		Y					Y	
	FORT MEADE	US	SD	ARNG	6,283	0	0	0			Y								
	FORT MONMOUTH - MAIN POST	US	NJ	AMC	104	0	0	0			Y		Y					Y	
	FORT PICKETT	US	VA	ARNG	41,100	161	0	0			Y	Y	Y			Y		Y	
	FORT RICHARDSON	US	AK	USARPAC	66,391	163	0	0			Y	Y	Y			Y		Y	
	FORT RILEY	US	KS	FORSCOM	93,241	107	0	0			Y	Y	Y			Y		Y	
	FORT RUCKER	US	AL	TRADOC	58,204	0	0	0			Y	Y	Y					Y	
	FORT SILL	US	OK	TRADOC	85,289	153	0	0		Y	Y	Y	Y			Y		Y	
	FORT STEWART	US	GA	FORSCOM	275,689	556	0	0			Y	Y	Y			Y		Y	
	FORT WAINWRIGHT	US	AK	USARPAC	901,074	0	0	0			Y	Y	Y			Y		Y	
	FORT WILLIAM HENRY HARRISON	US	MT	ARNG	6,314	0	0	0			Y		Y			Y		Y	
	FORT WINGATE MLC	US	NM	ATEC	6,526	0	0	0					Y						
	FORT WOLTERS	US	TX	ARNG	4,061	0	0	0			Y	Y	Y					Y	
	FRIEDBERG TRAINING AREA	OS	GERMANY	USAREUR	8,519	0	0	0			Y		Y			Y		Y	

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	FRYE MOUNTAIN TRAINING SITE	US	ME	ARNG	5,137	0	0	0			Y		Y						
	FT SAM HOUSTON	US	TX	MEDCOM	198	0	0	0			Y							Y	
	GARDINER TRAINING SITE	US	ME	ARNG	106	0	0	0			Y		Y					Y	
	GRAFENWOEHR TNG AREA	OS	GERMANY	USAREUR	52,280	0	0	0			Y	Y	Y			Y		Y	
	GUILDERLAND WETS	US	NY	ARNG	290	0	0	0			Y		Y					Y	
	GUN TRAINING AREA	OS	KOREA	EUSA	154	0	0	0			Y							Y	
	GUNPOWDER MILITARY RESERVATION	US	MD	ARNG	230	0	0	0			Y		Y					Y	
	HARVEY BARRACKS	OS	GERMANY	USAREUR	235	0	0	0					Y					Y	
	HAWTHORNE AD	US	NV	AMC	35,789	0	0	0			Y	Y	Y						
	HIGH DESSERT TRNG CENTER	US	OR	ARNG	27,960	0	0	0			Y		Y					Y	
	HOHENFELS TNG AREA	OS	GERMANY	USAREUR	38,981	0	0	0			Y		Y			Y		Y	
	HOLLIS PLAINS TRAINING SITE	US	ME	ARNG	412	0	0	0			Y		Y					Y	
	HOOD	US	TX	FORSCOM	199,758	500	0	0		Y	Y	Y	Y			Y		Y	
	HUNTER ARMY AIRFIELD	US	GA	FORSCOM	2,616	0	0	0			Y		Y					Y	
	IDAHO FALLS TRAINING SITE	US	ID	ARNG	1,099	0	0	0			Y		Y						
	IDAHO LAUNCH COMPLEX	US	ID	ATEC	315	0	0	0					Y						
	INDIANA RANGE TS	US	PA	ARNG	165	0	0	0			Y		Y						
	IOWA AAP	US	IA	AMC	1,338	0	0	0			Y		Y					Y	
	JOHN SEVIER RANGE\TNG SITE	US	TN	ARNG	6	0	0	0					Y						
	JOLIET TRAINING AREA	US	IL	USARC	3,429	0	0	0			Y		Y					Y	
	KAHUKU TRAINING AREA	US	HI	USARPAC	8,832	0	0	0			Y							Y	

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	KANAIO TRAINING AREA	US	HI	ARNG	4,622	0	0	0			Y		Y						
	KANSAS AAP	US	KS	AMC	83	0	0	0					Y						
	KANSAS REGIONAL TNG CENTER	US	KS	ARNG	3,404	0	0	0			Y	Y	Y					Y	
	KAWAIOLOA TRAINING AREA	US	HI	USARPAC	23,455	0	0	0			Y							Y	
	KEAUKAHA MILITARY RESERVATION	US	HI	ARNG	434	0	0	0			Y	Y	Y						
	KEKAHA	US	HI	ARNG	61	0	0	0			Y		Y						
	KEYSTONE TRAINING SITE	US	PA	USARC	452	0	0	0			Y		Y					Y	
	KLOSTERFORST	OS	GERMANY	USAREUR	2,736	0	0	0			Y		Y			Y		Y	
	LA REFORMA	US	TX	ARNG	4,264	0	0	0			Y		Y						
	LAKE CITY AAP	US	MO	AMC	696	0	0	0			Y	Y	Y					Y	
	LAMPERTHEIM TNG AREA	OS	GERMANY	USAREUR	3,942	0	0	0			Y	Y	Y					Y	
	LANDER LOCAL TRAINING AREA	US	WY	ARNG	1,353	0	0	0			Y		Y						
	LARSON BARRACKS	OS	GERMANY	USAREUR	330	0	0	0			Y							Y	
	LAUDERICK CREEK	US	MD	ARNG	1,066	0	0	0			Y							Y	
	LEACH RANGE	US	PA	ARNG	76	0	0	0			Y		Y						
	LETTERKENNY ARMY DEPOT	US	PA	AMC	9	0	0	0					Y						
	LIMESTONE HILLS TRNG RANGE	US	MT	ARNG	19,120	0	0	0			Y	Y	Y					Y	
	LOGISTIC FACILITIES - SANTA FE	US	NM	ARNG	157	0	0	0			Y							Y	
	LONE STAR AAP	US	TX	AMC	232	0	0	0					Y						
	LONGARE	OS	GERMANY	USAREUR	15	0	0	0			Y							Y	
	LOS ALAMITOS AFRC, AASF	US	CA	ARNG	408	0	0	0										Y	

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	LOVELL LOCAL TRAINING AREA	US	WY	ARNG	3,606	0	0	0			Y		Y						
	LTA ASCHAFENBURG	OS	GERMANY	USAREUR	1,337	0	0	0			Y		Y			Y		Y	
	LTA-VAIL TREE FARM	US	WA	USARC	166,332	0	0	0										Y	
	MABE RANGE LTA	US	VA	ARNG	1,733	0	0	0					Y					Y	
	MACON TRAINING SITE	US	MO	ARNG	3,062	0	0	0			Y		Y					Y	
	MAKUA MILITARY RESERVATION	US	HI	USARPAC	4,227	0	0	0				Y	Y						
	MARSEILLES TS	US	IL	ARNG	2,617	0	0	0			Y	Y	Y					Y	
	MASAN AMMUNITION DEPOT	OS	KOREA	EUSA	481	0	0	0			Y	Y	Y					Y	
	MATES - CHAPARRAL, NM	US	NM	ARNG	64	0	0	0			Y								
	MCALESTER AAP	US	OK	AMC	2,245	0	0	0			Y		Y					Y	
	MCCRADY TRAINING CENTER	US	SC	ARNG	14,850	0	0	0			Y		Y			Y		Y	
	MEAD TRAINING SITE	US	NE	ARNG	1,185	0	0	0			Y		Y					Y	
	MESSEL SMALL ARMS RANGE	OS	GERMANY	USAREUR	25	0	0	0					Y					Y	
	MILAN UTES	US	TN	ARNG	2,391	0	0	0			Y		Y					Y	
	MINDEN	US	LA	ARNG	13,219	0	0	0			Y		Y					Y	
	MITCHELL TRAINING AREA	US	SD	ARNG	41	0	0	0			Y		Y						
	MONTE CARPEGNA	OS	GERMANY	USAREUR	6,488	0	0	0			Y	Y							
	MONTE CIAURLEC	OS	GERMANY	USAREUR	7,925	0	0	0			Y	Y							
	MONTE ROMANO	OS	GERMANY	USAREUR	10,207	0	0	0			Y	Y	Y					Y	
	MOTSU	US	NC	SDDC	7	0	0	0			Y		Y						
	MTA AEDC	US	TN	ARNG	6,553	0	0	0			Y	Y	Y					Y	

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	MTA CAMP CURTIS GUILD	US	MA	ARNG	623	0	0	0					Y				Y	
	MTA CAMP FRETTERD	US	MD	ARNG	399	0	0	0			Y						Y	
	MTA CAMP WILLIAMS	US	UT	ARNG	25,000	0	0	0			Y	Y	Y			Y	Y	
	MUSCATATUCK URBAN TRNG CENTER	US	IN	ARNG	61	0	0	0							Y			
	NE HASTINGS TRNG SITE\UTES 1	US	NE	ARNG	3,240	0	0	0			Y		Y		Y		Y	
	NEW MEXICO RANGE	OS	KOREA	EUSA	254	0	0	0				Y	Y				Y	
	NEWTON FALLS/UTES 1	US	OH	ARNG	2,879	0	0	0			Y		Y				Y	
	NG CAMP ADAIR (CORVALLIS)	US	OR	ARNG	522	0	0	0			Y		Y				Y	
	NHNG TRAINING SITE	US	NH	ARNG	94	0	0	0									Y	
	NIANTIC TRNG SITE-CAMP ROWLAND	US	CT	ARNG	37	0	0	0									Y	
	OBERDACHSTETTEN LTA	OS	GERMANY	USAREUR	682	0	0	0			Y		Y		Y		Y	
	OFTERSHEIM SMALL ARMS RANGE	OS	GERMANY	USAREUR	3	0	0	0			Y		Y					
	OMS #1 - ROSWELL, NM	US	NM	ARNG	5,380	0	0	0			Y		Y					
	ORCHARD MATES	US	ID	ARNG	563	0	0	0			Y							
	ORCHARD TRAINING AREA	US	ID	ARNG	138,907	0	0	0			Y	Y	Y				Y	
	PAPAGO PARK MIL RES	US	AZ	ARNG	100	0	0	0					Y				Y	
	PARKS RFTA	US	CA	USARC	1,992	0	0	0			Y	Y	Y		Y		Y	
	PEASON RIDGE	US	LA	FORSCOM	33,457	0	0	0			Y	Y					Y	
	PELHAM RANGE	US	AL	ARNG	22,139	0	0	0			Y	Y	Y				Y	
	PFAENDHAUSEN	OS	GERMANY	USAREUR	5,527	0	0	0			Y						Y	
	PICATINNY ARSENAL	US	NJ	AMC	4,545	0	0	0			Y	Y	Y				Y	

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	PINE BLUFF ARSENAL	US	AR	AMC	99	0	0	0				Y	Y				Y
	PIÑON CANYON	US	CO	FORSCOM	223,428	0	0	0			Y		Y			Y	Y
	PLYMOUTH TRAINING SITE	US	ME	ARNG	306	0	0	0			Y		Y				Y
	PODELDORF LTA	OS	GERMANY	USAREUR	1,105	0	0	0			Y		Y			Y	Y
	POHAKULOA TRAINING AREA	US	HI	USARPAC	109,950	0	0	0			Y	Y	Y				Y
	POLK	US	LA	FORSCOM	138,434	5471	0	0			Y	Y	Y			Y	Y
	P-SERIES	OS	GERMANY	USAREUR	5,291	0	0	0			Y						
	PUEBLO CHEMICAL DEPOT	US	CO	AMC	94	0	0	0					Y				Y
	PUU LUAHINE LTA	US	HI	ARNG	8,326	0	0	0			Y						
	PYONGTAEK, CPX AREA	OS	KOREA	EUSA	113	0	0	0					Y				Y
	RACINE COUNTY LINE RANGE	US	WI	ARNG	15	0	0	0					Y				
	RAY BARRACKS	OS	GERMANY	USAREUR	21	0	0	0			Y		Y			Y	Y
	RED RIVER ARMY DEPOT	US	TX	AMC	165	0	0	0					Y				Y
	REDFIELD	US	SD	ARNG	175	0	0	0			Y						
	REDSTONE ARSENAL	US	AL	AMC	25,505	25	0	0			Y		Y				
	REESE RANGE COMPLEX	OS	GERMANY	USAREUR	18	0	0	0					Y				Y
	RHEINBLICK LTA	OS	GERMANY	USAREUR	44	0	0	0					Y				Y
	RIDGEWAY TRAINING SITE	US	PA	ARNG	8	0	0	0					Y				Y
	RILEY-BOG BROOK TRAINING SITE	US	ME	ARNG	797	0	0	0			Y		Y			Y	Y
	RIO RANCHO TRAINING SITE, NM	US	NM	ARNG	96	0	0	0			Y						Y
	RIVER ROAD TRAINING SITE	US	DE	ARNG	92	0	0	0			Y		Y				Y

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	RIVOLI BIANCHI	OS	GERMANY	USAREUR	235	0	0	0			Y		Y						
	RODRIGUEZ LIVE FIRE COMPLEX	OS	KOREA	EUSA	3,252	0	0	0			Y	Y	Y			Y		Y	
	SANTA SEVERA	OS	GERMANY	USAREUR	100	0	0	0				Y	Y						
	SCHOFIELD BARRACKS MIL RES	US	HI	USARPAC	11,441	0	0	0			Y	Y	Y			Y		Y	
	SCHWETZINGEN TRAINING AREA	OS	GERMANY	USAREUR	249	0	0	0			Y							Y	
	SEA GIRT/OMS 25	US	NJ	ARNG	120	0	0	0			Y	Y	Y					Y	
	SEAGOVILLE USARC/LTA	US	TX	USARC	198	0	0	0			Y		Y					Y	
	SHELBY	US	MS	ARNG	133,611	0	0	0			Y	Y	Y					Y	
	SHERIDAN LOCAL TRAINING AREA	US	WY	ARNG	3,986	0	0	0			Y		Y						
	SIERRA ARMY DEPOT	US	CA	AMC	4,806	0	0	0			Y		Y					Y	
	SMYRNA TS	US	TN	ARNG	557	0	0	0			Y		Y					Y	
	SPARTA	US	IL	ARNG	2,620	0	0	0			Y								
	ST ANTHONY TRAINING SITE	US	ID	ARNG	2,693	0	0	0			Y								
	ST GEORGE TRAINING AREA	US	UT	ARNG	368	0	0	0			Y								
	STEWART RIVER TRAINING AREA	US	AK	ARNG	25,519	0	0	0			Y		Y						
	STONES RANCH MIL RES	US	CT	ARNG	5,753	0	0	0			Y		Y					Y	
	STORY	US	VA	TRADOC	3,858	0	0	0			Y		Y			Y		Y	
	STORY RANGE COMPLEX	OS	KOREA	EUSA	1,759	0	0	0				Y	Y					Y	
	SULZHEIM	OS	GERMANY	USAREUR	131	0	0	0			Y	Y	Y					Y	
	TIERGARTEN	OS	GERMANY	USAREUR	234	0	0	0			Y							Y	
	TOOELE ARMY DEPOT	US	UT	AMC	1,457	0	0	0					Y						

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	TRUMAN RESERVOIR T.S.	US	MO	ARNG	565	0	0	0			Y								
	TS BARKER DAM DZ	US	TX	ARNG	572	0	0	0			Y							Y	
	TS H H BUCKMAN (BARGE CANAL)	US	FL	ARNG	68	0	0	0										Y	
	TS IKE SKELTON (JEFFERSON CITY)	US	MO	ARNG	24	0	0	0			Y	Y						Y	
	TS OAKDALE	US	CA	ARNG	174	0	0	0			Y	Y						Y	
	TS SLOUGHOUSE	US	CA	ARNG	2,685	0	0	0			Y							Y	
	TS WACO LTA	US	MT	ARNG	4,763	0	0	0			Y	Y							
	TS WILLISTON	US	ND	ARNG	345	0	0	0			Y	Y							
	T-SERIES	OS	GERMANY	USAREUR	7,222	0	0	0			Y								
	TWIN FALLS TRAINING SITE	US	ID	ARNG	313	0	0	0			Y	Y							
	UKUMEHAME FIRING RANGE	US	HI	ARNG	39	0	0	0			Y	Y							
	UMATILLA CHEMICAL DEPOT	US	OR	AMC	9	0	0	0				Y						Y	
	URLAS TRAIN. AREA	OS	GERMANY	USAREUR	217	0	0	0			Y	Y			Y			Y	
	US ARMY MILITARY ACADEMY	US	NY	USMA	14,101	4	0	0			Y	Y	Y		Y			Y	
	USARC FORT NATHANIEL GREENE	US	RI	USARC	96	0	0	0			Y	Y						Y	
	VOLKSTONE	US	WV	ARNG	291	0	0	0			Y				Y			Y	
	WACKERNHEIM SMALL ARMS RANGES	OS	GERMANY	USAREUR	32	0	0	0				Y						Y	
	WAPPAPELLO TRNG SITE	US	MO	ARNG	2,187	0	0	0			Y	Y						Y	
	WARRENTON/CAMP RILEA	US	OR	ARNG	4,212	0	0	0			Y	Y			Y			Y	
	WELDON SPRING/OMSP 2	US	MO	USARC	1,659	0	0	0			Y	Y						Y	
	WENDELL H. FORD REGIONAL TRAINING CENTER	US	KY	ARNG	7,320	0	0	0			Y	Y	Y					Y	

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					Land Area for Ranges (acres)	Airspace (sq nm)	Sea Surface Area (sq nm)	Underwater Tracking Area (sq nm)	Air-to-Air or Surface-to-Air	Air-to-Ground	Land Maneuver	Land Impact Area	Land Firing Range	C2W/IEW	Ocean Operating Area	MOUT	Underwater Tracking Range
	WEST CAMP RAPID	US	SD	ARNG	740	0	0	0			Y		Y				Y
	WEST SILVER SPRING DRIVE CMLPX	US	WI	USARC	5	0	0	0									Y
	WESTMINSTER ARMORY	US	VT	ARNG	39	0	0	0			Y		Y				
	WETS TRN SITE - CARLSBAD, NM	US	NM	ARNG	721	0	0	0			Y		Y				
	WETS TRN SITE - TUCUMCARI, NM	US	NM	ARNG	63	0	0	0			Y		Y				
	WHITE SANDS MISSILE RANGE	US	NM	ATEC	3,543,021	7321	0	0				Y	Y				Y
	WILDCAT HILLS STATE RA LTA	US	NE	ARNG	853	0	0	0			Y						Y
	WUERZBURG TNG AREAS	OS	GERMANY	USAREUR	7	0	0	0					Y				Y
	WVDNR ELK RIVER WMA TA	US	WV	ARNG	278	0	0	0			Y		Y				Y
	WVDNR MCCLINTIC WMA TA	US	WV	ARNG	55	0	0	0			Y		Y				
	YAKIMA TRAINING CENTER	US	WA	FORSCOM	325,565	0	0	0			Y	Y	Y			Y	Y
	YOUNGSTOWN TRAINING SITE	US	NY	ARNG	848	0	0	0			Y		Y				Y
	YUMA PROVING GROUND	US	AZ	ATEC	837,187	1500	0	0				Y	Y			Y	Y
<b>Individual Army Ranges</b>																	
	**UNKNOWN RANGE AREA**	US	IL	ARNG	379	0	0	0			Y						
	89TH RRC WET SITE	US	KS	USARC	75	0	0	0			Y						
	AAHOAKA LTA	US	HI	ARNG	3,128	0	0	0			Y						
	ALBUQUERQUE LTA	US	NM	USARC	7	0	0	0			Y						
	ANAHOLA LTA	US	HI	ARNG	3,314	0	0	0			Y						
	ANDERSON FARM TA	US	IL	ARNG	81	0	0	0			Y						
	APPENDORF	OS	GERMANY	USAREUR	328	0	0	0			Y						

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	AREA OCKSTADT	OS	GERMAN Y	USAREUR	192	0	0	0			Y								
	ARTEMUS TRAINING SITE	US	KY	ARNG	523	0	0	0			Y								
	BABENHAUSEN LTA	OS	GERMAN Y	USAREUR	190	0	0	0			Y								
	BAMBERG AIRFIELD	OS	GERMAN Y	USAREUR	11	0	0	0											Y
	BAMBERG TA G	OS	GERMAN Y	USAREUR	70	0	0	0					Y						
	BARADA LTA	US	NE	ARNG	85	0	0	0			Y								
	BAYONET TRAINING AREA	OS	KOREA	EUSA	215	0	0	0					Y						
	BEAVER TRAINING AREA	US	UT	ARNG	657	0	0	0			Y								
	BEECH FORK STATE PARK	US	WV	ARNG	12,836	0	0	0			Y								
	BIDWELL HILL	US	CO	ARNG	40	0	0	0											Y
	BIG RIVER LTA	US	IL	ARNG	3,204	0	0	0			Y								
	BLACK RAPIDS TRAINING SITE	US	AK	USARPAC	4,213	0	0	0			Y								
	BLACKERT FARM TA	US	IL	ARNG	1,282	0	0	0			Y								
	BLANDING ARMORY	US	UT	ARNG	28	0	0	0											Y
	BOLIVAR	US	TN	ARNG	170	0	0	0			Y								
	BOOK CLIFFS RIFLE RANGE	US	CO	ARNG	346	0	0	0					Y						
	BOX BUTTE RESERVOIR LTA	US	NE	ARNG	13	0	0	0											Y
	BRETTONS WOOD BIATHLON RANGE	US	NH	ARNG	1	0	0	0					Y						
	BUCKEYE TNG SITE, AZ	US	AZ	ARNG	1,476	0	0	0			Y								
	BUCKLEY ANG BASE, CO	US	CO	ARNG	10	0	0	0											Y
	BUG LTA	OS	GERMAN Y	USAREUR	110	0	0	0			Y								

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	BUHL TRAINING SITE	US	ID	ARNG	165	0	0	0			Y								
	BULLVILLE LTA	US	NY	USARC	154	0	0	0										Y	
	BURGEBRACH LTA	OS	GERMANY	USAREUR	249	0	0	0			Y								
	CAMEL TRACKS	US	NM	ARNG	8,349	0	0	0			Y								
	CAMERON PASS	US	CO	ARNG	45,395	0	0	0			Y								
	CAMP BARKELEY	US	TX	ARNG	980	0	0	0			Y								
	CAMP BUNN TA	US	IL	ARNG	641	0	0	0			Y								
	CAMP FOWLER	US	IN	ARNG	98	0	0	0			Y								
	CAMP HALE	US	CO	ARNG	21,483	0	0	0			Y								
	CAMP KEYES	US	ME	ARNG	1	0	0	0										Y	
	CAMP LAKOTA TA	US	IL	ARNG	1,507	0	0	0			Y								
	CAMP MABRY	US	TX	ARNG	178	0	0	0			Y								
	CASA GRANDE TS	US	AZ	ARNG	799	0	0	0			Y								
	CHATFIELD RESERVOIR	US	CO	ARNG	2,281	0	0	0										Y	
	CHIEVRES AIRBASE	OS	GERMANY	USAREUR	70	0	0	0			Y								
	CLARKS HILL TS	US	SC	ARNG	891	0	0	0			Y								
	CORNHUSKER AAP	US	NE	USACE	6	0	0	0					Y						
	CP SEVEN MILE WA	US	WA	ARNG	340	0	0	0			Y								
	CRAB ORCHARD TA	US	IL	ARNG	294	0	0	0			Y								
	CRAB ORCHARD TA ANNEX	US	IL	ARNG	1	0	0	0			Y								
	DAGMAR NORTH	OS	KOREA	EUSA	1,202	0	0	0			Y								

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	DAWSON FARM AIRPORT LTA	US	IL	ARNG	14	0	0	0			Y								
	DIXON PARKING AREA	US	IL	ARNG	6	0	0	0			Y								
	DOUGLAS RANGE	US	AZ	ARNG	990	0	0	0			Y								
	DZ BABICH	US	WV	ARNG	114	0	0	0										Y	
	DZ BEECH HILL	US	WV	ARNG	189	0	0	0										Y	
	E. MOLINE COR. CENTER RANGE	US	IL	ARNG	103	0	0	0					Y						
	EAST STROUDSBURG ARMORY	US	PA	ARNG	11	0	0	0			Y								
	EKLUTNA GLACIER TS	US	AK	USARPAC	33	0	0	0			Y								
	ERNIE PYLE USARC/AMSA #12 (G)	US	NY	USARC	2	0	0	0										Y	
	ET SIMONDS CONSTRUCTION TA	US	IL	ARNG	9	0	0	0			Y								
	FAA RADIO TOWER SITE	US	CO	ARNG	13	0	0	0										Y	
	FAHR BRIDGE CROSSING	OS	GERMAN Y	USAREUR	3	0	0	0										Y	
	FELICITY/OMS#7	US	OH	ARNG	1	0	0	0										Y	
	FINTHEN AIRFIELD	OS	GERMAN Y	USAREUR	249	0	0	0							Y				
	FIVE MILE TA	US	IL	ARNG	856	0	0	0			Y								
	FONTANIVA	OS	GERMAN Y	USAREUR	155	0	0	0			Y								
	FORT MIFFLIN	US	PA	ARNG	26	0	0	0										Y	
	FORT MORGAN AIRPORT	US	CO	ARNG	20	0	0	0										Y	
	FORT RUGER	US	HI	ARNG	312	0	0	0			Y								
	FORT RUGER USARPAC	US	HI	USARPAC	311	0	0	0			Y								
	FORT WORTH-EAGLE MOUNTAIN LAKE	US	TX	ARNG	1,246	0	0	0			Y								

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	FOUNTAIN INN TS	US	SC	ARNG	21	0	0	0			Y								
	FRED ALLEN LTA	US	IL	ARNG	81	0	0	0			Y								
	GALESBURG HOT FUELING LTA	US	IL	ARNG	7	0	0	0			Y								
	GERLACHSHAUSEN SWIM SITE	OS	GERMANY	USAREUR	0	0	0	0										Y	
	GERSTLE RIVER ARCTIC TEST SITE	US	AK	USARPAC	20,590	0	0	0			Y								
	GIESSEN GENERAL DEPOT	OS	GERMANY	USAREUR	137	0	0	0			Y								
	GILA BEND	US	AZ	ARNG	7	0	0	0										Y	
	GOODPASTURE DZ	US	CO	ARNG	179	0	0	0										Y	
	GREAT BEND, LTA	US	KS	USARC	1	0	0	0										Y	
	GREEN CREEK TA	US	IL	ARNG	458	0	0	0			Y								
	GROSSAUHEIM KASERNE	OS	GERMANY	USAREUR	46	0	0	0										Y	
	GROSS-OSTHEIM LTA	OS	GERMANY	USAREUR	1,557	0	0	0			Y								
	GULKANA GLACIER TRAINING SITE	US	AK	USARPAC	41	0	0	0			Y								
	HAERR TA	US	IL	ARNG	3	0	0	0			Y								
	HILLTOP RANGE	US	IN	ARNG	1	0	0	0					Y						
	HOBBS	US	NM	ARNG	262	0	0	0			Y								
	HODGES TS	US	SC	ARNG	20	0	0	0			Y								
	HOHE WARTE	OS	GERMANY	USAREUR	160	0	0	0			Y								
	HONOPOU LTA	US	HI	ARNG	106	0	0	0			Y								
	HOOTERVILLE AIRPORT LTA	US	IL	ARNG	4	0	0	0			Y								
	HORSETOOTH RESERVOIR	US	CO	ARNG	5,034	0	0	0										Y	

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	IL DEPT. OF CORRECTION TA	US	IL	ARNG	149	0	0	0					Y						
	IL STATE FAIRGROUNDS TA	US	IL	ARNG	42	0	0	0			Y								
	INDUSTRIAL PARK TA	US	IL	ARNG	7	0	0	0			Y								
	IROQUOIS COUNTY POLICE RANGE	US	IL	ARNG	5	0	0	0					Y						
	JOSEPH BALDWIN LTA	US	IL	ARNG	70	0	0	0			Y								
	KALEPA LTA	US	HI	ARNG	903	0	0	0			Y								
	KATTERBACH KASERNE	OS	GERMANY	USAREUR	49	0	0	0										Y	
	KEAMUKU LTA	US	HI	USARPAC	22,640	0	0	0			Y								
	KEKAHA LTA	US	HI	ARNG	3,195	0	0	0			Y								
	KELLY CANYON TRAINING SITE	US	ID	ARNG	3,826	0	0	0			Y								
	KINGSBURY LTA	US	IN	USARC	919	0	0	0			Y								
	KNIK GLACIER TRAINING SITE	US	AK	USARPAC	5,820	0	0	0			Y								
	KUNIGUNDENRUH LTA	OS	GERMANY	USAREUR	113	0	0	0			Y								
	LAKE PARADISE LTA	US	IL	ARNG	193	0	0	0			Y								
	LAKE SHELBYVILLE TA - WINDSOR	US	IL	ARNG	1,385	0	0	0			Y								
	LAKE SHELBYVILLE TA-FINDLAY	US	IL	ARNG	116	0	0	0			Y								
	LAND FOR FUTURE VAAP USARC	US	TN	USARC	195	0	0	0			Y								
	LAWRENCE AIRPORT TA	US	IL	ARNG	77	0	0	0			Y								
	LEBANON STATE ARMORY - MVSB	US	NH	ARNG	0	0	0	0										Y	
	LEEMAN FIELD LTA	US	VA	ARNG	24	0	0	0										Y	
	LEROY DILKA LAND	US	CO	ARNG	2	0	0	0										Y	

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	LEXINGTON	US	OK	ARNG	316	0	0	0									Y	
	LINCOLN CHALLENGE LTA	US	IL	ARNG	90	0	0	0			Y							
	LONGHORN AAP	US	TX	AMC	0	0	0	0				Y						
	LTA - OGDEN	US	UT	USARC	132	0	0	0									Y	
	LTA 6910	OS	GERMAN Y	USAREUR	104	0	0	0			Y							
	LTA BARKER DAM	US	TX	USARC	1,636	0	0	0			Y							
	LTA MARION ENGR DEPOT EAST	US	OH	USARC	122	0	0	0			Y							
	LTA-AVN TNG AREA (WEYERHAUSER)	US	WA	USARC	20,443	0	0	0									Y	
	LTA-HAYFORD PIT	US	WA	USARC	24	0	0	0									Y	
	LTA-POCATELLO AIRPORT	US	ID	USARC	9	0	0	0			Y							
	LTA-SPIRIT LAKE	US	ID	USARC	612	0	0	0			Y							
	LTC HERNAN G. PESQUERA/ECS-126	US	PR	USARC	4	0	0	0									Y	
	MALUHIA LTA	US	HI	ARNG	70	0	0	0			Y							
	MARION COUNTY FAIRGROUNDS TA	US	IL	ARNG	57	0	0	0			Y							
	MATOON POLICE RANGE	US	IL	ARNG	10	0	0	0			Y							
	MEAD LTA	US	NE	USARC	956	0	0	0			Y							
	METRO AIRPORT TA	US	IL	ARNG	25	0	0	0			Y							
	MICHELFELD	OS	GERMAN Y	USAREUR	92	0	0	0			Y							
	MOBRIDGE TRAINING AREA	US	SD	ARNG	6	0	0	0			Y							
	MOOSEHORN TRAINING SITE	US	ME	ARNG	0	0	0	0				Y						
	MOUNTWOOD PARK	US	WV	ARNG	3,117	0	0	0			Y							

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	MTA EASTERN KY WETS	US	KY	ARNG	535	0	0	0			Y								
	NEW RIVER VALLEY TRAINING SITE	US	VA	USARC	88	0	0	0										Y	
	NEWARK TRAINING SITE	US	NY	ARNG	100	0	0	0			Y								
	NEWPORT CHEMICAL DEPOT	US	IN	AMC	0	0	0	0					Y						
	NOUNOU LTA	US	HI	ARNG	1,721	0	0	0			Y								
	NW STEEL & WIRE LTA	US	IL	ARNG	11	0	0	0			Y								
	OCALA ARMORY	US	FL	ARNG	0	0	0	0										Y	
	OLD LITCHFIELD LAKE TA	US	IL	ARNG	152	0	0	0			Y								
	PAISLEY LTA	US	FL	ARNG	11,300	0	0	0			Y								
	PARIS POLICE FIRING RANGE	US	IL	ARNG	32	0	0	0			Y								
	PASA RANGE	US	IL	ARNG	56	0	0	0					Y						
	PAU'UILO LTA	US	HI	ARNG	45	0	0	0			Y								
	PEACEFUL VALLEY RANCH	US	CO	ARNG	1,210	0	0	0			Y								
	PEKIN CORR CENTER LTA	US	IL	ARNG	68	0	0	0			Y								
	PETERBOROUGH ARMORY	US	NH	ARNG	0	0	0	0										Y	
	PICACHO STAGEFIELD	US	AZ	ARNG	353	0	0	0										Y	
	PICKENS TS	US	SC	ARNG	9	0	0	0			Y								
	PIERRE TS RG	US	SD	ARNG	5	0	0	0					Y						
	PINKNEYVILLE FAIRGROUNDS	US	IL	ARNG	66	0	0	0			Y								
	PLATTE ARMORY	US	SD	ARNG	41	0	0	0			Y								
	POCATELLO TRAINING SITE	US	ID	ARNG	718	0	0	0			Y								

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	PONTIAC CORRECTIONS TA	US	IL	ARNG	416	0	0	0			Y								
	POVERTY FLATS TRAINING AREA	US	UT	ARNG	448	0	0	0			Y								
	PRICE TRAINING AREA	US	UT	ARNG	159	0	0	0										Y	
	PRYOR READINESS CENTER	US	OK	ARNG	593	0	0	0			Y								
	PUU KAPELE LTA	US	HI	ARNG	1,110	0	0	0			Y								
	PUU PA LTA	US	HI	ARNG	13,273	0	0	0			Y								
	PU'UNENE LTA	US	HI	ARNG	1,614	0	0	0			Y								
	RALEIGH COUNTY FIRING RANGE	US	WV	ARNG	1	0	0	0					Y						
	RAMEY USAR CENTER	US	PR	USARC	53	0	0	0										Y	
	RAYTOWN/OMSP01	US	MO	ARNG	51	0	0	0			Y								
	RITTENHOUSE AUX AIRFIELD TS	US	AZ	ARNG	199	0	0	0			Y								
	RIVERSIDE	OS	GERMAN Y	USAREUR	3	0	0	0			Y								
	ROCK FALLS IND. PARK TA	US	IL	ARNG	23	0	0	0			Y								
	ROTTERSHAUSEN AMMO STOR AREA	OS	GERMAN Y	USAREUR	142	0	0	0			Y								
	SAFFORD RANGE	US	AZ	ARNG	400	0	0	0			Y								
	SAN GIORGIO	OS	GERMAN Y	USAREUR	68	0	0	0								Y			
	SAN JUAN NATIONAL FOREST	US	CO	ARNG	633,011	0	0	0			Y								
	SAND DUNES	OS	GERMAN Y	USAREUR	105	0	0	0			Y								
	SIOUX FALLS-JOE FOSS FIELD	US	SD	ARNG	1	0	0	0					Y						
	SNAKE CREEK TRAINING SITE	US	FL	ARNG	295	0	0	0			Y								
	SO. IL LAW ENF. TRAINING	US	IL	ARNG	29	0	0	0			Y								

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 Source: Department of Defense data provided by the Military Services.

Range Complex Inventory																			
Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Command/Component	Range Description*				Range Type*										
					Land Area for Ranges (acres)	Airspace (sq nm)	Sea Surface Area (sq nm)	Underwater Tracking Area (sq nm)	Air-to-Air or Surface-to-Air	Air-to-Ground	Land Maneuver	Land Impact Area	Land Firing Range	C2W/IEW	Ocean Operating Area	MOUT	Underwater Tracking Range	Amphibious Area	Other
	SOUTH CHARLESTON	US	WV	ARNG	2	0	0	0					Y						
	SOUTH HAUPTSMOOR LTA	OS	GERMANY	USAREUR	268	0	0	0			Y								
	SPRINGFIELD POLICE RANGE	US	IL	ARNG	24	0	0	0			Y								
	STANTON LTA	US	NE	ARNG	633	0	0	0			Y								
	STATE POLICE ACADEMY	US	VT	ARNG	0	0	0	0					Y						
	STEAD TRAINING SITE	US	NV	ARNG	196	0	0	0			Y								
	STRASBURG DZ	US	CO	ARNG	947	0	0	0										Y	
	SUMMERSVILLE NRA RANGE	US	WV	ARNG	16	0	0	0					Y						
	SUNNY HILLS LTA	US	FL	ARNG	11,120	0	0	0			Y								
	SWANWICK LTA	US	IL	ARNG	11	0	0	0			Y								
	SWIFT ACRES LTA	US	FL	ARNG	4,163	0	0	0			Y								
	TARLTON	US	OH	ARNG	118	0	0	0										Y	
	TE O USARC - AMERICAN SAMOA	OS	AMERICAN SAMOA	USARC	79	0	0	0			Y								
	TOSOHATCHEE LTA	US	FL	ARNG	3,451	0	0	0										Y	
	TS GARRISON	US	ND	ARNG	765	0	0	0			Y								
	TS OXFORD	US	ME	ARNG	58	0	0	0			Y								
	TS-HAWK MCCONNELSVILLE, OH	US	OH	ARNG	395	0	0	0			Y								
	USARC	US	OH	USARC	28	0	0	0			Y								
	USARC MANKATO	US	MN	USARC	20	0	0	0			Y								
	VERMILLION TA	US	IL	ARNG	350	0	0	0			Y								
	VERNAL TRAINING AREA	US	UT	ARNG	159	0	0	0										Y	

\* Estimates are based on currently available information from the Military Services. Estimates may change as a result of ongoing reviews. Source: Department of Defense data provided by the Military Services.



Range Complex Inventory																	
Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Command/Component	Range Description*				Range Type*								
					Land Area for Ranges (acres)	Airspace (sq nm)	Sea Surface Area (sq nm)	Underwater Tracking Area (sq nm)	Air-to-Air or Surface-to-Air	Air-to-Ground	Land Maneuver	Land Impact Area	Land Firing Range	C2W/IEW	Ocean Operating Area	MOUT	Underwater Tracking Range
	WVDNR PLUM ORCHARD WMA RANGE	US	WV	ARNG	3	0	0	0						Y			
<b>NAVY</b>																	
	Atlantic City	US	NJ	CFFC	0	5,585	4,413	4,413	Y						Y		
	Atlantic Test Range (Patuxent River)	US	MD, VA	NAVAIR	5,700	3,401	330	0	Y	Y		Y		Y			
	Atlantic Undersea Test and Evaluation Center (AUTECE)	OS	Bahamas	NAVSEA	0	870	1,320	195	Y					Y		Y	
	Boston	US	MA	CFFC	12,446	10,099	13,494	13,494	Y	Y	Y				Y		Y
	Cherry Point	US	NC	CFFC	0	18,718	18,718	18,718	Y					Y	Y		Y
	China Lake	US	CA	NAVAIR	1,141,200	13,661	0	0	Y	Y		Y		Y			
	Diego Garcia	OS	BIOT	CPF	0	32,692	32,692	0	Y						Y		
	El Centro	US	CA	CFFC	43,948	256	0	0	Y	Y		Y					Y
	Fallon	US	NV	CFFC	232,481	14,182	0	0	Y	Y	Y	Y	Y	Y		Y	
	Guantanamo	OS	Cuba	CFFC	8	13,175	13,118	13,118	Y	Y	Y	Y	Y		Y		
	Gulf of Mexico	US	FL, MS, TX	CFFC	10,057	38,393	17,469	17,469	Y	Y		Y	Y		Y		Y
	Hawaiian Islands	US	HI	CPF	303	58,545	214,638	214,638	Y	Y		Y			Y		Y
	Jacksonville	US	FL, GA	CFFC	17,728	39,169	50,098	50,098	Y	Y		Y	Y		Y		
	Japan	OS	Japan	CPF	0	11,615	11,615	0	Y						Y		
	Key West	US	FL	CFFC	1	24,812	8,282	8,282	Y	Y			Y	Y	Y		Y
	Mariana Islands	OS	CNMI, Guam	CPF	24,894	8,726	8,698	8,698	Y	Y	Y	Y	Y		Y	Y	Y
	Narragansett	US	RI	CFFC	0	13,005	27,208	27,208	Y						Y		

\* Estimates are based on currently available information from the Military Services. Estimates may change as a result of ongoing reviews.  
 Source: Department of Defense data provided by the Military Services.

Range Complex Inventory																				
Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Command/Component	Range Description*				Range Type*											
					Land Area for Ranges (acres)	Airspace (sq nm)	Sea Surface Area (sq nm)	Underwater Tracking Area (sq nm)	Air-to-Air or Surface-to-Air	Air-to-Ground	Land Maneuver	Land Impact Area	Land Firing Range	C2W/IEW	Ocean Operating Area	MOUT	Underwater Tracking Range	Amphibious Area	Other	
MARINE CORPS	Northern California (NOCAL)	US	CA	CFFC	0	15,003	11,750	0	Y						Y					
	Northwest Training Range Complex	US	CA, OR, WA	CFFC	48,118	42,714	128,103	128,103	Y	Y	Y	Y	Y	Y	Y		Y		Y	
	Okinawa	OS	Japan	CPF	0	29,050	29,050	0	Y	Y		Y			Y					
	Point Mugu Sea Range	US	CA	NAVAIR	15,000	27,712	27,278	0	Y	Y				Y	Y					
	Southern California (SOCAL)	US	CA	CFFC	43,437	113,231	120,000	7,699	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	VACAPES	US	NC, VA	CFFC	1,543	30,451	28,916	28,916	Y	Y	Y	Y	Y		Y	Y		Y		
MARINE CORPS	MCB Camp Butler	OS	Japan	MARFORPAC	47,000	333	0	0	Y	Y	Y	Y	Y			Y			Y	
	MCB Camp Lejeune	US	NC	MARFORLANT	157,440	152	0	0	Y	Y	Y	Y	Y			Y		Y	Y	
	MCB Camp Pendleton	US	CA	MARFORPAC	125,704	180	0	0	Y	Y	Y	Y	Y			Y		Y	Y	
	MCAS Cherry Point	US	NC	MARFORLANT	29,139	1,082	0	0	Y	Y	Y	Y	Y	Y						
	MCAGCC 29 Palms	US	CA	TECOM	583,396	1,269	0	0	Y	Y	Y	Y	Y			Y			Y	
	MCAS Beaufort/Townsend	US	SC	MCIEAST	5,182	1,130	0	0	Y	Y		Y	Y						Y	
	MCAS Miramar	US	CA	MCIWEST	4,700	0	0	0			Y		Y							
	MCAS Yuma/Bob Stump Training Range Complex	US	AZ	MCIWEST	1,216,000	7,085	0	0	Y	Y	Y	Y	Y	Y					Y	
	MCB Hawaii	US	HI	MARFORPAC	4,706	0	0	0			Y		Y						Y	
	MCB Quantico	US	VA	MCCDC	64,000	278	0	0	Y	Y	Y	Y	Y			Y			Y	
MCLB Albany	US	GA	MATCOM	4	0	0	0					Y								

\* Estimates are based on currently available information from the Military Services. Estimates may change as a result of ongoing reviews. Source: Department of Defense data provided by the Military Services.

Range Complex Inventory																			
Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Command/Component	Range Description*				Range Type*										
					Land Area for Ranges (acres)	Airspace (sq nm)	Sea Surface Area (sq nm)	Underwater Tracking Area (sq nm)	Air-to-Air or Surface-to-Air	Air-to-Ground	Land Maneuver	Land Impact Area	Land Firing Range	C2W/IEW	Ocean Operating Area	MOUT	Underwater Tracking Range	Amphibious Area	Other
	MCLB Barstow	US	CA	MATCOM	2,438	0	0	0					Y						
	MCMWTC Bridgeport	US	CA	TECOM	45,217	0	0	0			Y		Y						
	MCRD Parris Island	US	SC	TECOM	1,100	0	0	0			Y		Y						
<b>AIR FORCE</b>																			
	Adirondack	US	NY	ANG	75000	200	0	0		Y				Y					
	Airburst	US	CO	ANG	4,257	26	0	0		Y				Y					
	Atterbury	US	IN	ANG	18500	103	0	0		Y				Y					
	Avon Park	US	FL	ACC	106,073	1,400	0	0	Y	Y									
	Barry M. Goldwater Range	US	AZ	AETC	1,607,018	3,906	0	0	Y	Y				Y					
	Belle Fourche ESS	US	SD	ACC	183	0	0	0		Y				Y					
	Blair Lake	US	AK	PACAF	2,560	22,000	0	0		Y									
	Bollen	US	PA	ANG	10,657	42	0	0		Y				Y					
	Cannon	US	MO	ANG	4,600	339	0	0		Y				Y					
	Claiborne	US	LA	AFRC	7,800	135	0	0		Y				Y					
	Dare County Ranges	US	SC	ACC	46,621	1,184	0	0	Y	Y				Y					
	Edwards Ranges	US	CA	AFMC	50,080	20,000	0	0	Y	Y				Y					
	Eglin Ranges	US	FL	AFMC	463,360	133,979	0	0	Y	Y				Y					
	Falcon	US	OK	AFRC	5,200	1,845	0	0		Y				Y					
	Grand Bay	US	GA	ACC	6,000	17,290	0	0		Y									

\* Estimates are based on currently available information from the Military Services. Estimates may change as a result of ongoing reviews. Source: Department of Defense data provided by the Military Services.

Range Complex Inventory																			
Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Command/Component	Range Description*				Range Type*										
					Land Area for Ranges (acres)	Airspace (sq nm)	Sea Surface Area (sq nm)	Underwater Tracking Area (sq nm)	Air-to-Air or Surface-to-Air	Air-to-Ground	Land Maneuver	Land Impact Area	Land Firing Range	C2W/EW	Ocean Operating Area	MOUT	Underwater Tracking Range	Amphibious Area	Other
	Grayling	US	MI	ANG	145,025	63	0	0	Y	Y				Y					
	Hardwood	US	WI	ANG	7,263	84	0	0		Y				Y					
	Holloman	US	NM	ACC	207,800	2,256	0	0	Y	Y				Y					
	Jefferson	US	IN	ANG	50,000	160	0	0	Y	Y				Y					
	Koon-Ni	OS	Korea	PACAF	0	0	0	0		Y				Y					
	Lone Star ESS	US	TX	ACC	90	0	0	0		Y				Y					
	McMullen	US	TX	ANG	2,800	63	0	0		Y				Y					
	Melrose	US	NM	ACC	66,033	22,000	0	0	Y	Y				Y					
	Mountain Home Ranges	US	ID	ACC	120,844	18,526	0	0	Y	Y				Y					
	Nevada Testing and Training Range	US	NV	ACC	2,919,890	12,000	0	0	Y	Y				Y					
	Oklahoma	US	AK	PACAF	25,600	22,000	0	0		Y				Y					
	Pilsung	OS	Korea	PACAF	0	0	0	0		Y				Y					
	Poinsett	US	SC	ACC	12,521	1,500	0	0		Y				Y					
	Polygone	OS	France/ Germany	USAFE	0	0	0	0		Y				Y					
	Razorback	US	AR	ANG	5760	128	0	0		Y				Y					
	Ripsaw	OS	Japan	PACAF	0	0	0	0		Y				Y					
	Shelby Ranges	US	MS	ANG	26,676	0	0	0		Y				Y					
	Shoal Creek	US	TX	AFRC	17,540	5,200	0	0		Y				Y					
	Siegenberg	OS	Germany	USAFE	0	0	0	0		Y									

\* Estimates are based on currently available information from the Military Services. Estimates may change as a result of ongoing reviews.  
Source: Department of Defense data provided by the Military Services.

Range Complex Inventory																			
Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Command/Component	Range Description*				Range Type*										
					Land Area for Ranges (acres)	Airspace (sq nm)	Sea Surface Area (sq nm)	Underwater Tracking Area (sq nm)	Air-to-Air or Surface-to-Air	Air-to-Ground	Land Maneuver	Land Impact Area	Land Firing Range	C2W/EW	Ocean Operating Area	MOUT	Underwater Tracking Range	Amphibious Area	Other
	Smoky Hill	US	KS	ANG	33,875	53	0	0		Y				Y					
	Snyder ESS	US	TX	ACC	90	0	0	0		Y				Y					
	Torishima	OS	Japan	PACAF	0	0	0	0		Y									
	Townsend	US	GA	ANG	5,183	288	0	0		Y				Y					
	Utah Testing and Training Ranges	US	UT	ACC	1,712,000	12,574	0	0	Y	Y				Y					
	Warren Grove	US	NJ	ANG	9,416	30	0	0		Y				Y					
	Yukon	US	AK	PACAF	25,600	22,000	0	0		Y				Y					

\* Estimates are based on currently available information from the Military Services. Estimates may change as a result of ongoing reviews. Source: Department of Defense data provided by the Military Services.

**Table B-2. Special Use Airspace (SUA) Inventory**

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
<b>ARMY</b>							
	R4001A	FAA, WASHINGTON, DC ARTCC	Aberdeen Proving Ground	UNLTD	SURFACE	USA	105
	R4001B	FAA, WASHINGTON, DC ARTCC	Aberdeen Proving Ground	010000AMSL	SURFACE	USA	28
	R2101	FAA, ATLANTA ARTCC	Anniston Army Depot	005000AMSL	SURFACE	USA	2
	R3203D	FAA, SALT LAKE CITY ARTCC	Boise	FL220	SURFACE	USA	23
	R4101	FAA, CAPE APP	Camp Edwards	009000AMSL	SURFACE	USA	14
	R4201A	FAA, MINNEAPOLIS ARTCC	Camp Grayling	FL230	SURFACE	USA	64
	R4201B	FAA, MINNEAPOLIS ARTCC	Camp Grayling	009000AMSL	SURFACE	USA	41
	R4202	FAA, MINNEAPOLIS ARTCC	Camp Grayling	008200AMSL	SURFACE	USA	5
	R7001A	FAA, DENVER ARTCC	Camp Guernsey	007999AMSL	SURFACE	USA	46
	R7001B	FAA, DENVER ARTCC	Camp Guernsey	023500AMSL	08000AMSL	USA	46
	R7001C	FAA, DENVER ARTCC	Camp Guernsey	FL300	23500AMSL	USA	46
	A685	FAA, ATLANTA ARTCC	Camp Merrill	000700AGL	SURFACE	USA	490
	R4301	FAA, MINNEAPOLIS ARTCC	Camp Riley	FL270	SURFACE	USA	64
	R2504	FAA, OAKLAND ARTCC	Camp Roberts	015000AMSL	SURFACE	USA	27
	R2401A	FAA, MEMPHIS ARTCC	Chaffee	FL300	SURFACE	USA	16
	R2401B	FAA, MEMPHIS ARTCC	Chaffee	FL300	SURFACE	USA	2
	R2402	FAA, MEMPHIS ARTCC	Chaffee	FL300	SURFACE	USA	63
	R2602	FAA, DENVER ARTCC	Colorado Springs Training Site	01000AGL	SURFACE	USAF	1
	R4102A	FAA, BOSTON ARTCC	Devens Reserve Forces Training Area	001999AMSL	SURFACE	USA	6
	R4102B	FAA, BOSTON ARTCC	Devens Reserve Forces Training Area	003995AMSL	02000AMSL	USA	6
	R2310A	FAA, ALBUQUERQUE ARTCC	Florence Training Site	010000AMSL	SURFACE	USA	29

\* Users from various Service units and installations share special use airspace (SUA). For this reason, a simple one-to-one linking of airspace to installations or units does not depict actual airspace usage. As a general rule, this inventory links SUA to the installations or units responsible for scheduling their use.

\*\* Area and length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	R2310B	FAA, ALBUQUERQUE ARTCC	Florence Training Site	017000AMSL	10000AMSL	USA	18
	R2310C	FAA, ALBUQUERQUE ARTCC	Florence Training Site	FL350	17000AMSL	USA	15
	HILL MOA, VA	FAA, POTOMAC APP	Fort A.P. Hill	003000AMSL	SURFACE	USA	36
	R6601	FAA, RICHMOND TWR	Fort A.P. Hill	005000AMSL	SURFACE	USA	40
	BENNING MOA, GA	FAA, COLUMBUS TWR	Fort Benning	008000AMSL	00500AGL	USA	107
	R3002A	FAA, ATCT, COLUMBUS	Fort Benning	004000AMSL	SURFACE	USA	104
	R3002B	FAA, ATCT, COLUMBUS	Fort Benning	008000AMSL	04000AMSL	USA	104
	R3002C	FAA, ATCT, COLUMBUS	Fort Benning	014000AMSL	08000AMSL	USA	104
	R3002D	FAA, ATCT, COLUMBUS	Fort Benning	008000AMSL	SURFACE	USA	79
	R3002E	FAA, ATCT, COLUMBUS	Fort Benning	014000AMSL	08000AMSL	USA	79
	R3002F	FAA, ATLANTA ARTCC	Fort Benning	FL250	14000AMSL	USA	118
	R3002G	FAA, ATLANTA TRACON	Fort Benning	004000AMSL	SURFACE	USA	14
	R3004A	FAA, ATLANTA ARTCC	Fort Benning	007000AMSL	SURFACE	USA	31
	R3004B	FAA, ATLANTA ARTCC	Fort Benning	016000AMSL	007001AMSL	USA	31
	R5103(D)	FAA, ALBUQUERQUE ARTCC	Fort Bliss	UNLTD	01501AGL	USA	6
	R5103(E)	FAA, ALBUQUERQUE ARTCC	Fort Bliss	UNLTD	01501AGL	USA	5
	R5103A	FAA, ALBUQUERQUE ARTCC	Fort Bliss	018000AMSL	SURFACE	USA	43
	R5103B	FAA, ALBUQUERQUE ARTCC	Fort Bliss	012500AMSL	SURFACE	USA	235
	R5103C	FAA, ALBUQUERQUE ARTCC	Fort Bliss	UNLTD	SURFACE	USA	653
	A531	USA, FORT BRAGG	Fort Bragg	001500AGL	00200AGL	USA	698
	FORT BRAGG NORTH AREA A MOA, NC	FAA, FAYETTEVILLE TWR	Fort Bragg	006000AMSL	00500AGL	USA	42
	FORT BRAGG NORTH AREA B MOA, NC	FAA, FAYETTEVILLE TWR	Fort Bragg	006000AMSL	04000AMSL	USA	30
	FORT BRAGG SOUTH AREA A MOA, NC	FAA, FAYETTEVILLE TWR	Fort Bragg	006000AMSL	00500AGL	USA	53
	FORT BRAGG SOUTH	FAA, FAYETTEVILLE TWR	Fort Bragg	006000AMSL	01500AGL	USA	36

\* Users from various Service units and installations share special use airspace (SUA). For this reason, a simple one-to-one linking of airspace to installations or units does not depict actual airspace usage. As a general rule, this inventory links SUA to the installations or units responsible for scheduling their use.

\*\* Area and length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	AREA B MOA, NC						
	R5311A	FAA, WASHINGTON, DC ARTCC	Fort Bragg	006999AMSL	SURFACE	USA	122
	R5311B	FAA, WASHINGTON, DC ARTCC	Fort Bragg	011999AMSL	07000AMSL	USA	122
	R5311C	FAA, WASHINGTON, DC ARTCC	Fort Bragg	028999AMSL	12000AMSL	USA	122
	A371	USA, CAMPBELL AAF APP	Fort Campbell	002000AMSL	SURFACE	USA	1193
	CAMPBELL 1 MOA, KY	FAA, MEMPHIS ARTCC	Fort Campbell	010000AMSL	00500AGL	USA	396
	CAMPBELL 2 MOA, KY	FAA, MEMPHIS ARTCC	Fort Campbell	010000AMSL	01500AGL	USA	311
	R3701	USA, CAMPBELL AAF APP	Fort Campbell	005000AMSL	SURFACE	USA	8
	R3702A	FAA, MEMPHIS ARTCC	Fort Campbell	006000AMSL	SURFACE	USA	93
	R3702B	FAA, MEMPHIS ARTCC	Fort Campbell	FL220	06000AMSL	USA	93
	R3702C	FAA, MEMPHIS ARTCC	Fort Campbell	FL270	FL220	USA	93
	PINON CANYON MOA, CO	FAA, DENVER ARTCC	Fort Carson	010000AMSL	00100AGL	USA	1031
	R2601A	FAA, DENVER ARTCC	Fort Carson	012499AMSL	SURFACE	USA	123
	R2601B	FAA, DENVER ARTCC	Fort Carson	022499AMSL	12500AMSL	USA	123
	R2601C	FAA, DENVER ARTCC	Fort Carson	034999AMSL	22500AMSL	USA	123
	R2601D	FAA, DENVER ARTCC	Fort Carson	059999AMSL	35000AMSL	USA	123
	R5001A	FAA, NEW YORK ARTCC	Fort Dix	004000AMSL	SURFACE	USA	23
	R5001B	FAA, NEW YORK ARTCC	Fort Dix	008000AMSL	04000AMSL	USA	21
	DRUM 1 MOA, NY	USA, WHEELER SACK APP	Fort Drum	005000AMSL	00500AGL	USA	95
	DRUM 2 MOA, NY	USA, WHEELER SACK APP	Fort Drum	005999AMSL	00100AGL	USA	84
	R5201	FAA, BOSTON ARTCC	Fort Drum	023000AMSL	SURFACE	USA	110
	R2202A	FAA, ANCHORAGE ARTCC	Fort Greely	009999AMSL	SURFACE	USA	170
	R2202B	FAA, ANCHORAGE ARTCC	Fort Greely	009999AMSL	SURFACE	USA	395
	R2202C	FAA, ANCHORAGE ARTCC	Fort Greely	FL310	10000AMSL	USA	565
	R2202D	FAA, ANCHORAGE ARTCC	Fort Greely	UNLTD	FL310	USA	566

\* Users from various Service units and installations share special use airspace (SUA). For this reason, a simple one-to-one linking of airspace to installations or units does not depict actual airspace usage. As a general rule, this inventory links SUA to the installations or units responsible for scheduling their use.

\*\* Area and length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	GRAY MOA, TX	FAA, HOUSTON ARTCC	Fort Hood	010000AMSL	02000AMSL	USA	28
	HOOD MOA, TX	FAA, HOUSTON ARTCC	Fort Hood	010000AMSL	02000AMSL	USA	267
	R6302A	FAA, HOUSTON ARTCC	Fort Hood	FL300	SURFACE	USA	126
	R6302B	FAA, HOUSTON ARTCC	Fort Hood	011000AMSL	SURFACE	USA	15
	R6302C	FAA, HOUSTON ARTCC	Fort Hood	FL300	SURFACE	USA	40
	R6302D	FAA, HOUSTON ARTCC	Fort Hood	FL300	SURFACE	USA	24
	R6302E	FAA, HOUSTON ARTCC	Fort Hood	FL450	FL300	USA	121
	R2303A	FAA, ALBUQUERQUE ARTCC	Fort Huachuca	015000AMSL	SURFACE	USA	266
	R2303B	FAA, ALBUQUERQUE ARTCC	Fort Huachuca	FL300	08000AMSL	USA	495
	R2303C	FAA, ALBUQUERQUE ARTCC	Fort Huachuca	FL300	15000AMSL	USA	233
	R2513	FAA, OAKLAND ARTCC	Fort Hunter-Leggett	FL240	SURFACE	USA	114
	R5802A	FAA, NEW YORK ARTCC	Fort Indiantown Gap	005000AMSL	00200AGL	USA	12
	R5802B	FAA, NEW YORK ARTCC	Fort Indiantown Gap	013000AMSL	SURFACE	USA	14
	R5802C	FAA, NEW YORK ARTCC	Fort Indiantown Gap	016999AMSL	00500AGL	USA	33
	R5802D	FAA, NEW YORK ARTCC	Fort Indiantown Gap	021999AMSL	17000AMSL	USA	33
	R5802E	FAA, NEW YORK ARTCC	Fort Indiantown Gap	FL250	FL220	USA	97
	R2502E	FAA, HI-DESERT TRACON, EDWARDS AFB	Fort Irwin	UNLTD	SURFACE	USA	180
	R2502N	FAA, HI-DESERT TRACON, EDWARDS AFB	Fort Irwin	UNLTD	SURFACE	USA	561
	SILVER MOA NORTH, CA	FAA, LOS ANGELES ARTCC	Fort Irwin	009000AMSL	00200AGL	USA	360
	SILVER MOA SOUTH, CA	FAA, LOS ANGELES ARTCC	Fort Irwin	007000AMSL	00200AGL	USA	19
	R6001A	FAA, JACKSONVILLE ARTCC	Fort Jackson	003200AMSL	SURFACE	USA	38
	R6001B	FAA, JACKSONVILLE ARTCC	Fort Jackson	FL230	03200AMSL	USA	40
	R3704A	FAA, STANDIFORD TWR, LOUISVILLE	Fort Knox	010000AMSL	SURFACE	USA	113
	R3704B	FAA, STANDIFORD TWR, LOUISVILLE	Fort Knox	FL220	10000AMSL	USA	113

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	R6602A	FAA, WASHINGTON, DC ARTCC	Fort Lee	003999AMSL	SURFACE	USA	36
	R6602B	FAA, WASHINGTON, DC ARTCC	Fort Lee	010999AMSL	04000AMSL	USA	33
	R6602C	FAA, WASHINGTON, DC ARTCC	Fort Lee	018000AMSL	11000AMSL	USA	33
	R4501A	FAA, KANSAS CITY ARTCC	Fort Leonard Wood	002199AMSL	SURFACE	USA	21
	R4501B(A)	FAA, KANSAS CITY ARTCC	Fort Leonard Wood	002200AMSL	SURFACE	USA	10
	R4501B(B)	FAA, KANSAS CITY ARTCC	Fort Leonard Wood	001500AMSL	SURFACE	USA	0
	R4501C	FAA, KANSAS CITY ARTCC	Fort Leonard Wood	005000AMSL	02200AMSL	USA	34
	R4501D	FAA, KANSAS CITY ARTCC	Fort Leonard Wood	012000AMSL	05000AMSL	USA	34
	R4501E	FAA, KANSAS CITY ARTCC	Fort Leonard Wood	FL180	12000AMSL	USA	34
	R4501F	FAA, KANSAS CITY ARTCC	Fort Leonard Wood	003200AMSL	SURFACE	USA	4
	R4501H	FAA, KANSAS CITY ARTCC	Fort Leonard Wood	003200AMSL	SURFACE	USA	15
	RAINIER 1 MOA, WA	FAA, SEATTLE-TACOMA APP CON	Fort Leonard Wood	009000AMSL	02000AMSL	USA	27
	RAINIER 2 MOA, WA	FAA, SEATTLE-TACOMA APP CON	Fort Leonard Wood	009000AMSL	02000AMSL	USA	49
	RAINIER 3 MOA, WA	FAA, SEATTLE-TACOMA APP CON	Fort Leonard Wood	009000AMSL	02000AMSL	USA	15
	R6714A	FAA, SEATTLE ARTCC	Fort Lewis	028999AMSL	SURFACE	USA	229
	R6714B	FAA, SEATTLE ARTCC	Fort Lewis	028999AMSL	SURFACE	USA	25
	R6714C	FAA, SEATTLE ARTCC	Fort Lewis	028999AMSL	SURFACE	USA	30
	R6714D	FAA, SEATTLE ARTCC	Fort Lewis	028999AMSL	SURFACE	USA	4
	R6714F	FAA, SEATTLE ARTCC	Fort Lewis	028999AMSL	SURFACE	USA	14
	R6714G	FAA, SEATTLE ARTCC	Fort Lewis	028999AMSL	SURFACE	USA	21
	R6714H	FAA, SEATTLE ARTCC	Fort Lewis	005499AMSL	SURFACE	USA	26
	R2102A	FAA, ATLANTA ARTCC	Fort McClellan	008000AMSL	SURFACE	USA	27
	R2102B	FAA, ATLANTA ARTCC	Fort McClellan	014000AMSL	08000AMSL	USA	27
	R2102C	FAA, ATLANTA ARTCC	Fort McClellan	FL240	14000AMSL	USA	27

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	R6901A	FAA, MINNEAPOLIS ARTCC	Fort McCoy	FL200	SURFACE	USA	46
	R6901B	FAA, MINNEAPOLIS ARTCC	Fort McCoy	FL200	SURFACE	USA	21
	PICKETT 1 MOA, VA	FAA, WASHINGTON, DC ARTCC	Fort Pickett	006000AMSL	00500AGL	USA	45
	PICKETT 2 MOA, VA	FAA, WASHINGTON, DC ARTCC	Fort Pickett	010000AMSL	00500AGL	USA	93
	PICKETT 3 MOA, VA	FAA, WASHINGTON, DC ARTCC	Fort Pickett	010000AMSL	04000AMSL	USA	23
	R3803A	FAA, HOUSTON ARTCC	Fort Polk	FL180	SURFACE	USA	41
	R3803B	FAA, HOUSTON ARTCC	Fort Polk	034999AMSL	FL180	USA	41
	R3804A	FAA, HOUSTON ARTCC	Fort Polk	FL180	SURFACE	USA	100
	R3804B	FAA, HOUSTON ARTCC	Fort Polk	003000AMSL	SURFACE	USA	14
	R3804C	FAA, HOUSTON ARTCC	Fort Polk	034999AMSL	FL180	USA	100
	WARRIOR 1 HIGH MOA, LA	FAA, HOUSTON ARTCC	Fort Polk	018000AMSL	10000AMSL	USA	1599
	WARRIOR 1 LOW MOA, LA	FAA, HOUSTON ARTCC	Fort Polk	009999AMSL	00100AGL	USA	1599
	WARRIOR 2 HIGH MOA, LA	FAA, HOUSTON ARTCC	Fort Polk	018000AMSL	10000AMSL	USA	885
	WARRIOR 2 LOW MOA, LA	FAA, HOUSTON ARTCC	Fort Polk	009999AMSL	00100AGL	USA	885
	WARRIOR 3 HIGH MOA, LA	FAA, HOUSTON ARTCC	Fort Polk	018000AMSL	10000AMSL	USA	1009
	WARRIOR 3 LOW MOA, LA	FAA, HOUSTON ARTCC	Fort Polk	009999AMSL	00100AGL	USA	1009
	R2203A	FAA, ANCHORAGE TWR	Fort Richardson	011000AMSL	SURFACE	USA	6
	R2203B	FAA, ANCHORAGE TWR	Fort Richardson	011000AMSL	SURFACE	USA	20
	R2203C	FAA, ANCHORAGE TWR	Fort Richardson	005000AMSL	SURFACE	USA	1
	R2205	FAA, FAIRBANKS APP	Fort Richardson	020000AMSL	SURFACE	USA	137
	R3602A	FAA, KANSAS CITY ARTCC	Fort Riley	FL290	SURFACE	USA	49
	R3602B	FAA, KANSAS CITY ARTCC	Fort Riley	FL290	SURFACE	USA	59
	RILEY MOA, KS	CO, 24 Infantry Div	Fort Riley	FL180	07000AMSL	USA	325
	A211	USA, CAIRNES APP	Fort Rucker	005000AMSL	SURFACE	USA	4580

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	R2103A	USA, CAIRNS APP	Fort Rucker	009999AMSL	SURFACE	USA	50
	R2103B	FAA, JACKSONVILLE ARTCC	Fort Rucker	015000AMSL	10000AMSL	USA	50
	R5601A	FAA, FORT WORTH ARTCC	Fort Sill	FL400	SURFACE	USA	34
	R5601B	FAA, FORT WORTH ARTCC	Fort Sill	FL400	SURFACE	USA	55
	R5601C	FAA, FORT WORTH ARTCC	Fort Sill	FL400	SURFACE	USA	18
	R5601D	FAA, FORT WORTH ARTCC	Fort Sill	FL400	00500AGL	USA	36
	R5601E	FAA, FORT WORTH ARTCC	Fort Sill	006000AMSL	00500AGL	USA	9
	HOG HIGH NORTH MOA, AR	FAA, MEMPHIS ARTCC	Fort Smith	018000AMSL	06000AMSL	USA	685
	HOG HIGH SOUTH MOA, AR	FAA, MEMPHIS ARTCC	Fort Smith	018000AMSL	06000AMSL	USA	1295
	HOG JRTC MOA, AR	FAA, MEMPHIS ARTCC	Fort Smith	018000AMSL	00100AGL	USA	25
	HOG LOW NORTH MOA, AR	FAA, MEMPHIS ARTCC	Fort Smith	005999AMSL	00100AGL	USA	685
	HOG LOW SOUTH MOA, AR	FAA, MEMPHIS ARTCC	Fort Smith	005999AMSL	00100AGL	USA	817
	SHIRLEY 1 MOA, AR	FAA, MEMPHIS ARTCC	Fort Smith	018000AMSL	10000AMSL	USA	3069
	FORT STEWART B1 MOA, GA	FAA, JACKSONVILLE ARTCC	Fort Stewart	004999AMSL	00500AGL	USA	146
	FORT STEWART B2 MOA, GA	FAA, JACKSONVILLE ARTCC	Fort Stewart	010000AMSL	05000AMSL	USA	146
	FORT STEWART C1 MOA, GA	FAA, JACKSONVILLE ARTCC	Fort Stewart	002999AMSL	00500AGL	USA	31
	FORT STEWART C2 MOA, GA	FAA, JACKSONVILLE ARTCC	Fort Stewart	010000AMSL	03000AMSL	USA	70
	R3005A	FAA, JACKSONVILLE ARTCC	Fort Stewart	FL290	SURFACE	USA	71
	R3005B	FAA, JACKSONVILLE ARTCC	Fort Stewart	FL290	SURFACE	USA	46
	R3005C	FAA, JACKSONVILLE ARTCC	Fort Stewart	FL290	SURFACE	USA	107
	R3005D	FAA, JACKSONVILLE ARTCC	Fort Stewart	FL290	SURFACE	USA	50
	R3005E	FAA, JACKSONVILLE ARTCC	Fort Stewart	FL290	SURFACE	USA	35
	R4811	FAA, OAKLAND ARTCC	Hawthorne Army Ammunition Plant	015000AMSL	SURFACE	USA	7

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	R3401A	FAA, INDIANAPOLIS ARTCC	Indianapolis	FL400	SURFACE	USA	43
	R3401B	FAA, INDIANAPOLIS ARTCC	Indianapolis	014000AMSL	01200AGL	USA	35
	R3403A	FAA, INDIANAPOLIS ARTCC	Indianapolis	FL430	SURFACE	USA	53
	R3403B	FAA, INDIANAPOLIS ARTCC	Indianapolis	FL180	01200AGL	USA	27
	R5801	FAA, WASHINGTON, DC ARTCC	Letterkenny Ordnance Depot	004000AMSL	SURFACE	USA	2
	R5803	FAA, WASHINGTON, DC ARTCC	Letterkenny Ordnance Depot	004000AMSL	SURFACE	USA	3
	R2302	FAA, ALBUQUERQUE ARTCC	Navajo Ordnance Depot	010000AMSL	SURFACE	USA	4
	R3103	FAA, HONOLULU CERAP	Pohakuloa Training Area	030000AMSL	SURFACE	USA	124
	R2104A	FAA, MEMPHIS ARTCC	Redstone Arsenal	012000AMSL	SURFACE	USA	17
	R2104B	FAA, MEMPHIS ARTCC	Redstone Arsenal	002400AMSL	SURFACE	USA	4
	R2104C	FAA, MEMPHIS ARTCC	Redstone Arsenal	012000AMSL	SURFACE	USA	4
	R2104D	FAA, MEMPHIS ARTCC	Redstone Arsenal	FL300	12000AMSL	USA	17
	R2104E	FAA, MEMPHIS ARTCC	Redstone Arsenal	FL300	12000AMSL	USA	4
	A311	FAA, HONOLULU CERAP	Schofield, Kahuku, Kawaihoa	000500AGL	SURFACE	USA	71
	R3109A	FAA, HONOLULU TWR	Schofield-Makua	008999AMSL	SURFACE	USA	9
	R3109B	FAA, HONOLULU TWR	Schofield-Makua	018999AMSL	09000AMSL	USA	15
	R3109C	FAA, HONOLULU TWR	Schofield-Makua	008999AMSL	SURFACE	USA	6
	R3110A	FAA, HONOLULU TWR	Schofield-Makua	008999AMSL	SURFACE	USA	11
	R3110B	FAA, HONOLULU TWR	Schofield-Makua	018999AMSL	09000AMSL	USA	21
	R3110C	FAA, HONOLULU TWR	Schofield-Makua	008999AMSL	SURFACE	USA	10
	R2530	FAA, OAKLAND ARTCC	Sierra Army Depot	008600AMSL	SURFACE	USA	4
	LAKE ANDES MOA, SD	FAA, MINNEAPOLIS ARTCC	Sioux Falls	018000AMSL	06000AMSL	USA	3498
	HOWARD EAST MOA, IL	FAA, KANSAS CITY ARTCC	Springfield	018000AMSL	09000AMSL	USA	1853
	HOWARD WEST MOA, IL	FAA, KANSAS CITY ARTCC	Springfield	018000AMSL	10000AMSL	USA	322

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	PRUITT A MOA, IL	FAA, KANSAS CITY ARTCC	Springfield	006000AMSL	00500AGL	USA	980
	PRUITT B MOA, IL	FAA, KANSAS CITY ARTCC	Springfield	003000AMSL	00500AGL	USA	426
	R6403	FAA, SALT LAKE CITY ARTCC	Tooele Army Depot	009000AMSL	SURFACE	USA	2
	R5206	FAA, NEW YORK APP	West Point	005000AMSL	SURFACE	USA	4
	R5107A	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	SURFACE	USA	281
	R5107B	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	SURFACE	USA	3140
	R5107C	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	09000AMSL	USA	892
	R5107D	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	022000AMSL	SURFACE	USA	551
	R5107E	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	SURFACE	USA	127
	R5107F	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	FL450	FL240	USA	1195
	R5107G	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	FL450	FL240	USA	957
	R5107H	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	009000AMSL	SURFACE	USA	814
	R5107J	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	009000AMSL	SURFACE	USA	77
	R5109A	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	24000AMSL	USA	1682
	R5109B	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	24000AMSL	USA	1004
	R5111A	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	13000AMSL	USA	404
	R5111B	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	013000AMSL	SURFACE	USA	404
	R5111C	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	13000AMSL	USA	318
	R5111D	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	012999AMSL	SURFACE	USA	318
	R5117	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	SURFACE	USA	22
	R5119	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	FL350	USA	393
	R5121	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	FL200	USA	38
	R5123	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	SURFACE	USA	152
	R6714E	FAA, SEATTLE ARTCC	Yakima	054999AMSL	29000AMSL	USA	319

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	R2306A	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	FL800	SURFACE	USA	208
	R2306B	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	FL800	SURFACE	USA	165
	R2306C	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	FL400	SURFACE	USA	37
	R2306D	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	FL230	SURFACE	USA	15
	R2306E	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	FL800	SURFACE	USA	65
	R2307	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	UNLTD	SURFACE	USA	292
	R2308A	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	FL800	01500AGL	USA	552
	R2308B	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	FL800	SURFACE	USA	77
	R2308C	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	FL230	01500AGL	USA	29
	R2311	YUMA APP, YUMA MCAS	Yuma Proving Ground	003500AMSL	SURFACE	USA	62
	RACER A MOA, IN	HQ IN ANG Det 1	Camp Atterbury	004000AMSL	00500AGL	USA(ARNG)	130
	RACER B MOA, IN	HQ IN ANG, Det 1, CAMP ATTERBURY, IN	Camp Atterbury	008000AMSL	04000AMSL	USA(ARNG)	130
	RACER C MOA, IN	HQ IN ANG, Det 1, CAMP ATTERBURY, IN	Camp Atterbury	018000AMSL	00500AGL	USA(ARNG)	36
	R5401	FAA, MINNEAPOLIS ARTCC	Camp Grafton	005000AMSL	SURFACE	USA(ARNG)	3
R4401A	FAA, HOUSTON ARTCC	Camp Shelby	004000AMSL	SURFACE	USA(ARNG)	87	
R4401B	FAA, HOUSTON ARTCC	Camp Shelby	018000AMSL	04000AMSL	USA(ARNG)	87	
R4401C	FAA, HOUSTON ARTCC	Camp Shelby	FL290	18000AMSL	USA(ARNG)	87	
R6412A	FAA, SALT LAKE CITY TRACON	Camp Williams	009000AMSL	SURFACE	USA(ARNG)	18	
R6412B	FAA, SALT LAKE CITY TRACON	Camp Williams	010000AMSL	09000AMSL	USA(ARNG)	18	
R6412C	FAA, SALT LAKE CITY TRACON	Camp Williams	009000AMSL	SURFACE	USA(ARNG)	13	
R6412D	FAA, SALT LAKE CITY TRACON	Camp Williams	010000AMSL	09000AMSL	USA(ARNG)	13	
NAVY							
	W107A	FAA, WASHINGTON, DC ARTCC	Atlantic City	UNLTD	SURFACE	USN	4810
	W107B	FAA, WASHINGTON, DC ARTCC	Atlantic City	001999AMSL	SURFACE	USN	226

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	W107C	FAA, WASHINGTON, DC ARTCC	Atlantic City	018000AMSL	SURFACE	USN	550
	D3002	NASSAU, ACC	AUTEC	00500AMSL	SURFACE	USN	94
	D3003A	NASSAU, ACC	AUTEC	UNLTD	SURFACE	USN	237
	D3003B	NASSAU, ACC	AUTEC	UNLTD	SURFACE	USN	146
	D3003C	NASSAU, ACC	AUTEC	UNLTD	SURFACE	USN	143
	W102H	FAA, BOSTON ARTCC	Boston	FL600	17001AMSL	USN	3443
	W102L	FAA, BOSTON ARTCC	Boston	017000AMSL	SURFACE	USN	3443
	W103	FAA, BOSTON ARTCC	Boston	002000AMSL	SURFACE	USN	1479
	W104A	FAA, BOSTON ARTCC	Boston	010000AMSL	SURFACE	USN	315
	W104B	FAA, BOSTON ARTCC	Boston	018000AMSL	SURFACE	USN	1508
	W104C	FAA, BOSTON ARTCC	Boston	UNLTD	FL180	USN	1508
	W122(1)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	883
	W122(2)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	1062
	W122(3)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	931
	W122(4)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	688
	W122(5)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	644
	W122(6)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	797
	W122(7)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	798
	W122(8)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	505
	W122(9)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	665
	W122(10)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	657
	W122(11)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	838
	W122(12)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	776
	W122(13)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	1090

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Special Use Airspace Inventory								
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )	
	W122(14)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	1087	
	W122(15A)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	953	
	W122(15B)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	41	
	W122(16)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	979	
	W122(17)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	741	
	W122(18)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	820	
	W122(19)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	890	
	W122(20)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	789	
	W122(21)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	1029	
	W122(22)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	614	
	W122(23)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	443	
		W72(1A)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	482
		W72(1B)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	647
W72(1C)		FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	733	
W72(1D)		FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	795	
W72(1E)		FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	801	
W72(1F)		FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	889	
W72(2A)		FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	513	
W72(2B)		FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	694	
		W72(2C)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	790
		W72(2D)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	861
	W72(2E)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	871	
	W72(2F)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	972	
	W72(3A)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	569	

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\*\* Area and length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	W72(3B)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	895
	W72(3C)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	1118
	W72(3D)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	1274
	W72(3E)	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	SURFACE	USN	1107
	W72(13)A	FAA, WASHINGTON, DC ARTCC	Cherry Point	001999AMSL	SURFACE	USN	318
	W72(13)B	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	FL600	USN	318
	W72(20)A	FAA, WASHINGTON, DC ARTCC	Cherry Point	001999AMSL	SURFACE	USN	313
	W72(20)B	FAA, WASHINGTON, DC ARTCC	Cherry Point	UNLTD	FL600	USN	313
	R2505	FAA, HI-DESERT TRACON, EDWARDS AFB	China Lake	UNLTD	SURFACE	USN	779
	R2506	FAA, HI-DESERT TRACON, EDWARDS AFB	China Lake	006000AMSL	SURFACE	USN	48
	R2524	FAA, HI-DESERT TRACON, EDWARDS AFB	China Lake	UNLTD	SURFACE	USN	707
	R2510A	FAA, LOS ANGELES ARTCC	El Centro	015000AMSL	SURFACE	USN	181
	R2510B	FAA, LOS ANGELES ARTCC	El Centro	FL400	15000AMSL	USN	124
	R2512	FAA, LOS ANGELES ARTCC	El Centro	FL230	SURFACE	USN	75
	AUSTIN 1 MOA, NV	FAA, SALT LAKE CITY ARTCC	Fallon	FL350	00200AGL	USN	2407
	AUSTIN 2 MOA, NV	FAA, SALT LAKE CITY ARTCC	Fallon	FL350	00200AGL	USN	843
	CARSON MOA, NV	FAA, OAKLAND ARTCC	Fallon	018000AMSL	00500AGL	USN	131
	CHURCHILL HIGH MOA, NV	FAA, OAKLAND ARTCC	Fallon	018000AMSL	09000AMSL	USN	63
	CHURCHILL LOW MOA, NV	FAA, OAKLAND ARTCC	Fallon	009000AMSL	00500AGL	USN	71
	GABBS CENTRAL MOA, NV	FAA, OAKLAND ARTCC	Fallon	018000AMSL	00100AGL	USN	921
	GABBS NORTH MOA, NV	FAA, OAKLAND ARTCC	Fallon	018000AMSL	00100AGL	USN	2695
	GABBS SOUTH MOA, NV	FAA, OAKLAND ARTCC	Fallon	018000AMSL	00100AGL	USN	286
	RANCH HIGH MOA, NV	FAA, OAKLAND ARTCC	Fallon	013000AMSL	09000AMSL	USN	98
	RANCH MOA, NV	FAA, OAKLAND ARTCC	Fallon	009000AMSL	00500AMSL	USN	315

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	RENO MOA, NV	FAA, OAKLAND ARTCC	Fallon	018000AMSL	13000AMSL	USN	1016
	R4803	FAA, OAKLAND ARTCC	Fallon	018000AMSL	SURFACE	USN	28
	R4804A	FAA, OAKLAND ARTCC	Fallon	018000AMSL	SURFACE	USN	88
	R4804B	FAA, OAKLAND ARTCC	Fallon	FL350	FL180	USN	88
	R4810	FAA, OAKLAND ARTCC	Fallon	017000AMSL	SURFACE	USN	87
	R4812	FAA, OAKLAND ARTCC	Fallon	018000AMSL	SURFACE	USN	107
	R4813A	FAA, OAKLAND ARTCC	Fallon	018000AMSL	SURFACE	USN	417
	R4813B	FAA, OAKLAND ARTCC	Fallon	FL350	FL180	USN	417
	R4816N	FAA, OAKLAND ARTCC	Fallon	018000AMSL	01500AGL	USN	406
	R4816S	FAA, OAKLAND ARTCC	Fallon	018000AMSL	00500AGL	USN	331
	BRADY HIGH MOA, TX	FAA, HOUSTON ARTCC	Fort Worth NAS JRB	018000AMSL	06000AMSL	USN	966
	BRADY LOW MOA, TX	FAA, HOUSTON ARTCC	Fort Worth NAS JRB	005999AMSL	00500AGL	USN	966
	BRADY NORTH MOA, TX	FAA, FORT WORTH ARTCC	Fort Worth NAS JRB	018000AMSL	03600AMSL	USN	156
	BROWNWOOD 1 EAST MOA, TX	FAA, FORT WORTH ARTCC	Fort Worth NAS JRB	018000AMSL	07000AMSL	USN	570
	BROWNWOOD 1 WEST MOA, TX	FAA, FORT WORTH ARTCC	Fort Worth NAS JRB	018000AMSL	07000AMSL	USN	555
	BROWNWOOD 2 EAST MOA, TX	FAA, FORT WORTH ARTCC	Fort Worth NAS JRB	018000AMSL	07000AMSL	USN	457
	BROWNWOOD 2 WEST MOA, TX	FAA, FORT WORTH ARTCC	Fort Worth NAS JRB	018000AMSL	07000AMSL	USN	592
	BROWNWOOD 3 MOA, TX	FAA, FORT WORTH ARTCC	Fort Worth NAS JRB	018000AMSL	13000AMSL	USN	697
	BROWNWOOD 4 MOA, TX	FAA, FORT WORTH ARTCC	Fort Worth NAS JRB	018000AMSL	13000AMSL	USN	321
	KINGSVILLE 1 MOA, TX	FAA, HOUSTON ARTCC	GOMEX	018000AMSL	08000AMSL	USN	3324
	KINGSVILLE 2 MOA, TX	FAA, HOUSTON ARTCC	GOMEX	018000AMSL	13000AMSL	USN	383
	KINGSVILLE 3 MOA, TX	FAA, HOUSTON ARTCC	GOMEX	018000AMSL	08000AMSL	USN	1840
	KINGSVILLE 4 MOA, TX	FAA, HOUSTON ARTCC	GOMEX	018000AMSL	09000AMSL	USN	2067

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	PENSACOLA NORTH MOA, FL	FAA, JACKSONVILLE ARTCC	GOMEX	018000AMSL	10000AMSL	USN	1213
	PENSACOLA SOUTH MOA, FL	FAA, PENSACOLA TOWER	GOMEX	018000AMSL	10000AMSL	USN	1408
	R6312(A)	FAA, HOUSTON ARTCC	GOMEX	023000AMSL	01000AGL	USN	7
	R6312(B)	FAA, HOUSTON ARTCC	GOMEX	023000AMSL	SURFACE	USN	67
	R6312(C)	FAA, HOUSTON ARTCC	GOMEX	023000AMSL	SURFACE	USN	79
	W155A	FAA, JACKSONVILLE ARTCC	GOMEX	FL600	SURFACE	USN	2241
	W155B	FAA, JACKSONVILLE ARTCC	GOMEX	FL600	SURFACE	USN	2674
	W155C	FAA, JACKSONVILLE ARTCC	GOMEX	FL600	SURFACE	USN	525
	W228A	FAA, HOUSTON ARTCC	GOMEX	FL450	SURFACE	USN	1319
	W228B	FAA, HOUSTON ARTCC	GOMEX	FL450	SURFACE	USN	1124
	W228C	FAA, HOUSTON ARTCC	GOMEX	FL450	SURFACE	USN	3604
	W228D	FAA, HOUSTON ARTCC	GOMEX	FL450	SURFACE	USN	1937
	W92	FAA, HOUSTON ARTCC	GOMEX	FL400	SURFACE	USN	2607
	R1002	CDR, NS Guantanamo Bay	Guantanamo	050000AMSL	SURFACE	USN	56
	W1001	CDR, NS Guantanamo Bay	Guantanamo	045000AMSL	SURFACE	USN	13118
	R3101	FAA, HONOLULU CERAP	Hawaiian Islands	UNLTD	SURFACE	USN	52
	R3107	FAA, HONOLULU CERAP	Hawaiian Islands	FL180	SURFACE	USN	28
	W186	FAA, HONOLULU CERAP	Hawaiian Islands	009000AMSL	SURFACE	USN	755
	W187	FAA, HONOLULU CERAP	Hawaiian Islands	FL180	SURFACE	USN	78
	W188	FAA, HONOLULU CERAP	Hawaiian Islands	UNLTD	SURFACE	USN	35535
	W189	FAA, HONOLULU CERAP	Hawaiian Islands	UNLTD	SURFACE	USN	8003
	W190	FAA, HONOLULU CERAP	Hawaiian Islands	UNLTD	SURFACE	USN	1613
	W191	FAA, HONOLULU CERAP	Hawaiian Islands	003000AMSL	SURFACE	USN	292
	W192	FAA, HONOLULU CERAP	Hawaiian Islands	UNLTD	SURFACE	USN	3469

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	W193	FAA, HONOLULU CERAP	Hawaiian Islands	UNLTD	SURFACE	USN	4558
	W194	FAA, HONOLULU CERAP	Hawaiian Islands	UNLTD	SURFACE	USN	4071
	W196	FAA, HONOLULU TWR	Hawaiian Islands	002000AMSL	SURFACE	USN	91
	MAYPORT HIGH MOA, FL	FAA, JACKSONVILLE ARTCC	Jacksonville	018000AMSL	03000AMSL	USN	68
	MAYPORT LOW MOA, FL	FAA, JACKSONVILLE ARTCC	Jacksonville	002999AMSL	00500AMSL	USN	68
	PALATKA 1 MOA, FL	FAA, JACKSONVILLE ARTCC	Jacksonville	018000AMSL	03000AGL	USN	458
	PALATKA 2 MOA, FL	FAA, JACKSONVILLE ARTCC	Jacksonville	018000AMSL	03000AGL	USN	280
	R2906	FAA, JACKSONVILLE TRACON	Jacksonville	014000AMSL	SURFACE	USN	75
	R2907A	FAA, JACKSONVILLE ARTCC	Jacksonville	FL230	SURFACE	USN	89
	R2907B	FAA, JACKSONVILLE ARTCC	Jacksonville	009000AMSL	SURFACE	USN	52
	R2908	FAA, PENSACOLA TRACON	Jacksonville	012000AMSL	SURFACE	USN	52
	R2910	FAA, JACKSONVILLE ARTCC	Jacksonville	FL230	SURFACE	USN	78
	R2910(A)	FAA, JACKSONVILLE ARTCC	Jacksonville	009000AMSL	SURFACE	USN	13
	R2910(B)	FAA, JACKSONVILLE ARTCC	Jacksonville	009000AMSL	SURFACE	USN	26
	R2910(C)	FAA, JACKSONVILLE ARTCC	Jacksonville	006000AMSL	SURFACE	USN	57
	W132A	FAA, JACKSONVILLE ARTCC	Jacksonville	UNLTD	SURFACE	USN	1007
	W132B	FAA, JACKSONVILLE ARTCC	Jacksonville	FL240	SURFACE	USN	364
	W133	FAA, JACKSONVILLE ARTCC	Jacksonville	004500AMSL	SURFACE	USN	1744
W134	FAA, JACKSONVILLE ARTCC	Jacksonville	UNLTD	04500AMSL	USN	1744	
	W157A	FAA, JACKSONVILLE ARTCC	Jacksonville	FL430	SURFACE	USN	8104
	W157B	FAA, JACKSONVILLE ARTCC	Jacksonville	FL240	SURFACE	USN	2311
	W157C	FAA, JACKSONVILLE ARTCC	Jacksonville	005000AMSL	SURFACE	USN	10400
	W158A	FAA, JACKSONVILLE ARTCC	Jacksonville	FL430	SURFACE	USN	5797
	W158B	FAA, JACKSONVILLE ARTCC	Jacksonville	FL240	SURFACE	USN	2800

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	W158C	FAA, JACKSONVILLE ARTCC	Jacksonville	UNLTD	FL430	USN	22011
	W158E	FAA, JACKSONVILLE NAS TRACON	Jacksonville	001200AMSL	SURFACE	USN	545
	W158F	FAA, JACKSONVILLE NAS TRACON	Jacksonville	001700AMSL	01200AMSL	USN	172
	W159A	FAA, JACKSONVILLE ARTCC	Jacksonville	FL430	SURFACE	USN	1963
	W159B	FAA, JACKSONVILLE ARTCC	Jacksonville	FL240	SURFACE	USN	1039
	(RJ)R104	USN, COMAFLOATRAGRUEWESTPAC	Japan	020000AMSL	SURFACE	USN	606
	(RJ)R105	USN, COMAFLOATRAGRUEWESTPAC	Japan	UNLTD	SURFACE	USN	671
	(RJ)R116A	USN, COMAFLOATRAGRUEWESTPAC	Japan	UNLTD	SURFACE	USN	558
	(RJ)R116B	USN, COMAFLOATRAGRUEWESTPAC	Japan	012000AMSL	SURFACE	USN	464
	(RJ)R116C	USN, COMAFLOATRAGRUEWESTPAC	Japan	009000AMSL	SURFACE	USN	59
	(RJ)R121	USN, COMAFLOATRAGRUEWESTPAC	Japan	035000AMSL	SURFACE	USN	516
	(RJR599)A	USN, COMAFLOATRAGRUEWESTPAC	Japan	UNLTD	SURFACE	USN	6995
	(RJR599)B	USN, COMAFLOATRAGRUEWESTPAC	Japan	UNLTD	SURFACE	USN	1449
	TORTUGAS MOA, FL	FAA, MIAMI ARTCC	Key West	018000AMSL	05000AMSL	USN	1116
	W174A	FAA, MIAMI ARTCC	Key West	FL700	SURFACE	USN	3343
	W174B(A)	FAA, MIAMI ARTCC	Key West	FL700	SURFACE	USN	10203
	W174B(B)	FAA, MIAMI ARTCC	Key West	005500AMSL	SURFACE	USN	211
	W174C(A)	FAA, MIAMI ARTCC	Key West	FL700	SURFACE	USN	1001
	W174C(B)	FAA, MIAMI ARTCC	Key West	005500AMSL	SURFACE	USN	397
	W174D	FAA, MIAMI ARTCC	Key West	FL700	SURFACE	USN	2795
	W174D(A)	FAA, MIAMI ARTCC	Key West	FL700	05500AMSL	USN	431
	W174E	FAA, MIAMI ARTCC	Key West	010000AMSL	SURFACE	USN	281
	W174F	FAA, MIAMI ARTCC	Key West	FL700	SURFACE	USN	807
	W174G	FAA, MIAMI ARTCC	Key West	FL700	SURFACE	USN	457

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	W465A	FAA, MIAMI ARTCC	Key West	FL700	SURFACE	USN	1474
	W465B	FAA, MIAMI ARTCC	Key West	FL700	SURFACE	USN	1452
	W465C	FAA, MIAMI ARTCC	Key West	FL700	FL210	USN	844
	R7201	FAA, GUAM CENTER/RAPCON	Marianas	FL600	SURFACE	USN	28
	W517	FAA, GUAM CERAP	Marianas	UNLTD	SURFACE	USN	8698
	MERIDIAN 1 EAST MOA, MS	FAA, MEMPHIS ARTCC	Meridian	018000AMSL	08000AMSL	USN	709
	MERIDIAN 1 WEST MOA, MS	FAA, MEMPHIS ARTCC	Meridian	018000AMSL	08000AMSL	USN	3936
	PINE HILL EAST MOA, MS	FAA, ATLANTA ARTCC	Meridian	018000AMSL	10000AMSL	USN	1261
	PINE HILL WEST MOA, MS	FAA, ATLANTA ARTCC	Meridian	018000AMSL	10000AMSL	USN	1059
	R4404A	FAA, MEMPHIS ARTCC	Meridian	011500AMSL	SURFACE	USN	4
	R4404B	FAA, MEMPHIS ARTCC	Meridian	011500AMSL	01200AGL	USN	78
	R4404C	FAA, MEMPHIS ARTCC	Meridian	014500AMSL	11500AMSL	USN	78
		W105A	FAA, BOSTON ARTCC	Narragansett	FL500	SURFACE	USN
W105B		FAA, BOSTON ARTCC	Narragansett	FL180	SURFACE	USN	1318
W106A		FAA, BOSTON ARTCC	Narragansett	003000AMSL	SURFACE	USN	358
W106B		FAA, BOSTON ARTCC	Narragansett	008000AMSL	SURFACE	USN	506
W106C		FAA, BOSTON ARTCC	Narragansett	010000AMSL	SURFACE	USN	227
W106D		FACSFAC, VACAPES, OCEANA NAS	Narragansett	005999AMSL	SURFACE	USN	270
A632A		USN, CORPUS CHRISTI NAS	NAS Corpus Christi	018000AMSL	06000AMSL	USN	2073
A632B		USN, CORPUS CHRISTI NAS	NAS Corpus Christi	018000AMSL	SURFACE	USN	1329
A632C		USN, CORPUS CHRISTI NAS	NAS Corpus Christi	018000AMSL	SURFACE	USN	513
A632D		USN, CORPUS CHRISTI NAS	NAS Corpus Christi	010999AMSL	06000AMSL	USN	1856
A632E		USN, CORPUS CHRISTI NAS	NAS Corpus Christi	008999AMSL	06000AMSL	USN	901
A632F		USN, CORPUS CHRISTI NAS	NAS Corpus Christi	018000AMSL	03000AGL	USN	412

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	FOOTHILL 1 MOA, CA	FAA, OAKLAND ARTCC	NAS Lemoore	018000AMSL	02000AGL	USN	826
	FOOTHILL 2 MOA, CA	FAA, OAKLAND ARTCC	NAS Lemoore	018000AMSL	02000AGL	USN	869
	HUNTER HIGH MOA, CA	FAA, OAKLAND ARTCC	NAS Lemoore	018000AMSL	11000AMSL	USN	997
	HUNTER LOW A MOA, CA	FAA, OAKLAND ARTCC	NAS Lemoore	010999AMSL	00200AGL	USN	492
	HUNTER LOW B MOA, CA	FAA, OAKLAND ARTCC	NAS Lemoore	010999AMSL	02000AGL	USN	147
	HUNTER LOW C MOA, CA	FAA, OAKLAND ARTCC	NAS Lemoore	010999AMSL	03000AGL	USN	82
	HUNTER LOW D MOA, CA	FAA, OAKLAND ARTCC	NAS Lemoore	006000AMSL	01500AGL	USN	207
	HUNTER LOW E MOA, CA	FAA, OAKLAND ARTCC	NAS Lemoore	003000AMSL	01500AGL	USN	69
	A292	USN, COMTRAWING SIX	NAS Pensacola	003000AMSL	SURFACE	USN	3440
	R3404	FAA, HULMAN TWR, TERRE HAUTE	Naval Ammunitions Depot, Crane	002500AMSL	SURFACE	USN	3
	R6611A	FAA, WASHINGTON, DC ARTCC	NAVSEA Dahlgren	FL400	SURFACE	USN	22
	R6612	FAA, WASHINGTON, DC ARTCC	NAVSEA Dahlgren	007000AMSL	SURFACE	USN	6
	R6613A	FAA, WASHINGTON, DC ARTCC	NAVSEA Dahlgren	FL400	SURFACE	USN	18
	W54A	FAA, HOUSTON ARTCC	New Orleans NAS JRB	FL400	SURFACE	USN	1321
	W54B	FAA, HOUSTON ARTCC	New Orleans NAS JRB	FL240	SURFACE	USN	367
	W54C	FAA, HOUSTON ARTCC	New Orleans NAS JRB	FL400	FL240	USN	367
	W59A	FAA, HOUSTON ARTCC	New Orleans NAS JRB	FL500	05000AMSL	USN	2527
	W59B	FAA, HOUSTON ARTCC	New Orleans NAS JRB	027999AMSL	05000AMSL	USN	3400
	W59C	FAA, HOUSTON ARTCC	New Orleans NAS JRB	FL500	FL280	USN	3400
	R6611B	FAA, WASHINGTON, DC ARTCC	NSWC Dahlgren	FL600	FL400	USN	22
	R6613B	FAA, WASHINGTON, DC ARTCC	NSWC Dahlgren	FL600	FL400	USN	18
	R5113	FAA, ALBUQUERQUE ARTCC	Office of Naval Research, Atmospheric Sciences	FL450	SURFACE	USN	19
	(RO)W173B	USN, CFAO KADENA AB	Okinawa	060000AMSL	003000AMSL	USN	1058
	(RO)W173C	USN, CFAO KADENA AB	Okinawa	UNLTD	SURFACE	USN	5026

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	(RO)W175	USN, CFAO KADENA AB	Okinawa	004000AMSL	SURFACE	USN	0
	(RO)W181	USN, CFAO KADENA AB	Okinawa	004000AMSL	SURFACE	USN	3501
	(RO)W183A	USN, CFAO KADENA AB	Okinawa	UNLTD	SURFACE	USN	3706
	(RO)W184	USN, CFAO KADENA AB	Okinawa	UNLTD	SURFACE	USN	6835
	(RO)W185	USN, CFAO KADENA AB	Okinawa	UNLTD	SURFACE	USN	2769
	R4002	FAA, WASHINGTON, DC ARTCC	Patuxent River	FL220	SURFACE	USN	40
	R4005	FAA, WASHINGTON, DC ARTCC	Patuxent River	024999AMSL	SURFACE	USN	316
	R4006	FAA, WASHINGTON, DC ARTCC	Patuxent River	024999AMSL	03500AMSL	USN	1458
	R4007	FAA, WASHINGTON, DC ARTCC	Patuxent River	004999AMSL	SURFACE	USN	163
	R4008	FAA, WASHINGTON, DC ARTCC	Patuxent River	FL850	FL250	USN	1300
	R4009	FAA, WASHINGTON, DC ARTCC	Patuxent River	012500AMSL	05000AMSL	USN	28
	R6609	FAA, WASHINGTON, DC ARTCC	Patuxent River	FL200	SURFACE	USN	125
	R2519	FAA, LOS ANGELES ARTCC	Pt. Mugu	UNLTD	SURFACE	USN	21
	R2535A	FAA, LOS ANGELES ARTCC	Pt. Mugu	100000AMSL	SURFACE	USN	63
	R2535B	FAA, LOS ANGELES ARTCC	Pt. Mugu	100000AMSL	SURFACE	USN	37
	W60	FAA, LOS ANGELES ARTCC	Pt. Mugu	UNLTD	SURFACE	USN	788
	W61	FAA, LOS ANGELES ARTCC	Pt. Mugu	UNLTD	SURFACE	USN	1472
	W289	FAA, LOS ANGELES ARTCC	Pt. Mugu	UNLTD	SURFACE	USN	11787
	W289N	FAA, LOS ANGELES ARTCC	Pt. Mugu	FL240	SURFACE	USN	108
	W290	FAA, LOS ANGELES ARTCC	Pt. Mugu	FL800	SURFACE	USN	474
	W412	FAA, LOS ANGELES ARTCC	Pt. Mugu	003000AMSL	SURFACE	USN	376
	W532	FAA, LOS ANGELES ARTCC	Pt. Mugu	UNLTD	SURFACE	USN	9506
	W537	FAA, LOS ANGELES ARTCC	Pt. Mugu	UNLTD	SURFACE	USN	3079
	W602	FAA, HOUSTON ARTCC	Pt. Mugu	FL250	SURFACE	USN	10451

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	W260	FAA, OAKLAND ARTCC	San Francisco	FL600	SURFACE	USN	5681
	W283	FAA, OAKLAND ARTCC	San Francisco	FL600	SURFACE	USN	5912
	W285A	FAA, OAKLAND ARTCC	San Francisco	FL450	SURFACE	USN	1838
	W285B	FAA, OAKLAND ARTCC	San Francisco	FL450	08000AMSL	USN	745
	W513	FAA, OAKLAND ARTCC	San Francisco	FL600	SURFACE	USN	574
	W291	FAA, LOS ANGELES ARTCC	SOCAL	FL800	SURFACE	USN	112821
	PAMLICO A MOA, NC	FAA, WASHINGTON, DC ARTCC	VACAPES	018000AMSL	08000AMSL	USN	227
	PAMLICO B MOA, NC	FAA, WASHINGTON, DC ARTCC	VACAPES	018000AMSL	08000AMSL	USN	855
	STUMPY POINT MOA, NC	FAA, WASHINGTON, DC ARTCC	VACAPES	007999AMSL	SURFACE	USN	123
	R5301	FAA, WASHINGTON ARTCC	VACAPES	014000AMSL	SURFACE	USN	6
	R5302A	FAA, WASHINGTON, DC ARTCC	VACAPES	014000AMSL	SURFACE	USN	11
	R5302B	FAA, WASHINGTON, DC ARTCC	VACAPES	014000AMSL	00100AGL	USN	67
	R5302C	FAA, WASHINGTON, DC ARTCC	VACAPES	003000AMSL	00100AGL	USN	11
	R5313A	FAA, WASHINGTON, DC ARTCC	VACAPES	018000AMSL	SURFACE	USN	21
	R5313B	FAA, WASHINGTON, DC ARTCC	VACAPES	013000AMSL	00100AGL	USN	78
	R5313C	FAA, WASHINGTON, DC ARTCC	VACAPES	013000AMSL	00100AGL	USN	22
	R5313D	FAA, WASHINGTON, DC ARTCC	VACAPES	013000AMSL	00500AGL	USN	61
	R5314A	FAA, WASHINGTON, DC ARTCC	VACAPES	FL205	SURFACE	USN	46
	R5314B	FAA, WASHINGTON, DC ARTCC	VACAPES	FL205	00500AGL	USN	58
	R5314C	FAA, WASHINGTON, DC ARTCC	VACAPES	FL205	00500AGL	USN	53
	R5314D	FAA, WASHINGTON, DC ARTCC	VACAPES	FL205	SURFACE	USN	3
	R5314E	FAA, WASHINGTON, DC ARTCC	VACAPES	FL205	SURFACE	USN	5
	R5314F	FAA, WASHINGTON, DC ARTCC	VACAPES	FL205	00500AGL	USN	22
	R5314G	FAA, WASHINGTON, DC ARTCC	VACAPES	015000AMSL	00200AGL	USN	44

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	R5314H	FAA, WASHINGTON, DC ARTCC	VACAPES	010000AMSL	00500AGL	USN	77
	R5314J	FAA, WASHINGTON, DC ARTCC	VACAPES	006000AMSL	01000AGL	USN	211
	R6606	FAA, WASHINGTON, DC ARTCC	VACAPES	FL510	SURFACE	USN	33
	W50A	FAA, WASHINGTON, DC ARTCC	VACAPES	FL750	SURFACE	USN	27
	W50B	FAA, WASHINGTON, DC ARTCC	VACAPES	FL750	SURFACE	USN	63
	W50C	FAA, WASHINGTON, DC ARTCC	VACAPES	FL750	SURFACE	USN	33
	W110	USN, FACSFAC, VACAPES	VACAPES	FL230	SURFACE	USN	1858
	W386	FAA, WASHINGTON, DC ARTCC	VACAPES	UNLTD	SURFACE	USN	9614
	W386(A)	FAA, WASHINGTON, DC ARTCC	VACAPES	FL230	SURFACE	USN	151
	W387A	USN, FACSFAC VACAPES	VACAPES	023999AMSL	SURFACE	USN	2296
	W387B	USN, FACSFAC VACAPES	VACAPES	UNLTD	FL240	USN	2296
	BOARDMAN MOA, OR	FAA, SEATTLE ARTCC	Whidbey Island	018000AMSL	04000AMSL	USN	358
	CHINOOK A MOA, WA	USN, WHIDBEY IS NAS APP	Whidbey Island	005000AMSL	00300AMSL	USN	23
CHINOOK B MOA, WA	USN, WHIDBEY IS NAS APP	Whidbey Island	005000AMSL	00300AMSL	USN	33	
DOLPHIN NORTH MOA, OR	FAA, SEATTLE ARTCC	Whidbey Island	018000AMSL	11000AMSL	USN	5719	
DOLPHIN SOUTH MOA, OR	FAA, SEATTLE ARTCC	Whidbey Island	018000AMSL	11000AMSL	USN	1766	
OKANOGAN A MOA, WA	FAA, SEATTLE ARTCC	Whidbey Island	018000AMSL	09000AMSL	USN	2604	
OKANOGAN B MOA, WA	FAA, SEATTLE ARTCC	Whidbey Island	008999AMSL	00300AGL	USN	961	
OKANOGAN C MOA, WA	FAA, SEATTLE ARTCC	Whidbey Island	008999AMSL	00300AGL	USN	741	
OLYMPIC A MOA, WA	FAA, SEATTLE ARTCC	Whidbey Island	018000AMSL	06000AMSL	USN	921	
OLYMPIC B MOA, WA	FAA, SEATTLE ARTCC	Whidbey Island	018000AMSL	06000AMSL	USN	698	
ROBERTS MOA, CA	FAA, OAKLAND ARTCC	Whidbey Island	014999AMSL	00500AGL	USN	87	
ROOSEVELT A MOA, WA	FAA, SEATTLE ARTCC	Whidbey Island	018000AMSL	09000AMSL	USN	3149	
ROOSEVELT B MOA, WA	FAA, SEATTLE ARTCC	Whidbey Island	008999AMSL	00300AGL	USN	2191	

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	A680	USN, WHIDBEY NAS APP	Whidbey Island	003000AMSL	SURFACE	USN	28
	R5701(A)	FAA, SEATTLE ARTCC	Whidbey Island	FL200	SURFACE	USN	78
	R5701(B)	FAA, SEATTLE ARTCC	Whidbey Island	010000AMSL	SURFACE	USN	11
	R5701(C)	FAA, SEATTLE ARTCC	Whidbey Island	006000AMSL	SURFACE	USN	31
	R5701(D)	FAA, SEATTLE ARTCC	Whidbey Island	010000AMSL	SURFACE	USN	21
	R5701(E)	FAA, SEATTLE ARTCC	Whidbey Island	006000AMSL	SURFACE	USN	64
	R5706	FAA, SEATTLE ARTCC	Whidbey Island	010000AMSL	03500AMSL	USN	107
	R6701	USN, WHIDBEY ISLAND NAS APP	Whidbey Island	005000AMSL	SURFACE	USN	21
	R6703A	FAA, SEATTLE-TACOMA APP	Whidbey Island	014000AMSL	SURFACE	USN	14
	R6703B	FAA, SEATTLE-TACOMA APP	Whidbey Island	005000AMSL	SURFACE	USN	4
	R6703C	FAA, SEATTLE-TACOMA APP	Whidbey Island	014000AMSL	SURFACE	USN	20
	R6703D	FAA, SEATTLE-TACOMA APP	Whidbey Island	005000AMSL	SURFACE	USN	5
	W237A(HI)	FAA, SEATTLE ARTCC	Whidbey Island	FL500	FL230	USN	2039
	W237A(LO)	FAA, SEATTLE ARTCC	Whidbey Island	FL230	SURFACE	USN	2039
	W237B(HI)	FAA, SEATTLE ARTCC	Whidbey Island	FL500	FL230	USN	1520
	W237B(LO)	FAA, SEATTLE ARTCC	Whidbey Island	FL230	SURFACE	USN	1520
	W237C	FAA, SEATTLE ARTCC	Whidbey Island	UNLTD	SURFACE	USN	1542
	W237D	FAA, SEATTLE ARTCC	Whidbey Island	UNLTD	SURFACE	USN	1631
	W237E	FAA, SEATTLE ARTCC	Whidbey Island	FL270	SURFACE	USN	1823
	W237F	FAA, SEATTLE ARTCC	Whidbey Island	UNLTD	SURFACE	USN	3904
	W237G	FAA, SEATTLE ARTCC	Whidbey Island	UNLTD	SURFACE	USN	2327
	W237H	FAA, OAKLAND ARTCC	Whidbey Island	FL270	SURFACE	USN	5902
	W237J	FAA, OAKLAND ARTCC	Whidbey Island	FL270	SURFACE	USN	4301

### MARINE CORPS

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	R2503A	FAA, LOS ANGELES ARTCC	Camp Pendleton	002000AMSL	SURFACE	USMC	72
	R2503B	FAA, LOS ANGELES ARTCC	Camp Pendleton	015000AMSL	SURFACE	USMC	108
	R2503C	FAA, LOS ANGELES ARTCC	Camp Pendleton	FL270	15000AMSL	USMC	85
	HATTERAS F MOA, NC	FAA, WASHINGTON, DC ARTCC	Cherry Point/Camp Lejeune	013000AMSL	03000AMSL	USMC	102
	A530	USMC, CHERRY POINT MCAS	Cherry Point/Camp Lejeune	018000AMSL	SURFACE	USMC	405
	R5303A	USMC, CHERRY POINT APP	Cherry Point/Camp Lejeune	006999AMSL	SURFACE	USMC	25
	R5303B	USMC, CHERRY POINT APP	Cherry Point/Camp Lejeune	009999AMSL	07000AMSL	USMC	25
	R5303C	FAA, WASHINGTON, DC ARTCC	Cherry Point/Camp Lejeune	018000AMSL	10000AMSL	USMC	25
	R5304A	USMC, CHERRY POINT APP	Cherry Point/Camp Lejeune	006999AMSL	SURFACE	USMC	24
	R5304B	USMC, CHERRY POINT APP	Cherry Point/Camp Lejeune	009999AMSL	07000AMSL	USMC	24
	R5304C	FAA, WASHINGTON, DC ARTCC	Cherry Point/Camp Lejeune	018000AMSL	10000AMSL	USMC	24
	R5306A	USMC, CHERRY POINT APP	Cherry Point/Camp Lejeune	018000AMSL	SURFACE	USMC	816
	R5306C	USMC, CHERRY POINT APP	Cherry Point/Camp Lejeune	018000AMSL	01200AMSL	USMC	164
	R5306D	USMC, CHERRY POINT APP	Cherry Point/Camp Lejeune	018000AMSL	SURFACE	USMC	98
	R5306E	USMC, CHERRY POINT APP	Cherry Point/Camp Lejeune	018000AMSL	SURFACE	USMC	4
	BEAUFORT 1 MOA, SC	FAA, JACKSONVILLE ARTCC	MCAS Beaufort/Townsend	010000AMSL	00100AGL	USMC	255
	BEAUFORT 2 MOA, SC	FAA, JACKSONVILLE ARTCC	MCAS Beaufort/Townsend	007000AMSL	00100AGL	USMC	417
	BEAUFORT 3 MOA, SC	FAA, JACKSONVILLE ARTCC	MCAS Beaufort/Townsend	002000AMSL	00100AGL	USMC	276
	W74(A)	FAA, JACKSONVILLE ARTCC	MCAS Beaufort/Townsend	010000AMSL	SURFACE	USMC	173
	W74(B)	FAA, JACKSONVILLE ARTCC	MCAS Beaufort/Townsend	010000AMSL	03000AMSL	USMC	9
	(RO)R177	USMC, CAMP SMEDLEY D. BUTLER	Okinawa	003000AMSL	SURFACE	USMC	12
	(RO)R201	USMC, COMDR MCB JA, OPS AND TRNG	Okinawa	002000AMSL	SURFACE	USMC	18
	(RO)R202	USMC, COMDR MCB JA, OPS AND TRNG	Okinawa	001000AMSL	SURFACE	USMC	17
	(RO)R203	USMC, COMDR MCB JA, OPS AND TRNG	Okinawa	001000AMSL	SURFACE	USMC	1

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	(RO)W178A	USMC, CAMP SMEDLEY D. BUTLER	Okinawa	013000AMSL	SURFACE	USMC	287
	DEMO 1 MOA, VA	FAA, WASHINGTON, DC ARTCC	Quantico	005000AMSL	00500AMSL	USMC	84
	DEMO 2 MOA, VA	FAA, WASHINGTON, DC ARTCC	Quantico	015000AMSL	10000AMSL	USMC	55
	DEMO 3 MOA, VA	FAA, WASHINGTON, DC ARTCC	Quantico	015000AMSL	05000AMSL	USMC	84
	R6608A	FAA, DULLES INTL TWR	Quantico	010000AMSL	SURFACE	USMC	11
	R6608B	FAA, DULLES INTL TWR	Quantico	010000AMSL	SURFACE	USMC	27
	R6608C	FAA, DULLES INTL TWR	Quantico	010000AMSL	SURFACE	USMC	17
	BRISTOL MOA, CA	FAA, LOS ANGELES ARTCC	Twentynine Palms	018000AMSL	05000AMSL	USMC	404
	SUNDANCE MOA, CA	FAA, LOS ANGELES ARTCC	Twentynine Palms	010000AMSL	00500AGL	USMC	50
	R2501E	FAA, LOS ANGELES ARTCC	Twentynine Palms	UNLTD	SURFACE	USMC	237
	R2501N	FAA, LOS ANGELES ARTCC	Twentynine Palms	UNLTD	SURFACE	USMC	305
	R2501S	FAA, LOS ANGELES ARTCC	Twentynine Palms	UNLTD	SURFACE	USMC	197
	R2501W	FAA, LOS ANGELES ARTCC	Twentynine Palms	UNLTD	SURFACE	USMC	76
	ABEL BRAVO MOA, CA	FAA, LOS ANGELES ARTCC	Yuma	018000AMSL	07000AMSL	USMC	89
	ABEL EAST MOA, CA	FAA, LOS ANGELES ARTCC	Yuma	012999AMSL	05000AMSL	USMC	309
	ABEL NORTH MOA, CA	FAA, LOS ANGELES ARTCC	Yuma	018000AMSL	07000AMSL	USMC	664
	ABEL SOUTH MOA, CA	FAA, LOS ANGELES ARTCC	Yuma	018000AMSL	07000AMSL	USMC	258
	DOME MOA, AZ	FAA, LOS ANGELES ARTCC	Yuma	018000AMSL	06000AMSL	USMC	193
	KANE EAST MOA, CA	FAA, LOS ANGELES ARTCC	Yuma	018000AMSL	10000AMSL	USMC	469
	KANE SOUTH MOA, CA	FAA, LOS ANGELES ARTCC	Yuma	018000AMSL	10000AMSL	USMC	72
	KANE WEST MOA, CA	FAA, LOS ANGELES ARTCC	Yuma	018000AMSL	10000AMSL	USMC	611
	QUAIL MOA, AZ	FAA, LOS ANGELES ARTCC	Yuma	018000AMSL	10000AMSL	USMC	1057
	TURTLE MOA, AZ	FAA, LOS ANGELES ARTCC	Yuma	018000AMSL	11000AMSL	USMC	1718
	R2301W	FAA, LOS ANGELES ARTCC	Yuma	FL800	SURFACE	USMC	1176

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	R2507N	FAA, LOS ANGELES ARTCC	Yuma	FL400	SURFACE	USMC	214
	R2507S	FAA, LOS ANGELES ARTCC	Yuma	FL400	SURFACE	USMC	243
<b>AIR FORCE</b>							
	R2206	FAA, ANCHORAGE ARTCC	13th Missile Wing	008800AMSL	SURFACE	USAF	10
	R2901A	FAA, MIAMI ARTCC	Avon Park	014000AMSL	SURFACE	USAF	166
	R2901B	FAA, MIAMI ARTCC	Avon Park	FL180	14000AMSL	USAF	145
	R2901C	FAA, MIAMI ARTCC	Avon Park	014000AMSL	SURFACE	USAF	25
	R2901D	FAA, MIAMI ARTCC	Avon Park	004000AMSL	00500AMSL	USAF	28
	R2901E	FAA, MIAMI ARTCC	Avon Park	004000AMSL	01000AMSL	USAF	90
	R2901F	FAA, MIAMI ARTCC	Avon Park	005000AMSL	04000AMSL	USAF	15
	R2901G	FAA, MIAMI ARTCC	Avon Park	005000AMSL	SURFACE	USAF	27
	R2901H	FAA, MIAMI ARTCC	Avon Park	004000AMSL	01000AMSL	USAF	32
	R2901I	FAA, MIAMI ARTCC	Avon Park	004000AMSL	01500AMSL	USAF	31
	ANNE HIGH MOA, AR	FAA, FORT WORTH ARTCC	Barksdale AFB	018000AMSL	07000AMSL	USAF	683
	ANNE LOW MOA, AR	FAA, FORT WORTH ARTCC	Barksdale AFB	006999AMSL	00100AGL	USAF	683
	HACKETT MOA, LA	FAA, FORT WORTH ARTCC	Barksdale AFB	018000AMSL	07000AMSL	USAF	1235
	JENA 1 MOA, LA	FAA, HOUSTON ARTCC	Barksdale AFB	005000AMSL	00100AGL	USAF	1075
	R3801A	FAA, HOUSTON ARTCC	Barksdale AFB	010000AMSL	SURFACE	USAF	101
	R3801B	FAA, HOUSTON ARTCC	Barksdale AFB	FL180	10000AMSL	USAF	101
	R3801C	FAA, HOUSTON ARTCC	Barksdale AFB	FL230	FL180	USAF	101
	R4105A	FAA, CAPE APP	Barnes ANGB	009999AMSL	SURFACE	USAF	28
	R4105B	FAA, CAPE APP	Barnes ANGB	018000AMSL	10000AMSL	USAF	28
	FUZZY MOA, AZ	FAA, ALBUQUERQUE ARTCC	Barry M. Goldwater Range	009999AMSL	00100AGL	USAF	444
	CHINA MOA, CA	FAA, OAKLAND ARTCC	Beale AFB	018000AMSL	03000AGL	USAF	625

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\*\* Area and length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	MAXWELL 1 MOA, CA	FAA, OAKLAND ARTCC	Beale AFB	018000AMSL	11000AMSL	USAF	877
	MAXWELL 2 MOA, CA	FAA, OAKLAND ARTCC	Beale AFB	018000AMSL	11000AMSL	USAF	926
	MAXWELL 3 MOA, CA	FAA, OAKLAND ARTCC	Beale AFB	018000AMSL	11000AMSL	USAF	926
	WHITMORE 1 MOA, CA	FAA, OAKLAND ARTCC	Beale AFB	018000AMSL	11000AMSL	USAF	584
	WHITMORE 2 MOA, CA	FAA, OAKLAND ARTCC	Beale AFB	018000AMSL	11000AMSL	USAF	618
	WHITMORE 3 MOA, CA	FAA, OAKLAND ARTCC	Beale AFB	018000AMSL	11000AMSL	USAF	618
	BRONCO 1 MOA, TX	FAA, FORT WORTH ARTCC	Cannon AFB	018000AMSL	08000AMSL	USAF	1041
	BRONCO 2 MOA, TX	FAA, FORT WORTH ARTCC	Cannon AFB	018000AMSL	10000AMSL	USAF	609
	BRONCO 3 MOA, TX	FAA, FORT WORTH ARTCC	Cannon AFB	018000AMSL	10000AMSL	USAF	1739
	BRONCO 4 MOA, TX	FAA, FORT WORTH ARTCC	Cannon AFB	018000AMSL	10000AMSL	USAF	1764
	MT DORA EAST HIGH MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	018000AMSL	11000AMSL	USAF	1163
	MT DORA EAST LOW MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	010999AMSL	01500AGL	USAF	1163
	MT DORA NORTH HIGH MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	018000AMSL	11000AMSL	USAF	1264
	MT DORA NORTH LOW MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	010999AMSL	01500AGL	USAF	1264
	MT DORA WEST HIGH MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	018000AMSL	11000AMSL	USAF	1607
	MT DORA WEST LOW MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	010999AMSL	01500AGL	USAF	1607
	PECOS NORTH HIGH MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	018000AMSL	11000AMSL	USAF	1241
	PECOS NORTH LOW MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	010999AMSL	00500AGL	USAF	1039
	PECOS SOUTH HIGH MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	018000AMSL	11000AMSL	USAF	1329
	PECOS SOUTH LOW MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	010999AMSL	00500AGL	USAF	951
	R5104A	FAA, ALBUQUERQUE ARTCC	Cannon AFB	018000AMSL	SURFACE	USAF	209
	R5104B	FAA, ALBUQUERQUE ARTCC	Cannon AFB	023000AMSL	18000AMSL	USAF	209

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	R5105	FAA, ALBUQUERQUE ARTCC	Cannon AFB	010000AMSL	SURFACE	USAF	139
	TAIBAN MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	010999AMSL	00500AGL	USAF	235
	R2932	FAA, MIAMI ARTCC	Cape Canaveral	004999AMSL	SURFACE	USAF	115
	R2933	FAA, MIAMI ARTCC	Cape Canaveral	UNLTD	05000AMSL	USAF	115
	R2934	FAA, MIAMI ARTCC	Cape Canaveral	UNLTD	SURFACE	USAF	169
	R2935	FAA, MIAMI ARTCC	Cape Canaveral	UNLTD	11000AMSL	USAF	404
	CLAIBORNE A MOA, LA	USA, POLK APP CON	Claiborne	009999AMSL	00100AGL	USAF	80
	CLAIBORNE B MOA, LA	USA, POLK APP CON	Claiborne	018000AMSL	10000AMSL	USAF	80
	A440	USAF, 14 FTW COLUMBUS AFB	Columbus AFB	006500AMSL	SURFACE	USAF	217
	COLUMBUS 1 MOA, MS	FAA, MEMPHIS ARTCC	Columbus AFB	018000AMSL	08000AMSL	USAF	2707
	COLUMBUS 2 MOA, MS	FAA, MEMPHIS ARTCC	Columbus AFB	018000AMSL	08000AMSL	USAF	643
	COLUMBUS 3 MOA, MS	FAA, MEMPHIS ARTCC	Columbus AFB	018000AMSL	08000AMSL	USAF	2664
	COLUMBUS 4 MOA, MS	FAA, MEMPHIS ARTCC	Columbus AFB	018000AMSL	10000AMSL	USAF	1376
	TOMBSTONE A MOA, AZ	FAA, ALBUQUERQUE ARTCC	David-Monthan AFB	014499AMSL	00500AGL	USAF	520
	TOMBSTONE B MOA, AZ	FAA, ALBUQUERQUE ARTCC	David-Monthan AFB	014499AMSL	00500AGL	USAF	1299
	TOMBSTONE C MOA, AZ	FAA, ALBUQUERQUE ARTCC	David-Monthan AFB	018000AMSL	14500AMSL	USAF	3002
	LANCER MOA, TX	FAA, FORT WORTH ARTCC	Dyess AFB	018000AMSL	06200AMSL	USAF	3225
	BAKERSFIELD MOA, CA	FAA, LOS ANGELES ARTCC	Edwards AFB	018000AMSL	02000AGL	USAF	301
	BARSTOW MOA, CA	FAA, HI-DESERT TRACON, EDWARDS, CA	Edwards AFB	018000AMSL	00200AGL	USAF	162
	BISHOP MOA, CA	FAA, LOS ANGELES ARTCC	Edwards AFB	018000AMSL	00200AGL	USAF	128
	BUCKHORN MOA, CA	FAA, LOS ANGELES ARTCC	Edwards AFB	018000AMSL	00200AGL	USAF	58
	ISABELLA MOA, CA	FAA, HI-DESERT TRACON, EDWARDS AFB	Edwards AFB	018000AMSL	00200AGL	USAF	2684
	OWENS MOA, CA	FAA, HI-DESERT TRACON, EDWARDS AFB	Edwards AFB	018000AMSL	00200AGL	USAF	2014
	PANAMINT MOA, CA	FAA, HI-DESERT TRACON,	Edwards AFB	018000AMSL	03001AGL	USAF	2051

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
		EDWARDS AFB					
	PORTERVILLE MOA, CA	FAA, LOS ANGELES ARTCC	Edwards AFB	018000AMSL	02000AGL	USAF	465
	POWDER RIVER A MOA, MT	FAA, SALT LAKE CITY ARTCC	Edwards AFB	018000AMSL	SURFACE	USAF	3047
	POWDER RIVER B MOA, WY	FAA, DENVER ARTCC	Edwards AFB	018000AMSL	01000AGL	USAF	1385
	R2515	FAA, HI-DESERT TRACON, EDWARDS AFB	Edwards AFB	UNLTD	SURFACE	USAF	1368
	SALINE MOA, CA	FAA, HI-DESERT TRACON, EDWARDS AFB	Edwards AFB	018000AMSL	00200AGL	USAF	1690
	EGLIN A EAST MOA, FL	FAA, JACKSONVILLE ARTCC	Eglin AFB	018000AMSL	01000AGL	USAF	98
	EGLIN A WEST MOA, FL	FAA, JACKSONVILLE ARTCC	Eglin AFB	018000AMSL	01000AGL	USAF	90
	EGLIN B MOA, FL	FAA, JACKSONVILLE ARTCC	Eglin AFB	018000AMSL	01000AGL	USAF	222
	EGLIN C MOA, FL	FAA, JACKSONVILLE ARTCC	Eglin AFB	018000AMSL	01000AGL	USAF	144
	EGLIN D MOA, FL	FAA, JACKSONVILLE ARTCC	Eglin AFB	003000AMSL	01000AGL	USAF	133
	EGLIN E MOA, FL	FAA, JACKSONVILLE ARTCC	Eglin AFB	018000AMSL	SURFACE	USAF	1143
	EGLIN F MOA, FL	FAA, JACKSONVILLE ARTCC	Eglin AFB	018000AMSL	SURFACE	USAF	5
	R2914A	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	387
	R2914B	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	08500AMSL	USAF	71
	R2915A	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	208
	R2915B	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	46
	R2915C	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	08500AMSL	USAF	34
	R2917	USAF, EGLIN AFB APP	Eglin AFB	022999AMSL	SURFACE	USAF	20
	R2918	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	16
	R2919A	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	48
	R2919B	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	08500AMSL	USAF	84
	ROSE HILL MOA, AL	FAA, JACKSONVILLE ARTCC	Eglin AFB	018000AMSL	08000AMSL	USAF	649
	W151A	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	2555

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	W151B	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	2521
	W151C	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	1728
	W151D	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	2113
	W151E	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	531
	W151F	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	810
	W470A	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	2022
	W470B	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	2128
	W470C	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	1147
	W470D	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	422
	W470E	FAA, MIAMI ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	1011
	W470F	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	263
	BIRCH MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	005000AMSL	00500AGL	USAF	424
	BUFFALO MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	006999AMSL	00300AGL	USAF	1648
	EIELSON MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	018000AMSL	00100AGL	USAF	720
	FOX 1 MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	018000AMSL	05000AGL	USAF	1132
	FOX 2 MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	018000AMSL	07000AMSL	USAF	94
	FOX 3 MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	018000AMSL	05000AMSL	USAF	3705
	R2211	FAA, ANCHORAGE ARTCC	Eielson AFB	FL310	SURFACE	USAF	134
	VIPER A MOA, AK	FAA, FAIRBANKS TWR	Eielson AFB	010000AMSL	00500AGL	USAF	105
	VIPER B MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	018000AMSL	10000AMSL	USAF	105
	YUKON 1 MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	018000AMSL	00100AGL	USAF	3747
	YUKON 2 MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	018000AMSL	00100AGL	USAF	4929
	YUKON 3 HIGH MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	018000AMSL	10000AMSL	USAF	2267
	YUKON 3A LOW MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	009999AMSL	00100AGL	USAF	2267

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	YUKON 3B MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	018000AMSL	02000AGL	USAF	1523
	YUKON 4 MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	018000AMSL	00100AGL	USAF	3355
	YUKON 5 MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	018000AMSL	05000AGL	USAF	2707
	W147A	FAA, HOUSTON ARTCC	Ellington Field	022999AMSL	05000AMSL	USAF	4484
	W147B	FAA, HOUSTON ARTCC	Ellington Field	FL500	FL230	USAF	4484
	W147D	FAA, HOUSTON ARTCC	Ellington Field	FL500	SURFACE	USAF	5469
	W147E	FAA, HOUSTON ARTCC	Ellington Field	FL500	FL260	USAF	1923
	GALENA MOA, AK	FAA, ANCHORAGE ARTCC	Elmendorf AFB	018000AMSL	01000AMSL	USAF	3910
	NAKNEK 1 MOA, AK	FAA, ANCHORAGE ARTCC	Elmendorf AFB	018000AMSL	03000AGL	USAF	3894
	NAKNEK 2 MOA, AK	FAA, ANCHORAGE ARTCC	Elmendorf AFB	018000AMSL	03000AGL	USAF	2758
	STONY A MOA, AK	FAA, ANCHORAGE ARTCC	Elmendorf AFB	018000AMSL	00100AGL	USAF	4068
	STONY B MOA, AK	FAA, ANCHORAGE ARTCC	Elmendorf AFB	018000AMSL	02000AGL	USAF	2393
	SUSITNA MOA, AK	FAA, ANCHORAGE ARTCC	Elmendorf AFB	018000AMSL	10000AMSL	USAF	2474
	W612	FAA, ANCHORAGE ARTCC	Elmendorf AFB	FL290	SURFACE	USAF	2556
	GANDY MOA, UT	FAA, SALT LAKE CITY ARTCC	Hill AFB	018000AMSL	00100AGL	USAF	832
	LUCIN A MOA, UT	FAA, SALT LAKE CITY ARTCC	Hill AFB	009000AMSL	00100AGL	USAF	1532
	LUCIN B MOA, UT	FAA, SALT LAKE CITY ARTCC	Hill AFB	007500AMSL	00100AGL	USAF	992
	LUCIN C MOA, UT	FAA, SALT LAKE CITY ARTCC	Hill AFB	006500AMSL	00100AGL	USAF	120
	R6402A	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL580	SURFACE	USAF	987
	R6402B	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL580	00100AGL	USAF	35
	R6404A	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL580	SURFACE	USAF	1120
	R6404B	FAA, SALT LAKE CITY ARTCC	Hill AFB	013000AMSL	SURFACE	USAF	202
	R6404C	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL280	00100AGL	USAF	168
	R6404D	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL250	13000AMSL	USAF	202

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	R6405	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL580	00100AGL	USAF	1946
	R6406A	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL580	SURFACE	USAF	851
	R6406B	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL580	00100AGL	USAF	47
	R6407	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL580	SURFACE	USAF	652
	SEVIER A MOA, UT	FAA, SALT LAKE CITY ARTCC	Hill AFB	014500AMSL	00100AGL	USAF	1011
	SEVIER B MOA, UT	FAA, SALT LAKE CITY ARTCC	Hill AFB	009500AMSL	00100AGL	USAF	2200
	SEVIER C MOA, NV	FAA, SALT LAKE CITY ARTCC	Hill AFB	018000AMSL	14500AMSL	USAF	1011
	SEVIER D MOA, UT	FAA, SALT LAKE CITY ARTCC	Hill AFB	018000AMSL	09500AMSL	USAF	2200
	BEAK A MOA, NM	FAA, ALBUQUERQUE ARTCC	Holloman AFB	018000AMSL	12500AMSL	USAF	690
	BEAK B MOA, NM	FAA, ALBUQUERQUE ARTCC	Holloman AFB	018000AMSL	12500AMSL	USAF	606
	BEAK C MOA, NM	FAA, ALBUQUERQUE ARTCC	Holloman AFB	018000AMSL	12500AMSL	USAF	636
	TALON EAST HIGH MOA, NM	FAA, ALBUQUERQUE ARTCC	Holloman AFB	018000AMSL	12500AMSL	USAF	661
	TALON LOW MOA, NM	FAA, ALBUQUERQUE ARTCC	Holloman AFB	012499AMSL	00300AGL	USAF	1027
	TALON WEST HIGH MOA, NM	FAA, ALBUQUERQUE ARTCC	Holloman AFB	018000AMSL	12500AMSL	USAF	972
	VALENTINE MOA, TX	FAA, ALBUQUERQUE ARTCC	Holloman AFB	018000AMSL	15000AMSL	USAF	2462
	CATO MOA, NM	FAA, ALBUQUERQUE ARTCC	Kirtland AFB	018000AMSL	13500AMSL	USAF	2655
	EVERS MOA, WV	FAA, WASHINGTON, DC ARTCC	Langley AFB	018000AMSL	01000AGL	USAF	479
	FARMVILLE MOA, VA	FAA, WASHINGTON, DC ARTCC	Langley AFB	005000AMSL	00300AGL	USAF	1188
	A633A	USAF, LAUGHLIN AFB	Laughlin AFB	007000AMSL	SURFACE	USAF	548
	A633B	USAF, LAUGHLIN AFB	Laughlin AFB	004000AMSL	SURFACE	USAF	153
	CRYSTAL MOA, TX	FAA, HOUSTON ARTCC	Laughlin AFB	018000AMSL	06000AMSL	USAF	1377
	CRYSTAL NORTH MOA, TX	FAA, HOUSTON ARTCC	Laughlin AFB	018000AMSL	06000AMSL	USAF	410
	LAUGHLIN 1 MOA, TX	FAA, HOUSTON ARTCC	Laughlin AFB	018000AMSL	09000AMSL	USAF	4972
	LAUGHLIN 2 MOA, TX	FAA, HOUSTON ARTCC	Laughlin AFB	018000AMSL	07000AMSL	USAF	2279

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Special Use Airspace Inventory							
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	LAUGHLIN 3 HIGH MOA, TX	FAA, HOUSTON ARTCC	Laughlin AFB	FL180	15000AMSL	USAF	420
	LAUGHLIN 3 LOW MOA, TX	FAA, HOUSTON ARTCC	Laughlin AFB	014999AMSL	07000AMSL	USAF	420
	A231	FAA, ALBUQUERQUE ARTCC	Luke AFB	006500AMSL	00500AGL	USAF	516
	BAGDAD 1 MOA, AZ	FAA, ALBUQUERQUE ARTCC	Luke AFB	018000AMSL	07000AMSL	USAF	1067
	GLADDEN 1 MOA, AZ	FAA, ALBUQUERQUE ARTCC	Luke AFB	018000AMSL	05000AGL	USAF	1872
	R2301E	FAA, ALBUQUERQUE ARTCC	Luke AFB	FL800	SURFACE	USAF	1552
	R2304	FAA, ALBUQUERQUE ARTCC	Luke AFB	FL240	SURFACE	USAF	345
	R2305	FAA, ALBUQUERQUE ARTCC	Luke AFB	FL240	SURFACE	USAF	187
	SELLS 1 MOA, AZ	FAA, ALBUQUERQUE ARTCC	Luke AFB	018000AMSL	10000AMSL	USAF	3665
	SELLS LOW MOA, AZ	FAA, ALBUQUERQUE ARTCC	Luke AFB	009999AMSL	03000AGL	USAF	3133
	SUNNY MOA, AZ	FAA, DENVER ARTCC	Luke AFB	018000AMSL	12000AMSL	USAF	2330
	AVON EAST MOA, FL	FAA, MIAMI ARTCC	MacDill AFB	013999AMSL	00500AGL	USAF	38
	AVON NORTH MOA, FL	FAA, MIAMI ARTCC	MacDill AFB	018000AMSL	05000AMSL	USAF	94
	AVON SOUTH MOA, FL	FAA, MIAMI ARTCC	MacDill AFB	018000AMSL	05000AMSL	USAF	116
	BASINGER MOA, FL	FAA, MIAMI ARTCC	MacDill AFB	005000AMSL	00500AGL	USAF	42
	LAKE PLACID MOA, FL	FAA, MIAMI ARTCC	MacDill AFB	018000AMSL	07000AMSL	USAF	1085
	MARIAN MOA, FL	FAA, MIAMI ARTCC	MacDill AFB	005000AMSL	00500AGL	USAF	204
	W168	FAA, MIAMI ARTCC	MacDill AFB	UNLTD	SURFACE	USAF	7264
	DEVILS LAKE EAST MOA, ND	FAA, MINNEAPOLIS ARTCC	McChord AFB	018000AMSL	03500AMSL	USAF	1773
	DEVILS LAKE WEST MOA, ND	FAA, MINNEAPOLIS ARTCC	McChord AFB	018000AMSL	04000AMSL	USAF	1739
	R2312	LIBBY AAF TWR	McChord AFB	014999AMSL	SURFACE	USAF	9
	R5115	FAA, ALBUQUERQUE ARTCC	McChord AFB	015000AMSL	SURFACE	USAF	10
	R6316	FAA, HOUSTON ARTCC	McChord AFB	015000AMSL	SURFACE	USAF	21
	R6317	FAA, HOUSTON ARTCC	McChord AFB	015000AMSL	SURFACE	USAF	21

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\*\* Area and length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	R6318	FAA, ALBUQUERQUE ARTCC	McChord AFB	014000AMSL	SURFACE	USAF	9
	TIGER NORTH MOA, ND	FAA, MINNEAPOLIS ARTCC	McChord AFB	018000AMSL	00300AGL	USAF	2225
	TIGER SOUTH MOA, ND	FAA, MINNEAPOLIS ARTCC	McChord AFB	018000AMSL	06000AMSL	USAF	1715
	W93(A)	FAA, SEATTLE ARTCC	McChord AFB	FL500	SURFACE	USAF	4987
	W93(B)	FAA, SEATTLE ARTCC	McChord AFB	FL500	SURFACE	USAF	978
	A220	USAF, MCGUIRE AFB RAPCON	McGuire AFB	004500AMSL	SURFACE	USAF	457
	POWERS MOA, ND	FAA, MINNEAPOLIS ARTCC	Minot AFB	018000AMSL	12000AMSL	USAF	589
	A684	FAA, JACKSONVILLE ARTCC	Moody AFB	004000AGL	SURFACE	USAF	313
	LIVE OAK MOA, FL	FAA, JACKSONVILLE ARTCC	Moody AFB	018000AMSL	08000AMSL	USAF	1208
	MOODY 1 MOA, GA	FAA, JACKSONVILLE ARTCC	Moody AFB	018000AMSL	08000AMSL	USAF	4714
	MOODY 2 NORTH MOA, GA	FAA, JACKSONVILLE ARTCC	Moody AFB	007999AMSL	00500AGL	USAF	318
	MOODY 2 SOUTH MOA, GA	FAA, JACKSONVILLE ARTCC	Moody AFB	007999AMSL	00100AGL	USAF	405
	MOODY 3 MOA, GA	FAA, JACKSONVILLE ARTCC	Moody AFB	018000AMSL	08000AMSL	USAF	1258
	R3008A	USAF, VALDOSTA APP	Moody AFB	010000AMSL	SURFACE	USAF	6
	R3008B	USAF, VALDOSTA APP	Moody AFB	010000AMSL	00100AGL	USAF	20
	R3008C	USAF, VALDOSTA APP	Moody AFB	010000AMSL	00500AGL	USAF	67
	R3008C(A)	USAF, VALDOSTA APP	Moody AFB	001500AGL	SURFACE	USAF	3
	R3008D	USAF, VALDOSTA APP	Moody AFB	022999AMSL	10000AMSL	USAF	93
	R3202(H)	FAA, SALT LAKE CITY ARTCC	Mountain Home AFB	FL290	FL180	USAF	226
	R3202(L)	FAA, SALT LAKE CITY ARTCC	Mountain Home AFB	018000AMSL	SURFACE	USAF	226
	R3204A	FAA, SALT LAKE CITY ARTCC	Mountain Home AFB	000100AGL	SURFACE	USAF	14
	R3204B	FAA, SALT LAKE CITY ARTCC	Mountain Home AFB	018000AMSL	00100AGL	USAF	78
	R3204C	FAA, SALT LAKE CITY ARTCC	Mountain Home AFB	FL290	FL180	USAF	78
	JARBIDGE MOA, ID	FAA, SALT LAKE CITY ARTCC	Mt. Home AFB	018000AMSL	00100AGL	USAF	1836

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	OWYHEE MOA, ID	FAA, SALT LAKE CITY ARTCC	Mt. Home AFB	018000AMSL	00100AGL	USAF	1988
	PARADISE EAST MOA, NV	FAA, SALT LAKE CITY ARTCC	Mt. Home AFB	018000AMSL	14500AMSL	USAF	1608
	PARADISE WEST MOA, OR	FAA, SALT LAKE CITY ARTCC	Mt. Home AFB	018000AMSL	14500AMSL	USAF	1840
	W506	FAA, NEW YORK ARTCC	NE ADS/DOOS, NY ANG	FL500	SURFACE	USAF	1796
	A481	USAF, NELLIS AFB	Nellis AFB	017000AMSL	07000AMSL	USAF	252
	DESERT MOA, NV	FAA, LOS ANGELES ARTCC	Nellis AFB	018000AMSL	00100AGL	USAF	5543
	R4806E	FAA, LOS ANGELES ARTCC	Nellis AFB	UNLTD	00100AGL	USAF	291
	R4806W	FAA, LOS ANGELES ARTCC	Nellis AFB	UNLTD	SURFACE	USAF	1179
	R4807A	FAA, LOS ANGELES ARTCC	Nellis AFB	UNLTD	SURFACE	USAF	1698
	R4807B	FAA, LOS ANGELES ARTCC	Nellis AFB	UNLTD	SURFACE	USAF	100
	REVEILLE NORTH MOA, NV	FAA, SALT LAKE CITY ARTCC	Nellis AFB	018000AMSL	00100AGL	USAF	1245
	REVEILLE SOUTH MOA, NV	FAA, SALT LAKE CITY ARTCC	Nellis AFB	018000AMSL	00100AGL	USAF	439
	ONTONAGON MOA, MI	FAA, MINNEAPOLIS ARTCC	Offutt AFB	018000AMSL	00500AGL	USAF	863
	R4305	FAA, MINNEAPOLIS ARTCC	Offutt AFB	FL450	SURFACE	USAF	1242
	(RO)W173	USAF, CFAO KADENA AB	Okinawa	UNLTD	SURFACE	USAF	6077
	(RO)W182	USAF, CFAO KADENA AB	Okinawa	004000AMSL	SURFACE	USAF	78
	W497A	FAA, MIAMI ARTCC	Patrick AFB	UNLTD	SURFACE	USAF	2422
	W497B	FAA, MIAMI ARTCC	Patrick AFB	UNLTD	SURFACE	USAF	21756
	R2508	FAA, HI-DESERT TRACON, EDWARDS AFB	R-2508 Complex	UNLTD	FL200	USAF	12127
	SHOSHONE MOA, CA	FAA, LOS ANGELES ARTCC	R-2508 Complex	018000AMSL	03001AGL	USAF	1170
	A635	USAF, RANDOLPH AFB	Randolph AFB	004000AMSL	01500AMSL	USAF	139
	A638	USAF, RANDOLPH AFB	Randolph AFB	003000AMSL	SURFACE	USAF	129
	A640	USAF, RANDOLPH AFB	Randolph AFB	007500AMSL	00200AGL	USAF	2493
	RANDOLPH 1A MOA, TX	FAA, HOUSTON ARTCC	Randolph AFB	018000AMSL	08000AMSL	USAF	1418

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	RANDOLPH 1B MOA, TX	FAA, SAN ANTONIO TRACON	Randolph AFB	018000AMSL	07000AMSL	USAF	754
	RANDOLPH 2A MOA, TX	FAA, HOUSTON ARTCC	Randolph AFB	018000AMSL	09000AMSL	USAF	1443
	RANDOLPH 2B MOA, TX	FAA, HOUSTON ARTCC	Randolph AFB	018000AMSL	14000AMSL	USAF	316
	TEXON MOA, TX	FAA, HOUSTON ARTCC	Randolph AFB	018000AMSL	06000AMSL	USAF	1156
	PHELPS A MOA, NC	FAA, WASHINGTON, DC ARTCC	Seymour-Johnson AFB	018000AMSL	06000AMSL	USAF	211
	PHELPS B MOA, NC	FAA, WASHINGTON, DC ARTCC	Seymour-Johnson AFB	018000AMSL	10000AMSL	USAF	77
	PHELPS C MOA, NC	FAA, WASHINGTON, DC ARTCC	Seymour-Johnson AFB	018000AMSL	15000AMSL	USAF	44
	SEYMOUR JOHNSON ECHO MOA, NC	FAA, WASHINGTON, DC ARTCC	Seymour-Johnson AFB	018000AMSL	07000AMSL	USAF	1036
	BULLDOG A MOA, GA	FAA, ATLANTA ARTCC	Shaw AFB	009999AMSL	00500AGL	USAF	1052
	BULLDOG B MOA, GA	FAA, ATLANTA ARTCC	Shaw AFB	018000AMSL	10000AMSL	USAF	1677
	BULLDOG D MOA, GA	FAA, ATLANTA ARTCC	Shaw AFB	017000AMSL	00500AGL	USAF	79
	GAMECOCK B MOA, SC	FAA, JACKSONVILLE ARTCC	Shaw AFB	018000AMSL	10000AMSL	USAF	248
	GAMECOCK C MOA, SC	FAA, JACKSONVILLE ARTCC	Shaw AFB	010000AMSL	00100AGL	USAF	623
	GAMECOCK D MOA, SC	FAA, JACKSONVILLE ARTCC	Shaw AFB	018000AMSL	10000AMSL	USAF	839
	GAMECOCK I MOA, SC	FAA, JACKSONVILLE ARTCC	Shaw AFB	006000AMSL	00100AGL	USAF	405
	POINSETT MOA, SC	USAF, SHAW APP CON	Shaw AFB	002500AMSL	00300AGL	USAF	145
	R6002A	FAA, JACKSONVILLE ARTCC	Shaw AFB	012999AMSL	SURFACE	USAF	54
	R6002B	FAA, JACKSONVILLE ARTCC	Shaw AFB	018000AMSL	13000AMSL	USAF	54
	R6002C	FAA, JACKSONVILLE ARTCC	Shaw AFB	FL230	FL180	USAF	54
	W161A	FAA, JACKSONVILLE ARTCC	Shaw AFB	FL620	SURFACE	USAF	1265
	W161B	FAA, JACKSONVILLE ARTCC	Shaw AFB	FL240	SURFACE	USAF	562
	W177A(A)	FAA, JACKSONVILLE ARTCC	Shaw AFB	FL500	SURFACE	USAF	1666
	W177A(B)	FAA, JACKSONVILLE ARTCC	Shaw AFB	FL500	06001AMSL	USAF	210
	W177B	FAA, JACKSONVILLE ARTCC	Shaw AFB	FL240	SURFACE	USAF	758

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	GAMECOCK A MOA, NC	FAA, WASHINGTON, DC ARTCC	Shaw AFB (20 OSS/OSOS)	018000AMSL	07000AMSL	USAF	555
	A561	USAF, SHEPPARD AFB	Sheppard AFB	004000AMSL	SURFACE	USAF	145
	A636	USAF, SHEPPARD AFB	Sheppard AFB	004000AMSL	SURFACE	USAF	529
	HOLLIS MOA, OK	FAA, FORT WORTH ARTCC	Sheppard AFB	018000AMSL	11000AMSL	USAF	1204
	SHEPPARD 1 MOA, TX	FAA, FORT WORTH ARTCC	Sheppard AFB	018000AMSL	08000AMSL	USAF	1033
	SHEPPARD 2 MOA, TX	FAA, FORT WORTH ARTCC	Sheppard AFB	018000AMSL	08000AMSL	USAF	1264
	WASHITA MOA, OK	FAA, FORT WORTH ARTCC	Sheppard AFB	018000AMSL	08000AMSL	USAF	966
	WESTOVER 1 MOA, TX	FAA, FORT WORTH ARTCC	Sheppard AFB	018000AMSL	09000AMSL	USAF	1986
	WESTOVER 2 MOA, TX	FAA, FORT WORTH ARTCC	Sheppard AFB	018000AMSL	10000AMSL	USAF	2180
	A682(A)	USAF, TRAVIS AFB	Travis AFB	006000AMSL	SURFACE	USAF	206
	A682(B)	USAF, TRAVIS AFB	Travis AFB	003000AMSL	SURFACE	USAF	116
		R2905A	TYNDALL AFB RADAR APP	Tyndall AFB	010000AMSL	SURFACE	USAF
R2905B		TYNDALL AFB RADAR APP	Tyndall AFB	010000AMSL	SURFACE	USAF	25
R2916		FAA, MIAMI ARTCC	Tyndall AFB	014000AMSL	SURFACE	USAF	9
R3807		FAA, HOUSTON ARTCC	Tyndall AFB	015000AMSL	SURFACE	USAF	28
TYNDALL B MOA, FL		USAF, TYNDALL RADAR APP CON	Tyndall AFB	018000AMSL	09000AMSL	USAF	347
TYNDALL C MOA, FL		USAF, TYNDALL RADAR APP CON	Tyndall AFB	006000AMSL	00300AGL	USAF	559
TYNDALL D MOA, FL		USAF, TYNDALL RADAR APP CON	Tyndall AFB	006000AMSL	00300AGL	USAF	311
TYNDALL E MOA, FL		USAF, TYNDALL RADAR APP CON	Tyndall AFB	018000AMSL	00300AGL	USAF	893
TYNDALL F MOA, FL		USAF, TYNDALL RADAR APP CON	Tyndall AFB	018000AMSL	00300AGL	USAF	297
TYNDALL G MOA, FL		USAF, TYNDALL RADAR APP CON	Tyndall AFB	018000AMSL	01000AGL	USAF	224
	TYNDALL H MOA, FL	USAF, TYNDALL RADAR APP CON	Tyndall AFB	018000AMSL	09000AMSL	USAF	559
	A260	USAF ACADEMY	USAF Academy	017500AMSL	SURFACE	USAF	31
	A639A	USAF, USAF ACADEMY	USAF Academy	012000AMSL	03000AGL	USAF	730

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	A639B	USAF, USAF ACADEMY	USAF Academy	012000AMSL	03000AGL	USAF	136
	A562A	USAF, VANCE AFB	Vance AFB	010000AMSL	SURFACE	USAF	119
	A562B	USAF, VANCE AFB	Vance AFB	010000AMSL	SURFACE	USAF	156
	ADA EAST MOA, KS	FAA, KANSAS CITY ARTCC	Vance AFB	018000AMSL	07000AMSL	USAF	1124
	ADA WEST MOA, KS	FAA, KANSAS CITY ARTCC	Vance AFB	018000AMSL	07000AMSL	USAF	1065
	VANCE 1A MOA, OK	FAA, KANSAS CITY ARTCC	Vance AFB	018000AMSL	10000AMSL	USAF	2038
	VANCE 1B MOA, OK	FAA, KANSAS CITY ARTCC	Vance AFB	018000AMSL	07000AMSL	USAF	2236
	R2516	FAA, LOS ANGELES ARTCC	Vandenberg AFB	UNLTD	SURFACE	USAF	134
	R2517	FAA, LOS ANGELES ARTCC	Vandenberg AFB	UNLTD	SURFACE	USAF	95
	R2534A	FAA, LOS ANGELES ARTCC	Vandenberg AFB	UNLTD	00500AGL	USAF	52
	R2534B	FAA, LOS ANGELES ARTCC	Vandenberg AFB	UNLTD	00500AGL	USAF	54
	R6413	FAA, DENVER ARTCC	White Sands Missile Range	UNLTD	SURFACE	USAF	204
	TRUMAN A MOA, MO	FAA, KANSAS CITY ARTCC	Whiteman AFB	018000AMSL	08000AMSL	USAF	1107
	TRUMAN B MOA, MO	FAA, KANSAS CITY ARTCC	Whiteman AFB	018000AMSL	08000AMSL	USAF	731
	TRUMAN C MOA, MO	FAA, KANSAS CITY ARTCC	Whiteman AFB	018000AMSL	00500AGL	USAF	608
	R2309	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	015000AMSL	SURFACE	USAF	7
	YANKEE 1 MOA, NH	FAA, BOSTON ARTCC	103 TFG/DOC, CT ANG	018000AMSL	09000AMSL	USAF(ANG)	1921
	YANKEE 2 MOA, NH	FAA, BOSTON ARTCC	103 TFG/DOC, CT ANG	008999AMSL	00100AGL	USAF(ANG)	775
	HERSEY MOA, MI	FAA, MINNEAPOLIS ARTCC	110 TASG, MI ANG	018000AMSL	05000AMSL	USAF(ANG)	576
	DUKE MOA, PA	FAA, CLEVELAND ARTCC	112 ACS/DOT, PA ANG	018000AMSL	08000AMSL	USAF(ANG)	1643
	HAYS MOA, MT	FAA, SALT LAKE CITY ARTCC	120 FW, MT ANG	018000AMSL	00300AGL	USAF(ANG)	5368
	BRUSH CREEK MOA, OH	FAA, INDIANAPOLIS ARTCC	123 ACS, OH ANG	004999AMSL	00100AGL	USAF(ANG)	721
	BUCKEYE MOA, OH	FAA, INDIANAPOLIS ARTCC	123 ACS, OH ANG	018000AMSL	05000AMSL	USAF(ANG)	1653
	LINDBERGH A MOA, MO	FAA, KANSAS CITY ARTCC	131 FW, MO ANG	018000AMSL	07000AMSL	USAF(ANG)	2302

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	LINDBERGH B MOA, MO	FAA, KANSAS CITY ARTCC	131 FW, MO ANG	018000AMSL	08000AMSL	USAF(ANG)	811
	LINDBERGH C MOA, MO	FAA, KANSAS CITY ARTCC	131 FW, MO ANG	018000AMSL	08000AMSL	USAF(ANG)	611
	CANNON A MOA, MO	FAA, KANSAS CITY ARTCC	131 TFW, Det 1, MO ANG	018000AMSL	00300AGL	USAF(ANG)	232
	CANNON B MOA, MO	FAA, KANSAS CITY ARTCC	131 TFW, Det 1, MO ANG	018000AMSL	00100AGL	USAF(ANG)	16
	SALEM MOA, MO	FAA, KANSAS CITY ARTCC	131 TFW, Det 1, MO ANG	006999AMSL	SURFACE	USAF(ANG)	1459
	CRYPT CENTRAL MOA, IA	FAA, MINNEAPOLIS ARTCC	132 FW, IA ANG	018000AMSL	08000AMSL	USAF(ANG)	1479
	CRYPT NORTH MOA, IA	FAA, MINNEAPOLIS ARTCC	132 FW, IA ANG	018000AMSL	08000AMSL	USAF(ANG)	1777
	CRYPT SOUTH MOA, IA	FAA, MINNEAPOLIS ARTCC	132 FW, IA ANG	018000AMSL	08000AMSL	USAF(ANG)	1325
	BEAVER MOA, MN	FAA, MINNEAPOLIS ARTCC	148 FIG, MN ANG	018000AMSL	00300AGL	USAF(ANG)	2494
	BIG BEAR MOA, MI	FAA, MINNEAPOLIS ARTCC	148 FIG, MN ANG	018000AMSL	00500AMSL	USAF(ANG)	1751
	SNOOPY EAST MOA, MN	FAA, MINNEAPOLIS ARTCC	148 FIG, MN ANG	018000AMSL	00300AGL	USAF(ANG)	1074
	SNOOPY WEST MOA, MN	FAA, MINNEAPOLIS ARTCC	148 FIG, MN ANG	018000AMSL	06000AMSL	USAF(ANG)	2773
	LINCOLN MOA, NE	FAA, MINNEAPOLIS ARTCC	155 TRG, NE ANG	018000AMSL	08000AMSL	USAF(ANG)	1306
	JACKAL LOW MOA, AZ	FAA, ALBUQUERQUE ARTCC	162 FW, AZ ANG	010999AMSL	00100AGL	USAF(ANG)	677
	JACKAL MOA, AZ	FAA, ALBUQUERQUE ARTCC	162 FW, AZ ANG	018000AMSL	11000AMSL	USAF(ANG)	3562
	MORENCI MOA, AZ	FAA, ALBUQUERQUE ARTCC	162 FW, AZ ANG	018000AMSL	01500AGL	USAF(ANG)	1757
	OUTLAW MOA, AZ	FAA, ALBUQUERQUE ARTCC	162 FW, AZ ANG	018000AMSL	08000AMSL	USAF(ANG)	1984
	RESERVE MOA, AZ	FAA, ALBUQUERQUE ARTCC	162 FW, AZ ANG	018000AMSL	05000AGL	USAF(ANG)	2531
	RUBY 1 MOA, AZ	FAA, ALBUQUERQUE ARTCC	162 FW, AZ ANG	018000AMSL	10000AMSL	USAF(ANG)	581
	HART NORTH MOA, OR	FAA, SEATTLE ARTCC	173 FW, OR ANG	018000AMSL	11000AMSL	USAF(ANG)	660
	HART SOUTH MOA, OR	FAA, SEATTLE ARTCC	173 FW, OR ANG	018000AMSL	11000AMSL	USAF(ANG)	1825
	MISTY 1 MOA, NY	FAA, CLEVELAND ARTCC	174 FW, NY ANG	018000AMSL	04000AMSL	USAF(ANG)	599
	MISTY 2 MOA, NY	FAA, CLEVELAND ARTCC	174 FW, NY ANG	018000AMSL	00300AGL	USAF(ANG)	717
	MISTY 3 MOA, NY	FAA, CLEVELAND ARTCC	174 FW, NY ANG	018000AMSL	11000AMSL	USAF(ANG)	522

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Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	SYRACUSE 1 MOA, NY	USA, WHEELER SACK APPROACH	174 FW, NY ANG	005999AMSL	00100AGL	USAF(ANG)	606
	SYRACUSE 2A MOA, NY	USA, WHEELER SACK APPROACH	174 FW, NY ANG	005999AMSL	00100AGL	USAF(ANG)	89
	SYRACUSE 3 MOA, NY	USA, WHEELER SACK APPROACH	174 FW, NY ANG	005999AMSL	00100AGL	USAF(ANG)	132
	SYRACUSE 4 MOA, NY	USA, WHEELER SACK APPROACH	174 FW, NY ANG	003000AMSL	00100AGL	USAF(ANG)	167
	RED HILLS MOA, IN	FAA, INDIANAPOLIS ARTCC	181 TFG, IN ANG, Terre Haute	018000AMSL	06000AMSL	USAF(ANG)	1371
	O NEILL MOA, SD	FAA, MINNEAPOLIS ARTCC	185 FW, IA ANG	018000AMSL	00500AGL	USAF(ANG)	2204
	BIRMINGHAM 2 MOA, AL	FAA, ATLANTA ARTCC	187 FW, AL ANG	009999AMSL	00500AGL	USAF(ANG)	1135
	BIRMINGHAM MOA, AL	FAA, ATLANTA ARTCC	187 FW, AL ANG	018000AMSL	10000AMSL	USAF(ANG)	1165
	CAMDEN RIDGE MOA, AL	FAA, ATLANTA ARTCC	187 FW, AL ANG	009999AMSL	00500AGL	USAF(ANG)	2154
	W453	FAA, HOUSTON ARTCC	ANG CRTG GULFPORT, Gulfport, MS	FL500	SURFACE	USAF(ANG)	1260
	AIRBURST A MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	018000AMSL	01500AGL	USAF(ANG)	167
	AIRBURST B MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	018000AMSL	00500AGL	USAF(ANG)	14
	AIRBURST C MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	008499AMSL	00500AGL	USAF(ANG)	11
	CHEYENNE HIGH MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	018000AMSL	09000AMSL	USAF(ANG)	1863
	CHEYENNE LOW MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	008999AMSL	00300AGL	USAF(ANG)	1701
	LA VETA HIGH MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	018000AMSL	13000AMSL	USAF(ANG)	1266
	LA VETA LOW MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	013000AMSL	01500AGL	USAF(ANG)	203
	TWO BUTTES HIGH MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	018000AMSL	10000AMSL	USAF(ANG)	1435
	TWO BUTTES LOW MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	009999AMSL	00300AGL	USAF(ANG)	1435
	DEEPWOODS MOA, ME	FAA, BANGOR APP CON	CO, Army Avn Support Fac/ME ANG	003000AMSL	SURFACE	USAF(ANG)	205
	VOLK SOUTH MOA, WI	FAA, CHICAGO ARTCC	Hardwood (Volk Field)	018000AMSL	00500AGL	USAF(ANG)	514
	GOOSE NORTH MOA, OR	FAA, SEATTLE ARTCC	Kingsley Fld	018000AMSL	03000AGL	USAF(ANG)	1387
	GOOSE SOUTH MOA, OR	FAA, SEATTLE ARTCC	Kingsley Fld	018000AMSL	10000AMSL	USAF(ANG)	738

\* Users from various Service units and installations share special use airspace (SUA). For this reason, a simple one-to-one linking of airspace to installations or units does not depict actual airspace usage. As a general rule, this inventory links SUA to the installations or units responsible for scheduling their use.

\*\* Area and length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	A683	WICHITA TRACON	McConnell AFB (184 ARW, KS ANG)	004500AMSL	SURFACE	USAF(ANG)	114
	EUREKA HIGH MOA, KS	FAA, KANSAS CITY ARTCC	McConnell AFB (184 ARW, KS ANG)	018000AMSL	06000AMSL	USAF(ANG)	1648
	EUREKA LOW MOA, KS	FAA, KANSAS CITY ARTCC	McConnell AFB (184 ARW, KS ANG)	005999AMSL	02500AMSL	USAF(ANG)	1648
	CONDOR 1 MOA, ME	FAA, BOSTON ARTCC	NE ADS/DOOS, NY ANG	018000AMSL	07000AMSL	USAF(ANG)	2424
	CONDOR 2 MOA, ME	FAA, BOSTON ARTCC	NE ADS/DOOS, NY ANG	018000AMSL	07000AMSL	USAF(ANG)	614
	FALCON 1 MOA, NY	FAA, BOSTON ARTCC	NE ADS/DOOS, NY ANG	018000AMSL	06000AMSL	USAF(ANG)	2040
	FALCON 3 MOA, NY	FAA, BOSTON ARTCC	NE ADS/DOOS, NY ANG	018000AMSL	06000AMSL	USAF(ANG)	242
	R4207	FAA, MINNEAPOLIS ARTCC	Phelps-Collins ANGB	FL450	SURFACE	USAF(ANG)	1009
	R3007A	FAA, JACKSONVILLE ARTCC	Townsend	005000AMSL	01500AGL	USAF(ANG)	7
	R3007B	FAA, JACKSONVILLE ARTCC	Townsend	005000AMSL	00500AGL	USAF(ANG)	32
	R3007C	FAA, JACKSONVILLE ARTCC	Townsend	013000AMSL	00100AGL	USAF(ANG)	134
	R3007D	FAA, JACKSONVILLE ARTCC	Townsend	013000AMSL	01200AGL	USAF(ANG)	167
	FALLS 1 MOA, WI	FAA, MINNEAPOLIS ARTCC	Volk Field ANGB	018000AMSL	00500AGL	USAF(ANG)	832
	FALLS 2 MOA, WI	FAA, MINNEAPOLIS ARTCC	Volk Field ANGB	018000AMSL	00500AGL	USAF(ANG)	526
	MINNOW MOA, WI	FAA, CHICAGO ARTCC	Volk Field ANGB	018000AMSL	10000AMSL	USAF(ANG)	1741
	R6903	FAA, CHICAGO ARTCC	Volk Field ANGB	FL450	SURFACE	USAF(ANG)	943
	R6904A	FAA, MINNEAPOLIS ARTCC	Volk Field ANGB	FL230	00150AGL	USAF(ANG)	69
	R6904B	FAA, MINNEAPOLIS ARTCC	Volk Field ANGB	FL230	SURFACE	USAF(ANG)	12
	VOLK EAST MOA, WI	FAA, CHICAGO ARTCC	Volk Field ANGB	018000AMSL	08000AMSL	USAF(ANG)	1866
	VOLK WEST MOA, WI	FAA, MINNEAPOLIS ARTCC	Volk Field ANGB	018000AMSL	00100AGL	USAF(ANG)	514
NASA / USN / USAF	R6604A	FAA, WASHINGTON, DC ARTCC	Wallops Island	UNLTD	SURFACE	NASA / USN / USAF	61
NASA / USN /	R6604B	FAA, WASHINGTON, DC ARTCC	Wallops Island	UNLTD	SURFACE	NASA / USN / USAF	12

\* Users from various Service units and installations share special use airspace (SUA). For this reason, a simple one-to-one linking of airspace to installations or units does not depict actual airspace usage. As a general rule, this inventory links SUA to the installations or units responsible for scheduling their use.

\*\* Area and length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
USAF							

\* Users from various Service units and installations share special use airspace (SUA). For this reason, a simple one-to-one linking of airspace to installations or units does not depict actual airspace usage. As a general rule, this inventory links SUA to the installations or units responsible for scheduling their use.

\*\* Area and length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

**Table B-3. Military Training Route (MTR) Inventory**

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR002	20 OSS/OSTA, Shaw AFB, SC 29152-5000 DSN 965-1121/1122, C 803-895-1121/1122, Fax	20 OSS/OSOS, Shaw AFB, SC 29152 Duty hrs DSN 965-1118/1119, C803-895-1118/1119.	Continuous	125
IR012	4 OSS/OSR, Seymour Johnson AFB, NC 27531-5004 DSN 722-2672, C919-722-2672.	4 OSS/OSOSF, Seymour Johnson AFB, NC 27531-5004 DSN 722-2129/2124, C919-722-2129	Continuous	143
IR015	347 OSS/OSTA, Moody AFB, GA 31699-5000 DSN 460-4131, C229-257-4131.	347 OSS/OSOS, Moody AFB, GA 31699-1899 (Advance Mon-Fri 0800-1600 local, DSN 460)	Continuous	164
IR016	347 OSS/OSTA, Moody AFB, GA 31699-5000 DSN 460-4131, C229-257-4131.	347 OSS/OSOS, Moody AFB, GA 31699-1899 (Advance Mon-Fri 0800-1600 local, DSN 460)	Continuous	168
IR017	187 FW, 5187 Selma Highway, Montgomery, AL 36108-4824 DSN 358-9255, C334-394-725	Same as Originating Activity	Continuous	202
IR018	FACSFAC JAX, NAS Jacksonville, FL 32212 DSN 942-2004/2005, C904-542-2004/2005, A	Same as Originating Activity	0700-2400 local daily	401
IR019	FACSFAC JAX, NAS Jacksonville, FL 32212 DSN 942-2004/2005, C904-542-2004/2005, A	Same as Originating Activity	0700-2400 local daily	455
IR020	FACSFAC JAX, NAS Jacksonville, FL 32212 DSN 942-2004/2005, C904-542-2004/2005, A	Same as Originating Activity	0700-2400 local daily	394
IR021	FACSFACNPA, Pensacola, FL 32508-5217 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ Mon-Fri, occasionally on weekends	452
IR022	FACSFACNPA, Pensacola, FL 32508-5217 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ weekdays, occasional weekends	321
IR023	CG MCAS CHERRY POINT, ATTN RAC-DIOPS, Cherry Point, NC 28533 DSN 582-3466, C252	Central Scheduling Division, MCAS Cherry Point, NC 28533 DSN 582-4040/4041, C252	Continuous	224
IR026	AFWTF USNS Roosevelt Roads, Box 34 FPO Miami, FL 34051 DSN 831-5218/4194, C809-8	Same as Originating Activity	Daily	55
IR027	AFWTF USNS Roosevelt Roads, Box 34 FPO Miami, FL 34051 DSN 831-5218/4194, C809-8	Same as Originating Activity	Daily	13
IR030	Commander Naval Air Warfare Center, Weapons Division, Code 52911GE, NAWS, Point	Same as Originating Activity	Daylight hours only, daily	260
IR031	Commander Naval Air Warfare Center, Weapons Division, Code 52911GE, NAWS, Point	Same as Originating Activity	Daylight hours only, daily	260
IR032	Commander Naval Air Warfare Center, Weapons Division, Code 52911GE, NAWS, Point	Commander Fleet Area Control and Surveillance Facility Jacksonville, Naval Air S	Daylight hours	168
IR033	Commander Naval Air Warfare Center, Weapons Division, Code 52911GE, NAWS, Point	Commander Fleet Area Control and Surveillance Facility Jacksonville, Naval Air S	Daylight hours	212

\* Data fields are limited to 80 characters in the source database (National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File); therefore, some data field entries are not complete. Please refer to DoD Flight Information Publications for complete originating and scheduling activity information.

\*\* Length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR034	347 Rescue Wing, Detachment 1/RO, 8707 North Golf Course St., MacDill AFB, FL 33	347 Rescue Wing, Detachment 1/ROA, 8707 North Golf Course St., MacDill AFB, FL 3	0600-2400 local	151
IR035	437 AW/C-17 OSS/OSOT Charleston AFB, SC 29404 DSN 673-5613, C803-566-5613.	20 OSS/OSOS, Shaw AFB, SC 29152-5000 Duty hours DSN 965-1118/1119 C803-895-1118,	0600-2200 local, daily	198
IR036	437 AW/C-17 OSS/OSOT Charleston AFB, SC 29404 DSN 673-5613, C803-566-5613.	20 OSS/OSOS, Shaw AFB, SC 29152-5000 Duty hours DSN 965-1118/1119 C803-895-1118,	0600-2200 local, daily	178
IR037	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	Mon-Fri 1200-0400Z++, occasional weekends	213
IR038	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C904-452-2735.	Same as Originating Activity	Sunrise-Sunset, Mon-Fri, occasional weekends	400
IR040	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	Mon-Fri 1200-0400Z++, occasional weekends	176
IR044	COMTRAWING ONE, NAS Meridian, MS 39309-0136 DSN 637-2487, C601-637-2487.	Same as Originating Activity	Sunrise-Sunset	161
IR046	347 Rescue Wing, Detachment 1/RO, 8707 North Golf Course St., MacDill AFB, FL 33	347 Rescue Wing, Detachment 1/ROA, 8707 North Golf Course St., MacDill AFB, FL 3	0700-2400 local, daily	172
IR047	347 Rescue Wing, Detachment 1/RO, 8707 North Golf Course St., MacDill AFB, FL 33	347 Rescue Wing, Detachment 1/ROA, 8707 North Golf Course St., MacDill AFB, FL 3	0700-2400 local, daily	68
IR048	347 Rescue Wing, Detachment 1/RO, 8707 North Golf Course St., MacDill AFB, FL 33	347 Rescue Wing, Detachment 1/ROA, 8707 North Golf Course St., MacDill AFB, FL 3	0700-2400 local, daily	32
IR049	347 Rescue Wing, Detachment 1/RO, 8707 North Golf Course St., MacDill AFB, FL 33	347 Rescue Wing, Detachment 1/ROA, 8707 North Golf Course St., MacDill AFB, FL 3	0700-2400 local, daily	88
IR050	347 Rescue Wing, Detachment 1/RO, 8707 North Golf Course St., MacDill AFB, FL 33	347 Rescue Wing, Detachment 1/ROA, 8707 North Golf Course St., MacDill AFB, FL 3	0700-2400 local, daily	110
IR051	347 Rescue Wing, Detachment 1/RO, 8707 North Golf Course St., MacDill AFB, FL 33	347 Rescue Wing, Detachment 1/ROA, 8707 North Golf Course St., MacDill AFB, FL 3	0700-2400 local, daily	198
IR053	347 Rescue Wing, Detachment 1/RO, 8707 North Golf Course St., MacDill AFB, FL 33	347 Rescue Wing, Detachment 1/ROA, 8707 North Golf Course St., MacDill AFB, FL 3	0600-2400 local, daily	138
IR055	347 WG, Detachment 1/RO, 8707 North Golf Course St., MacDill AFB, FL 33621-5205	347 WG, Detachment 1/ROA, 8707 North Golf Course St., MacDill AFB, FL 33621-5205	0600-2400 local, daily	138
IR056	347 WG, Detachment 1/RO, 8707 North Golf Course St., MacDill AFB, FL 33621-5205	347 WG, Detachment 1/ROA, 8707 North Golf Course St., MacDill AFB, FL 33621-5205	0600-2400 local	207
IR057	16 OSS/DOAA, Hurlburt Field, FL 32544 DSN 579-7409, C850-884-7409.	16 OSS/DOO, Hurlburt Field, FL 32544 DSN 579-6877/7812, C850-884-6877/7812.	Continuous	417
IR059	16 OSS/DOAA, Hurlburt Field, FL 32544 DSN 579-7409, C850-884-7409.	16 OSS/DOO, Hurlburt Field, FL 32544 DSN 579-6877/7812, C850-884-6877/7812.	Continuous	438
IR062	COMFITWINGLANT, Oceana, NAS Virginia Beach, VA 23460 DSN 433-4014, C757-433-4014	FACSFAC VACAPES, Oceana, NAS Virginia Beach, VA 23460 DSN 433-1228, C757-433-12	Continuous	507

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\*\* Length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR066	14 OSS/OSOP, Columbus AFB, MS 39710 DSN 742-7560/7521, C662-434-7560/7521.	50 FTS, Columbus AFB, MS 39710 DSN 742-7734/7735, C662-434-7734. (When 14 FTW is	Sunrise-Sunset Mon-Fri	284
IR067	14 OSS/OSOP, Columbus AFB, MS 39710 DSN 742-7560/7633, C662-434-7560/7521.	48 FTS, Columbus AFB, MS 39710 DSN 742-7840/7847, C662-434-7840/7847. (When 14 F	Sunrise-Sunset Mon-Fri	312
IR068	14 OSS/OSOP, Columbus AFB, MS 39710 DSN 742-7560/7633, C662-434-7560/7521.	48 FTS, Columbus AFB, MS 39710 DSN 742-7840/7847, C662-434-7840/7847. (When 14 F	Sunrise-Sunset Mon-Fri	149
IR070	14 OSS/OSOP, Columbus AFB, MS 39710-5000 DSN 742-7560/7633, C662-434-7560/7633.	48 FTS, Columbus AFB, MS 39710-5000 DSN 742-7840/7847, C662-434-7840/7847. (When	Sunrise-Sunset daily	260
IR074	20 OSS/OSTA, Shaw AFB, SC 29152-5000 DSN 965-1121/1122, C803-895-1121/1122, Fax	20 OSS/OSOS, Shaw AFB, SC 29152 Duty hrs DSN 965-1118/1119, C803-895-1118/1119.	0600-2400 local, daily, OT require prior approval by Atlanta ARTCC	192
IR077	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ Mon-Fri; occasional weekends	276
IR078	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ Mon-Fri; occasional weekends	276
IR079	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ Mon-Fri; occasional weekends	246
IR080	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ Mon-Fri; occasional weekends	266
IR081	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ Mon-Fri; occasional weekends	215
IR082	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ Mon-Fri; occasional weekends	270
IR083	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ Mon-Fri; occasional weekends	298
IR089	20 OSS/OSTA, Shaw AFB, SC 29152-5000 DSN 965-1121/1122, C 803-895-1121/1122, Fax	20 OSS/OSOS, Shaw AFB, SC 29152 Duty hrs DSN 965-1118/1119, C803-895-1118/1119.	0600-2400 local, daily, OT require prior approval by Atlanta ARTCC	177
IR090	20 OSS/OSTA, Shaw AFB, SC 29152-5000 DSN 965-1121/1122, C 803-895-1121/1122, Fax	20 OSS/OSOS, Shaw AFB, SC 29152 Duty hrs DSN 965-1118/1119, C803-895-1118/1119.	0600-2400 local, daily, OT require prior approval by Atlanta ARTCC	177
IR091	14 OSS/OSOP Columbus AFB, MS 39710 DSN 742-7560/7633 C662-434-7560/7633.	50 FTS Columbus AFB, MS 39710 DSN 742-7734, C662-434-7734. (When 14 FTW is ngt f	Sunrise-Sunset Mon-Fri	179
IR102	49 OSS/OSTA, 700 Delaware Ave., Holloman AFB, NM 88330-8017 DSN 572-3244, C505-5	49 OSS/OSOS, 744 Delaware Ave., Holloman AFB, NM 88330-8014 DSN 572-3536, C505-5	Daylight hours by NOTAM	522
IR103	301 OG/SUA, NAS JRB Fort Worth, TX 76127 DSN 739-6903/6904/6905, C817-782-6903/6	Same as Originating Activity	0600-2200 local, daily	117

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\*\* Length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR105	301 OG/SUA, NAS JRB Fort Worth, TX 76127 DSN 739-6903/6904/6905, C817-782-6903/6	Same as Originating Activity.	0600-2200 local, daily	212
IR107	27 OSS/OSOH 110 E. Sextant Ave., Suite 1081, Cannon AFB, NM 88103 DSN 681-2279 C	27 OSS/OSOS 110 E. Sextant Ave., Suite 1080, Cannon AFB, NM 88103 DSN 681-2276.	Continuous	654
IR109	27 OSS/OSOH 110 E. Sextant Ave., Suite 1081, Cannon AFB, NM 88103 DSN 681-2279.	27 OSS/OSOS 110 E. Sextant Ave., Suite 1080, Cannon AFB, NM 88103 DSN 681-2276,	Continuous	747
IR111	7 OSS/OSTA, 949 Ave. D-1., Ste 102, Dyess AFB, TX 70607 DSN 461-3665, C915-696-3	Same as Originating Activity	Continuous	265
IR112	27 OSS/OSOH 110 E. Sextant Ave., Suite 1081, Cannon AFB, NM 88103 DSN 681-2279 C	27 OSS/OSOS 110 E. Sextant Ave., Suite 1080, Cannon AFB, NM 88103 DSN 681-2276.	Continuous	660
IR113	58 OSS/DOO, Kirtland AFB, NM 87117-5861 DSN 263-5979/5888, C505-853-5979/5888/57	Same as Originating Activity	Continuous	640
IR115	27 OSS/OSOH 110 E. Sextant Ave., Suite 1081, Cannon AFB, NM 88103 DSN 681-2279 C	27 OSS/OSOS 110 E. Sextant Ave., Suite 1080, Cannon AFB, NM 88103. Request for us	Continuous	971
IR116	49 OSS/OSTA, 700 Delaware Ave., Holloman AFB, NM 88330-8017 DSN 572-3244, C505-5	49 OSS/OSOS, 744 Delaware Ave., Holloman AFB, NM 88330-8014 DSN 572-3536, C505-5	Daylight hours by NOTAM	62
IR117	49 OSS/OSTA, 700 Delaware Ave., Holloman AFB, NM 88330-8017 DSN 572-3244, C505-5	49 OSS/OSOS, 744 Delaware Ave., Holloman AFB, NM 88330-8014 DSN 572-3536, C505-5	Daylight hours by NOTAM	62
IR120	188 FW/XP, 4850 Leigh Ave., Fort Smith, AR 72903-6096 DSN 778-5185/5271.	Same as Originating Activity. Route scheduled no more than 24 hr in advance. Min	Continuous (except Sunday 1000-1200 local)	188
IR121	188 FW/XP, 4850 Leigh Ave., Fort Smith, AR 72903-6096 DSN 778-5185/5271.	Same as Originating Activity. Route scheduled no more than 24 hr in advance. Min	Continuous (except Sunday 1000-1200 local)	81
IR122	188 FW/XP, 4850 Leigh Ave., Fort Smith, AR 72903-6096 DSN 778-5185/5271.	Same as Originating Activity. Route scheduled no more than 24 hr in advance. Min	Continuous (except Sunday 1000-1200 local)	120
IR123	49 OSS/OSTA, 700 Delaware Ave., Holloman AFB, NM 88330-8017 DSN 572-3244, C505-5	49 OSS/OSOS, 744 Delaware Ave., Holloman AFB, NM 88330-8014 DSN 572-3536, C505-5	Continuous (except Sunday 1000-1200 local)	28
IR124	301 OG/SUA, NAS JRB Fort Worth, TX 76127 DSN 739-6903/6904/6905, C817-782-6903/6	Same as Originating Activity	0700-2200 local	405
IR126	301 OG/SUA, NAS JRB Fort Worth, TX 76127 DSN 739-6903/6904/6905, C817-782-6903/6	Same as Originating Activity	0700-2200 local	246
IR127	7 OSS/OSOR, 966 Ave. D-4, Ste. 118, Dyess AFB, TX 79607 DSN 461-3666, C325-696-3	7 OSS/OSOR, 966 Ave. D-4, Ste. 118, Dyess AFB, TX 79607 DSN 461-3665, C325-696-3	Continuous	805
IR128	2 OSS/OSOSB, 41 Orville Wright Ave., Barksdale AFB, LA 71110 DSN 781-3828/5396,	Same as Originating Activity	Continuous	244
IR129	7 OSS/OSOR, 966 Ave. D-4, Ste. 118, Dyess AFB, TX 79607 DSN 461-3666, C325-696-3	7 OSS/OSOR, 966 Ave. D-4, Ste. 118, Dyess AFB, TX 79607 DSN 461-3665, C325-696-3	Continuous	651

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR130	2 OSS/OSOSB, 41 Orville Wright Ave., Barksdale AFB, LA 71110 DSN 781-3828/5396,	Same as Originating Activity	0700-2200 local	279
IR131	49 OSS/OSTA, 700 Delaware Ave., Holloman AFB, NM 88330-8017 DSN 572-3244, C505-5	49 OSS/OSOS, 744 Delaware Ave., Holloman AFB, NM 88330-8014 DSN 572-3536, C505-5	Daylight hours by NOTAM	28
IR132	49 OSS/OSTA, 700 Delaware Ave., Holloman AFB, NM 88330-8017 DSN 572-3244, C505-5	49 OSS/OSOS, 744 Delaware Ave., Holloman AFB, NM 88330-8014 DSN 572-3536, C505-5	Daylight hours by NOTAM	32
IR133	49 OSS/OSTA, 700 Delaware Ave., Holloman AFB, NM 88330-8017 DSN 572-3244, C505-5	49 OSS/OSOS, 744 Delaware Ave., Holloman AFB, NM 88330-8014 DSN 572-3536, C505-5	Daylight hours by NOTAM	32
IR134	49 OSS/OSTA, 700 Delaware Ave., Holloman AFB, NM 88330-8017 DSN 572-3244, C505-5	49 OSS/OSOS, 744 Delaware Ave., Holloman AFB, NM 88330-8014 DSN 572-3536, C505-5	0700-2300 local	316
IR135	49 OSS/OSTA, 700 Delaware Ave., Holloman AFB, NM 88330-8017 DSN 572-3244, C505-5	49 OSS/OSOS, 744 Delaware Ave., Holloman AFB, NM 88330-8014 DSN 572-3536, C505-5	Sunrise-0600Z++	236
IR136	COMTRAWING TWO, NAS Kingsville, TX 78363 DSN 876-6518/6283/6108, C361-516-6518/6	Same as Originating Activity. Scheduling hrs 0800-1600 Mon-Fri ONLY (excluding h	Sunrise-Sunset, daily	137
IR137	COMTRAWING TWO, NAS Kingsville, TX 78363 DSN 876-6518/6283/6108, C361-516-6518/6	Same as Originating Activity. Scheduling hrs 0800-1600 Mon-Fri ONLY (excluding h	Sunrise-Sunset, daily	163
IR139	58 OSS/DOO, Kirtland AFB, NM 87117-5861 DSN 263-5979/5888, C505-853-5979/5888/57	Same as Originating Activity	Continuous	218
IR141	301 OG/SUA, NAS JRB Fort Worth, TX 76127 DSN 739-6903/6904/6905, C817-782-6903/6	Same as Originating Activity	0600-2200 local, daily	102
IR142	49 OSS/OSTA, 700 Delaware Ave., Holloman AFB, NM 88330-8017 DSN 572-3244, C505-5	49 OSS/OSOS, 744 Delaware Ave., Holloman AFB, NM 88330-8014 DSN 572-3536, C505-5	Daylight hours by NOTAM	522
IR144	49 OSS/OSTA, 700 Delaware Ave., Ste. 131, Holloman AFB, NM 88310 DSN 572-3244, C	49 OSS/OSOS, 744 Delaware Ave., Holloman AFB, NM 88330-8017 DSN 572-3536, C505-5	Sunrise-0600Z++	207
IR145	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850, C580-213-7850.	25 FTS/DISP, Vance AFB, OK 73705-5202 DSN 448-6038, C580-213-6038.	30 min after Sunrise-30 min before Sunset and active days per local directives	187
IR146	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850, C580-213-7850.	25 FTS/DISP, Vance AFB, OK 73705-5202 DSN 448-6038, C580-213-6038.	30 min after Sunrise-30 min before Sunset and active days per local directives	185
IR147	COMTRAWING TWO, NAS Kingsville, TX 78363 DSN 876-6518/6283/6108, C361-516-6518/6	Same as Originating Activity. Scheduling hrs 0800-1600 Mon-Fri ONLY (excluding h	Sunrise to 30 minutes after Sunset, daily	123
IR148	COMTRAWING TWO, NAS Kingsville, TX 78363 DSN 876-6518/6283/6108, C361-516-6518/6	Same as Originating Activity. Scheduling hrs 0800-1600 Mon-Fri ONLY (excluding h	Daily 0600-2230 local	172
IR149	COMTRAWING TWO, NAS Kingsville, TX 78363 DSN 876-6518/6283/6108, C361-516-6518/6	Same as Originating Activity. Scheduling hrs 0800-1600 Mon-Fri ONLY (excluding h	Daily 0600-2230 local	214
IR150	7 OSS/OSOR, 966 Ave. D-4, Ste. 117, Dyess AFB, TX 79607 DSN 461-3666, C325-696-3	7 OSS/OSOR, 966 Ave. D-4, Ste. 117, Dyess AFB, TX 79607 DSN 461-3665, C325-696-3	Continuous	295

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\*\* Length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

2007 SUSTAINABLE RANGES REPORT

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR154	97 OSS/DOA, 400 N. Sixth Street, Bldg 164, Rm 4, Altus AFB, OK 73522 DSN 866-609	97 OSS/OSK, 516 S. Sixth Street, Ste A, Altus AFB, OK 73523 DSN 866-7110/6617.	0830-0230 local Mon-Fri	220
IR155	97 OSS/DOA, 400 N. Sixth Street, Bldg 164, Rm 4, Altus AFB, OK 73522 DSN 866-609	97 OSS/OSK, 516 S. Sixth Street, Ste A, Altus AFB, OK 73523 DSN 866-7110/6617.	0830-0230 local Mon-Fri	213
IR164	2 OSS/OSTP, 41 Orville Wright Ave., Suite 213, Barksdale AFB, LA 71110-2085 DSN	2 OSS/OSOSB, 41 Orville Wright Ave., Barksdale AFB, LA 71110 DSN 781-3828/5396,	0700-1600 local, daily	236
IR166	2 OSS/OSTP, 41 Orville Wright Ave., Suite 213, Barksdale AFB, LA 71110-2085 DSN	2 OSS/OSOSB, 41 Orville Wright Ave., Barksdale AFB, LA 71110 DSN 781-3828/5396,	0700-1600 local, daily	178
IR167	188 FW/XP, 4850 Leigh Ave., Fort Smith, AR 72903-6096 DSN 778-5185/5271.	Same as Originating Activity. Route scheduled no more than 24 hr in advance. Min	Continuous (except Sunday 1000-1200 local)	110
IR169	2 OSS/OSTP, 41 Orville Wright Ave., Suite 213, Barksdale AFB, LA 71110-2085 DSN	2 OSS/OSOSB, 41 Orville Wright Ave., Barksdale AFB, LA 71110 DSN 781-3828/5396,	Continuous	325
IR170	COMTRAWING TWO, NAS Kingsville, TX 78363 DSN 876-6518/6283/6108, C361-516-6518/6	Same as Originating Activity. Scheduling hrs 0800-1600 Mon-Fri ONLY (excluding h	0600-2400 local, daily	186
IR171	COMTRAWING TWO, NAS Kingsville, TX 78363 DSN 876-6518/6283/6108, C361-516-6518/6	Same as Originating Activity. Scheduling hrs 0800-1600 Mon-Fri ONLY (excluding h	0600-2400 local, daily	120
IR172	47 OSS/OSOR, 570 2nd Street, Ste. 6, Laughlin AFB, TX 78843-5222 DSN 732-5864, C	87 FTS/DOS, 570 2nd Street, Laughlin AFB, TX 78843 DSN 732-5484, C830-298-5484.	Sunrise-Sunset daily	176
IR173	47 OSS/OSOR, 570 2nd Street, Ste. 6, Laughlin AFB, TX 78843-5222 DSN 732-5864, C	87 FTS/DOS, 570 2nd Street, Laughlin AFB, TX 78843 DSN 732-5484, C830-298-5484.	Sunrise-Sunset daily	192
IR174	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850, C580-213-7850.	25 FTS/DISP, Vance AFB, OK 73705-5202 DSN 448-6038, C580-213-6038.	30 min after Sunrise-30 min before Sunset and active days per local directives	175
IR175	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850, C580-213-7850.	Same as Originating Activity.	30 min after Sunrise-30 min before Sunset and active days per local directives	165
IR177	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850, C580-213-7850.	Same as Originating Activity.	30 min after Sunrise-30 min before Sunset and active days per local directives	159
IR178	509 OSS/OSKA, 905 Spirit Blvd., Whiteman AFB, MO 65305 DSN 975-1713/1754, C660-6	Same as Originating Activity	Continuous	545
IR180	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850, C580-213-7850.	25 FTS/DISP, Vance AFB, OK 73705-5202 DSN 448-6038, C580-213-6038.	30 min after Sunrise-30 min before Sunset and active days per local directives	203

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\*\* Length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR181	7 OSS/OSOR, 966 Ave. D-4, Ste. 117, Dyess AFB, TX 79607 DSN 461-3666, C325-696-3	7 OSS/OSOR, 966 Ave. D-4, Ste. 117, Dyess AFB, TX 79607 DSN 461-3665, C325-696-3	Continuous	363
IR182	7 OSS/OSOR, 966 Ave. D-4, Ste. 117, Dyess AFB, TX 79607 DSN 461-3666, C325-696-3	7 OSS/OSOR, 966 Ave. D-4, Ste. 117, Dyess AFB, TX 79607 DSN 461-3665, C325-696-3	Continuous	1029
IR183	7 OSS/OSOR, 966 Ave. D-4, Ste. 118, Dyess AFB, TX 79607 DSN 461-3666, C325-696-3	7 OSS/OSOR, 966 Ave. D-4, Ste. 118, Dyess AFB, TX 79607 DSN 461-3665, C325-696-3	Continuous	563
IR184	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850, C580-213-7850.	25 FTS/DISP, Vance AFB, OK 73705-5202 DSN 448-6038, C580-213-6038.	30 min after Sunrise-30 min before Sunset and active days per local directives	175
IR185	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850, C580-213-7850.	Same as Originating Activity.	30 min after Sunrise-30 min before Sunset and active days per local directives	165
IR190	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850, C580-213-7850.	Same as Originating Activity.	30 min after Sunrise-30 min before Sunset and active days per local directives	159
IR191	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850, C580-213-7850.	25 FTS/DISP, Vance AFB, OK 73705-5202 DSN 448-6038, C580-213-6038.	30 min after Sunrise-30 min before Sunset and active days per local directives	203
IR192	49 OSS/OSTA, 700 Delaware Ave., Holloman AFB, NM 88330-8017 DSN 572-3244, C505-5	49 OSS/OSOS, 744 Delaware Ave., Holloman AFB, NM 88330-8014 DSN 572-3536, C505-5	Sunrise-0600Z++	558
IR194	49 OSS/OSTA, 700 Delaware Ave., Holloman AFB, NM 88330-8017 DSN 572-3244, C505-5	49 OSS/OSOS, 744 Delaware Ave., Holloman AFB, NM 88330-8014 DSN 572-3536, C505-5	Sunrise-0600Z++	649
IR195	49 OSS/OSTA, 700 Delaware Ave., Holloman AFB, NM 88330-8017 DSN 572-3244, C505-5	49 OSS/OSOS, 744 Delaware Ave., Holloman AFB, NM 88330-8017 DSN 572-3536, C505-5	Sunrise-0600Z++	186
IR200	Commander Naval Air Warfare Center, Weapons Division, Code P529800E, (Naval Base	Commander Naval Air Warfare Center, Weapons Division, Code P529800E, (Naval Base	Sunrise-Sunset by NOTAM	649
IR203	Commander Strike Fighter Wing, US. Pacific Fleet, 001 (K) Street, Room 121, NAS	Same as Originating Activity	Daylight hours, OT by NOTAM	409
IR206	Commander Naval Air Warfare Center, Weapons Division, Code P3524, NAWS, Pt. Mugu	Commander Naval Air Warfare Center, Weapons Division, Code P3506, NAWS, Pt. Mugu	Daylight hours by NOTAM	119
IR207	Commander Strike Fighter Wing, US. Pacific Fleet, 001 (K) Street, Room 121, NAS	Same as Originating Activity	Daylight hours, OT by NOTAM	448
IR211	G-3, 3D MAW, MCAS Miramar, San Diego, CA 92145 DSN 267-9462, C858-577-9462. Non-	Same as Originating Activity	Continuous	152
IR212	G-3, 3D MAW, MCAS Miramar, San Diego, CA 92145 DSN 267-9462, C858-577-9462. Non-	Same as Originating Activity	Continuous	136

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\*\* Length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR213	G-3, 3D MAW, MCAS Miramar, San Diego, CA 92145 DSN 267-9462, C858-577-9462. Non-	Same as Originating Activity	Continuous	269
IR214	G-3, 3D MAW, MCAS Miramar, San Diego, CA 92145 DSN 267-9462, C858-577-9462. Non-	Same as Originating Activity	Even numbered days only	265
IR216	G-3, 3D MAW, MCAS Miramar, San Diego, CA 92145 DSN 267-9462, C858-577-9462. Non-	Same as Originating Activity	Even numbered days-daylight only	53
IR217	G-3, 3D MAW, MCAS Miramar, San Diego, CA 92145 DSN 267-9462, C858-577-9462. Non-	Same as Originating Activity	Continuous	283
IR218	G-3, 3D MAW, MCAS Miramar, San Diego, CA 92145 DSN 267-9462, C858-577-9462. Non-	Same as Originating Activity	Continuous	229
IR234	Commander AFFTC, 412 OSS/OSAA, 235 S. Fightline Rd, Edwards AFB, CA 93524-6460 D	Commander AFFTC, 412 OSS/OSR, 300 East Yeager Blvd, Edwards AFB, CA 93524 DSN 52	Daylight hours by NOTAM	164
IR235	Commander AFFTC, 412 OSS/OSAA, 235 S. Fightline Rd, Edwards AFB, CA 93524-6460 D	Commander AFFTC, 412 OSS/OSR, 300 East Yeager Blvd, Edwards AFB, CA 93524 DSN 52	Daylight hours by NOTAM	164
IR236	Commander AFFTC, 412 OSS/OSAA, 235 S. Fightline Rd, Edwards AFB, CA 93524-6460 D	Commander AFFTC, 412 OSS/OSR, 300 East Yeager Blvd, Edwards AFB, CA 93524 DSN 52	0600-2200 local, daily	320
IR237	Commander AFFTC, 412 OSS/OSAA, 235 S. Fightline Rd, Edwards AFB, CA 93524-6460 D	Commander AFFTC, 412 OSS/OSR, 300 East Yeager Blvd, Edwards AFB, CA 93524 DSN 52	Daylight hours by NOTAM	130
IR238	Commander AFFTC, 412 OSS/OSAA, 235 S. Fightline Rd, Edwards AFB, CA 93524-6460 D	Commander AFFTC, 412 OSS/OSCS, 306 E. Popson, Edwards AFB, CA 93524-6680 DSN 527	Daylight hours by NOTAM	130
IR250	G-3, 3D MAW, MCAS Miramar, San Diego, CA 92145 DSN 267-9462, C858-577-9462. Non-	Same as Originating Activity	Daylight hours on even even numbered days	251
IR252	G-3, 3D MAW, MCAS Miramar, San Diego, CA 92145 DSN 267-9462, C858-577-9462. Non-	Same as Originating Activity	Daylight hours on odd numbered days	158
IR254	G-3, 3D MAW, MCAS Miramar, San Diego, CA 92145 DSN 267-9462, C858-577-9462. Non-	Same as Originating Activity	Daylight hours, Mon-Fri	99
IR255	G-3, 3D MAW, MCAS Miramar, San Diego, CA 92145 DSN 267-9462, C858-577-9462. Non-	Same as Originating Activity	Daylight hours, daily	67
IR264	366 OSS/OSTA, Mountain Home AFB, ID 83648 DSN 728-4722, C208-828-4722.	366 OSS/OSOS, Mountain Home AFB, ID 83648 DSN 728-2172, C208-828-4722.	By NOTAM	338
IR266	7 OSS/OSOR, 966 Ave. D-4, Ste. 118, Dyess AFB, TX 79607 DSN 461-3666, C325-696-3	7 OSS/OSOR, 966 Ave. D-4, Ste. 117, Dyess AFB, TX 79607 DSN 461-3663, C325-696-3	Continuous	457
IR275	366 OSS/OSTA, Mountain Home AFB, ID 83648 DSN 728-4722, C208-828-4722.	366 OSS/OSOS, Mountain Home AFB, ID 83648 DSN 728-2172, C208-828-2172.	By NOTAM	379
IR279	57 OSS/OSM, Nellis AFB, NV 89191 DSN 682-7891, C702-652-7891.	57 OSS/OSOS, 4450 Tyndall Ave., Nellis AFB, NV 89191 DSN 682-2040, C702-652-2040	Continuous	49
IR280	366 OSS/OSTA, Mountain Home AFB, ID 83648 DSN 728-4722, C208-828-4722.	366 OSS/OSOS Mountain Home AFB, ID 83648 DSN 728-2172, C208-828-2172. 366 WG/CP	By NOTAM	283
IR281	366 OSS/OSTA, Mountain Home AFB, ID 83648 DSN 728-4722, C208-828-4722.	366 OSS/OSOS Mountain Home AFB, ID 83648 DSN 728-2172, C208-828-2172. 366 WG/CP	By NOTAM	295

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR282	366 OSS/OSTA, Mountain Home AFB, ID 83648 DSN 728-4722, C208-828-4722.	366 OSS/OSOS Mountain Home AFB, ID 83648 DSN 728-2172, C208-828-2172. 366 WG/CP	By NOTAM	191
IR286	57 OSS/OSM, Nellis AFB, NV 89191 DSN 682-7891, C702-652-7891.	57 OSS/OSOS, 4450 Tyndall Ave., Nellis AFB, NV 89191 DSN 682-2040, C702-652-2040	Continuous	385
IR293	366 OSS/OSTA, Mountain Home AFB, ID 83648 DSN 728-4722, C208-828-4722.	366 OSS/OSOS, Mountain Home AFB, ID 83648 DSN 728-2172, C208-828-2172. (Scheduli	By NOTAM	311
IR300	366 OSS/OSOS, Mountain Home AFB, ID 83648 DSN 728-2172, C208-828-2172. (Scheduli	Same as Originating Activity	By NOTAM	390
IR301	124 WG/OGAM (ANG), 3996 W. Aeronca St., Boise Air Terminal, ID 83705-8004 DSN 42	124 WG/OSS (ANG), 3996 W. Aeronca St., Boise Air Terminal, ID 83705-8004 DSN 422	Continuous or by NOTAM	402
IR302	124 WG/OGAM (ANG), 3996 W. Aeronca St., Boise Air Terminal, ID 83705-8004 DSN 42	124 WG/OSS (ANG), 3996 W. Aeronca St., Boise Air Terminal, ID 83705-8004 DSN 422	Continuous or by NOTAM	452
IR303	366 OSS/OSAS, Mountain Home AFB, ID 83648 DSN 728-4722, C208-828-4722.	366 OSS/OSOS, Mountain Home AFB, ID 83648 DSN 728-2172, C208-828-2172. (Scheduli	By NOTAM	278
IR304	366 OSS/OSAS, Mountain Home AFB, ID 83648 DSN 728-4722, C208-828-4722.	366 OSS/OSOS, Mountain Home AFB, ID 83648 DSN 728-2172, C208-828-2172. (Scheduli	By NOTAM	314
IR305	124 WG/OGAM (ANG), 3996 W. Aeronca St., Boise Air Terminal, ID 83705-8004 DSN 42	124 WG/OSS (ANG), 3996 W. Aeronca St., Boise Air Terminal, ID 83705-8004 DSN 422	Continuous or by NOTAM	421
IR307	124 WG/OGAM (ANG), 3996 W. Aeronca St., Boise Air Terminal, ID 83705-8004 DSN 42	124 WG/OSS (ANG), 3996 W. Aeronca St., Boise Air Terminal, ID 83705-8004 DSN 422	Continuous or by NOTAM	402
IR308	58 OSS/DOO, Kirtland AFB, NM 87117-5861 DSN 263-5979/5888, C505-853-5979/5888/57	Same as Originating Activity	Continuous	218
IR320	7 OSS/OSOR, 966 Ave. D-4, Ste. 118, Dyess AFB, TX 79607 DSN 461-3663, C325-696-3	7 OSS/OSOR, 1001 Ave. D-4, Ste. 107, Dyess AFB, TX 79607 DSN 461-3663, C325-696-	Continuous	853
IR324	62 OSS/OSK, 1172 E. Street, McCord AFB, WA 98438 DSN 382-4057, C253-982-4057.	62 OSS/OSO, 100 Main St., McChord AFB, WA 98438 DSN 382-9925, C253-982-9925. Dut	Continuous	174
IR325	62 OSS/OSK, 1172 E. Street, McCord AFB, WA 98438 DSN 382-4057, C253-982-4057.	62 OSS/OSO, 100 Main St., McChord AFB, WA 98438 DSN 382-9925, C253-982-9925. Dut	Continuous	163
IR326	62 OSS/OSK, 1172 E. Street, McCord AFB, WA 98438 DSN 382-4057, C253-982-4057.	62 OSS/OSO, 100 Main St., McChord AFB, WA 98438 DSN 382-9925, C253-982-9925. Dut	Continuous	185
IR327	62 OSS/OSK, 1172 E. Street, McCord AFB, WA 98438 DSN 382-4057, C253-982-4057.	62 OSS/OSO, 100 Main St., McChord AFB, WA 98438 DSN 382-9925, C253-982-9925. Dut	Continuous	168
IR328	62 OSS/OSK, 1172 E. Street, McCord AFB, WA 98438 DSN 382-4057, C253-982-4057.	62 OSS/OSO, 100 Main St., McChord AFB, WA 98438 DSN 382-9925, C253-982-9925. Dut	Continuous	156
IR329	62 OSS/OSK, 160 McCarthy Blvd., McCord AFB, WA 98438 DSN 382-3615, C253-982-3615	62 OSS/OSO, 100 Main St., McChord AFB, WA 98438 DSN 382-9925, C253-982-9925. Dut	Continuous	156
IR330	62 OSS/OSK, 1172 E. Street, McCord AFB, WA 98438 DSN 382-4057, C253-982-4057.	62 OSS/OSO, 100 Main St., McChord AFB, WA 98438 DSN 382-9925, C253-982-9925. Dut	Continuous	113
IR341	62 OSS/OSK, 1172 E. St., McCord AFB, WA 98438 DSN 382-3615, C253-982-3615.	62 OSS/OSO, 100 Main St., McChord AFB, WA 98438 DSN 382-9925, C253-982-9925. Dut	Continuous	396

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2007 SUSTAINABLE RANGES REPORT

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR342	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave., Oak H	Same as Originating Activity. Scheduling hours 0700-1700 local, Mon-Fri only. Sa	Continuous	294
IR343	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave., Oak H	Same as Originating Activity. Scheduling hours 0700-1700 local, Mon-Fri only. Sa	Continuous	329
IR344	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave., Oak H	Same as Originating Activity. Scheduling hours 0700-1700 local, Mon-Fri only. Sa	Continuous	473
IR346	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave., Oak H	Same as Originating Activity. Scheduling hours 0700-1700 local, Mon-Fri only. Sa	Continuous	323
IR348	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave., Oak H	Same as Originating Activity. Scheduling hours 0700-1700 local, Mon-Fri only. Sa	Continuous	333
IR409	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave., Oak H	Same as Originating Activity. Scheduling hours 0700-1700 local, Mon-Fri only. Sa	Continuous	299
IR414	140th OG/CC Buckley ANGB Aurora, CO 80011-9546 DSN 847-9466, C720-847-9466.	140th OG/CC Buckley AFB Aurora, CO 80011-9546. Duty Hrs 0700-1700 DSN 847-9472,	0800-1600 local, Tue-Sat	194
IR415	140th OG/CC Buckley ANGB Aurora, CO 80011-9546 DSN 847-9466, C720-847-9466.	140th OG/CC Buckley AFB Aurora, CO 80011-9546. Duty Hrs 0700-1700 DSN 847-9472,	0800-1600 local, Tue-Sat; OT by NOTAM	106
IR416	140th OG/CC Buckley ANGB Aurora, CO 80011-9546 DSN 847-9466, C720-847-9466.	140th OG/CC Buckley AFB Aurora, CO 80011-9546. Duty Hrs 0700-1700 DSN 847-9472,	0800-1600 local, Tue-Sat; OT by NOTAM	174
IR418	140th OG/CC Buckley ANGB Aurora, CO 80011-9546 DSN 847-9466, C720-847-9466.	140th OG/CC Buckley AFB Aurora, CO 80011-9546. Duty Hrs 0700-1700 DSN 847-9472,	0800-1600 local, Tue-Sat; OT by NOTAM	320
IR420	388 RANS/DOA, 5948 Southgate Ave., Suite 211, Hill AFB, UT 84056-5232 DSN 777-69	388 RANS/DOA, D Ave., Bldg 120, Hill AFB, UT 84056-5232 DSN 777-4401, C801-777-4	0700-2400 local Mon-Thu, 0700-1800 local Fri, 0800-1700 local Sat	47
IR424	388 RANS/DOA, 5948 Southgate Ave., Suite 211, Hill AFB, UT 84056-5232 DSN 777-69	388 RANS/DOA, D Ave., Bldg 120, Hill AFB, UT 84056-5232 DSN 777-4401, C801-777-4	0700-2400 local Mon-Thu, 0700-1800 local Fri, 0800-1700 local Sat	40
IR425	140th OG/CC Buckley ANGB Aurora, CO 80011-9546 DSN 847-9466, C720-847-9466.	140th OG/CC Buckley AFB Aurora, CO 80011-9546. Duty Hrs 0700-1700 DSN 847-9472,	0800-1600 local, Tue-Sat; OT by NOTAM	151
IR473	Commander AFFTC, 412 OSS/OSAA, 235 S. Flightline Rd. Edwards AFB, CA 93523-6460	Commander AFFTC, 412 OSS/OSR, 300 East Yeager Blvd, Edwards AFB, CA 93524 DSN 52	Sunrise-Sunset by NOTAM	649
IR479	28 OSS/OSXA, 1956 Scott Dr., Ste. 201, Ellsworth AFB, SD 57706-4710 DSN 675-1230	28 OSS/OSXS, 1956 Scott Dr., Ste. 201, Ellsworth AFB, SD 57706-4710 DSN 675-4246	Continuous	708
IR480	120 FW/OSO (ANG) 2800 Airport Ave. B, Great Falls, MT 59404 DSN 279-2292, C406-7	Same as Originating Activity	By NOTAM	581
IR485	120 FW/ACC (ANG) 2800 Airport Ave. B, Great Falls, MT 59404 DSN 279-2292, C406-7	Same as Originating Activity	By NOTAM	421
IR492	28 OSS/OSXA, 1956 Scott Dr., Ste. 201, Ellsworth AFB, SD 57706-4710 DSN 675-1230	28 OSS/OSXS, 1956 Scott Dr., Ste. 201, Ellsworth AFB, SD 57706-4710 DSN 675-4246	Continuous	305

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR499	28 OSS/OSXA, 1956 Scott Dr., Ste. 201, Ellsworth AFB, SD 57706-4710 DSN 675-1230	28 OSS/OSXS, 1956 Scott Dr., Ste. 201, Ellsworth AFB, SD 57706-4710 DSN 675-4246	Continuous	583
IR500	28 OSS/OSXA, 1956 Scott Dr., Ste. 201, Ellsworth AFB, SD 57706-4710 DSN 675-1230	28 OSS/OSXS, 1956 Scott Dr., Ste. 201, Ellsworth AFB, SD 57706-4710 DSN 675-4246	Continuous	355
IR501	7 OSS/OSOR, 966 Ave. D-4, Ste. 117, Dyess AFB, TX 79607 DSN 461-3666, C325-696-3	7 OSS/OSOR, 966 Ave. D-4, Ste. 117, Dyess AFB, TX 79607 DSN 461-3665, C325-696-3	Continuous	541
IR503	7 OSS/OSOR, 966 Ave. D-4, Ste. 117, Dyess AFB, TX 79607 DSN 461-3666, C325-696-3	7 OSS/OSOR, 966 Ave. D-4, Ste. 117, Dyess AFB, TX 79607 DSN 461-3665, C325-696-3	Continuous	723
IR504	509 OSS/OSKA, 905 Spirit Blvd., Whiteman AFB, MO 65305 DSN 975-1713/1754, C660-6	Same as Originating Activity	1200-0500Z ++ daily	383
IR505	184 ARW, Det 1, (SHANGR), Smoky Hill ANG Range, 8429 West Farrelly Road, Salina,	184 ARW (Kansas ANG), McConnell AFB, KS 67221-9010 (1330-2215Z wkd, sked rqr 2 h	Continuous	402
IR508	509 OSS/OSKA, 905 Spirit Blvd., Whiteman AFB, MO 65305 DSN 975-1713/1754, C660-6	Same as Originating Activity	Continuous	427
IR509	185 FW/OGS, Sioux City, IA 51111-1300 DSN 585-0203.	Same as Originating Activity	By NOTAM, 2 Hr and 15 min prior to entry time required	138
IR514	185 FW/OGS, Sioux City, IA 51111-1300 DSN 585-0203.	Same as Originating Activity	By NOTAM, 2 Hr and 15 min prior to entry time required	299
IR518	185 FW/OGS, Sioux City, IA 51111-1300 DSN 585-0203.	Same as Originating Activity	By NOTAM, 2 Hr and 15 min prior to entry time required	251
IR527	114 FW (ANG), Joe Foss Field, Sioux Falls, SD 57104-0264 DSN 798-7745, C605-988-	114 FW (ANG), Joe Foss Field, Sioux Falls, SD 57104-0264 DSN 798-7754/7746, C605	Daylight hours, Mon-Sat, OT by NOTAM	239
IR592	114 FW (ANG), Joe Foss Field, Sioux Falls, SD 57104-0264 DSN 798-7745, C605-988-	114 FW (ANG), Joe Foss Field, Sioux Falls, SD 57104-0264 DSN 798-7754/7746, C605	Daylight hours, Tue-Sat, OT by NOTAM	306
IR605	114 FW (ANG), Joe Foss Field, Sioux Falls, SD 57104-0264 DSN 798-7745, C605-988-	114 FW (ANG), Joe Foss Field, Sioux Falls, SD 57104-0264 DSN 798-7754/7746, C605	Daylight hours, Tue-Sat, OT by NOTAM	223
IR606	185 FW/OGS, Sioux City, IA 51111-1300 DSN 585-0203.	Same as Originating Activity	By NOTAM, 2 Hr and 15 min prior to entry time required	284
IR608	114 FW (ANG), Joe Foss Field, Sioux Falls, SD 57104-0264 DSN 798-7745, C605-988-	114 FW (ANG), Joe Foss Field, Sioux Falls, SD 57104-0264 DSN 798-7754/7746, C605	Daylight hours, Mon-Sat, OT by NOTAM	239
IR609	509 OSS/OSKA, 905 Spirit Blvd., Whiteman AFB, MO 65305 DSN 975-1713/1754, C660-6	Same as Originating Activity	Continuous	433
IR610	183 FW/OSF, Capital Airport, Springfield, IL 62707 DSN 892-8202.	Same as Originating Activity	Sunrise-Sunset	173
IR613	509 OSS/OSKA, 905 Spirit Blvd., Whiteman AFB, MO 65305 DSN 975-1683, C660-687-16	509 OSS/OSOS, 905 Spirit Blvd., Whiteman AFB, MO 65305 DSN 975-1713/1754, C660-6	Continuous	648

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR614	148th FIG (ANG), Duluth Intl., MN 55811 DSN 825-7265.	Same as Originating Activity	Daily 1400-0500Z++, available OT	136
IR618	148th FIG (ANG), Duluth Intl., MN 55811 DSN 825-7265.	Same as Originating Activity	Daily 1400-0500Z++, Usage between 0500-1400Z++ is allowable	136
IR644	FACSFACNPA, Pensacola NAS, FL 32508 DSN 922-2735, C904-452-2735.	Same as Originating Activity	1200-0400Z++ Mon-Fri, weekends by NOTAM	257
IR649	5 OSS/OSTC, 300 Summit Dr., Minot AFB, ND 58705-5044 DSN 453-2967, C701-723-2967	23 BS/DOS, 300 Summit Dr., Minot AFB, ND 58705 DSN 453-2002/3527, C701-723-2002.	Continuous	796
IR654	5 OSS/OSTC, 300 Summit Dr., Minot AFB, ND 58705-5044 DSN 453-2967, C701-723-2967	23 BS/DOS, 300 Summit Dr., Minot AFB, ND 58705 DSN 453-2002/3527, C701-723-2002/	Continuous	779
IR655	114 FW (ANG), Joe Foss Field, Sioux Falls, SD 57104-0264 DSN 798-7745, C605-988-	114 FW (ANG), Joe Foss Field, Sioux Falls, SD 57104-0264 DSN 798-7754/7746, C605	Daylight hours, Tue-Sat, OT by NOTAM	198
IR656	183 FW/OSF, Capital Airport, Springfield, IL 62707 DSN 892-8202.	Same as Originating Activity	Daylight hours	135
IR678	181 FW (ANG), Hulman Regional Airport, 1100 S. Petercheff St., Tere Haute, IN 47	Same as Originating Activity	Sunrise-Sunset, Tue-Sun, OT by NOTAM	134
IR714	5 OSS/OSTC, 300 Summit Dr., Minot AFB, ND 58705-5044 DSN 453-2967, C701-723-2967	23 BS/DOS, 300 Summit Dr., Minot AFB, ND 58705 DSN 453-2639/3527, C701-723-2639/	Continuous	461
IR715	5 OSS/OSTC, 300 Summit Dr., Minot AFB, ND 58705-5044 DSN 453-2967, C701-723-2967	23 BS/DOS, 300 Summit Dr., Minot AFB, ND 58705 DSN 453-2639/3527, C701-723-2639/	Continuous	187
IR718	5 OSS/OSTC, 300 Summit Dr., Minot AFB, ND 58705-5044 DSN 453-2967, C701-723-2967	23 BS/DOS, 300 Summit Dr., Minot AFB, ND 58705 DSN 453-2002/3527, C701-723-2002/	Continuous	703
IR719	5 OSS/OSTC, 300 Summit Dr., Minot AFB, ND 58705-5044 DSN 453-2967, C701-723-2967	23 BS/DOS, 300 Summit Dr., Minot AFB, ND 58705 DSN 453-2002/3527, C701-723-2002/	Continuous	1078
IR720	5 OSS/OSTC, 300 Summit Dr., Minot AFB, ND 58705-5044 DSN 453-2967, C701-723-2967	23 BS/DOS, 300 Summit Dr., Minot AFB, ND 58705 DSN 453-2002/3527, C701-723-2002/	Continuous	953
IR721	5 OSS/A-3C, 300 Summit Dr., Minot AFB, ND 58705-5044 DSN 453-2967, C701-723-2967	23 BS/DOS, 300 Summit Dr., Minot AFB, ND 58705-5044 DSN 453-2002/3527, C701-723-	Continuous	528
IR723	COMFITWINGLANT, Oceana NAS, Virginia Beach, VA 23460 DSN 433-4014, C757-433-4014	FACSFAC VACAPES, Oceana NAS, Virginia Beach, VA 23460 DSN 433-1228, C757-433-122	Continuous	335
IR726	COMFITWINGLANT, Oceana NAS, Virginia Beach, VA 23460 DSN 433-4014, C757-433-4014	FACSFAC VACAPES, Oceana NAS, Virginia Beach, VA 23460 DSN 433-1228, C757-433-122	Continuous	397
IR743	COMFITWINGLANT, Oceana NAS, Virginia Beach, VA 23460 DSN 433-4014, C757-433-4014	FACSFAC VACAPES, Oceana NAS, Virginia Beach, VA 23460 DSN 433-1228, C757-433-122	Continuous	493
IR760	COMFITWINGLANT, Oceana NAS, Virginia Beach, VA 23460 DSN 433-4014, C757-433-4014	FACSFAC VACAPES, Oceana NAS, Virginia Beach, VA 23460 DSN 433-1228, C757-433-122	Continuous	423
IR761	COMFITWINGLANT, Oceana NAS, Virginia Beach, VA 23460 DSN 433-4014, C757-433-4014	FACSFAC VACAPES, Oceana NAS, Virginia Beach, VA 23460 DSN 433-1228, C757-433-122	Continuous	406

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR762	20 OSS/OSTA, Shaw AFB, SC 29152-5000 DSN 965-1121/1122, C803-895-1121/1122, Fax	20 OSS/OSOS, Shaw AFB, SC 29152 Duty hrs DSN 965-1118/1119, C803-895-1118/1119.	Continuous	199
IR800	FACSFACNPA, NAS Penscola, FL DSN 922-2735, C904-452-2735.	Same as Originating Activity	1200-0400Z++ Mon-Fri, occasionally weekends	262
IR801	20 OSS/OSTA, Shaw AFB, SC 29152-5000 DSN 965-1121/1122, C803-895-1121/1122, Fax	20 OSS/OSOS, Shaw AFB, SC 29152-5000 Duty hours DSN 965-1118/1119, C803-895-1118	Continuous	144
IR802	20 OSS/OSTA, Shaw AFB, SC 29152-5000 DSN 965-1121/1122, C803-895-1121/1122, Fax	20 OSS/OSOS, Shaw AFB, SC 29152 Duty hrs DSN 965-1118/1119, C803-895-1118/1119.	Continuous	143
IR803	COMFITWINGLANT, Oceana NAS, Virginia Beach, VA 23460 DSN 433-4014, C757-433-4014	FACSFAC VACAPES, Oceana NAS, Virginia Beach, VA 23460 DSN 433-1228, C757-433-122	Continuous	361
IR804	COMFITWINGLANT, Oceana NAS, Virginia Beach, VA 23460 DSN 433-4014, C757-433-4014	FACSFAC VACAPES, Oceana NAS, Virginia Beach, VA 23460 DSN 433-1228, C757-433-122	Continuous	323
IR805	COMFITWINGLANT, Oceana NAS, Virginia Beach, VA 23460 DSN 433-4014, C757-433-4014	FACSFAC VACAPES, Oceana NAS, Virginia Beach, VA 23460 DSN 433-1228, C757-433-122	Continuous	324
IR850	104 FW, Barnes ANGB, Westfield, MA 01085-1385 DSN 636-9228/9229, C413-568-9151 e	Same as Originating Activity	Continuous	895
IR851	174 FW, Det 1, Ft. Drum, NY 13608 DSN 772-5990/2835, C315-772-5990.	Same as Originating Activity	Continuous	296
IR852	5 OSS/OSTC, 300 Summit Dr., Minot AFB, ND 58705-5044 DSN 453-2967, C701-723-2967	23 BS/DOS, 300 Summit Dr., Minot AFB, ND 58705 DSN 453-2002/3527, C701-723-2002/	Continuous	546
IR900	5 OSS/OSTC, 300 Summit Dr., Minot AFB, ND 58705-5044 DSN 453-2967, C701-723-2967	23 BS/DOS, 300 Summit Dr., Minot AFB, ND 58705 DSN 453-2002/3527, C701-723-2002/	Continuous	386
IR901	5 OSS/OSTC, 300 Summit Dr., Minot AFB, ND 58705-5044 DSN 453-2967, C701-723-2967	23 BS/DOS, 300 Summit Dr., Minot AFB, ND 58705 DSN 453-2002/3527, C701-723-2002/	Continuous	1221
IR902	5 OSS/OSTC, 300 Summit Dr., Minot AFB, ND 58705-5044 DSN 453-2967, C701-723-2967	23 BS/DOS, 300 Summit Dr., Minot AFB, ND 58705 DSN 453-2002/3527, C701-723-2002/	Continuous	589
IR903	Commander, Naval Air Warfare Center Weapons Division, Code 52E000E, NAWS, Pt. Mu	Commander, Naval Air Warfare Center Weapons Division, Code 52911GE, NAWS, Pt. Mu	Sunrise-Sunset by NOTAM	295
IR905	Commander, Naval Air Warfare Center Weapons Division, Code 52E000E, NAWS, Pt. Mu	Commander, Naval Air Warfare Center Weapons Division, Code 52911GE, NAWS, Pt. Mu	Daily Sunrise-Sunset	391
IR909	Commander, Naval Air Warfare Center Weapons Division, Code 52E000E, NAWS, Pt. Mu	Commander, Naval Air Warfare Center Weapons Division, Code 52911GE, NAWS, Pt. Mu	Sunrise-Sunset	199
IR911	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	179
IR912	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	3 OSS/OSOS, Elmendorf AFB, AK 99506 DSN 317-552-2406, C907-552-2406.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	69

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR913	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	3 OSS/OSOS, Elmendorf AFB, AK 99506 DSN 317-552-2406, C907-552-2406.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	190
IR915	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	3 OSS/OSOS, Elmendorf AFB, AK 99506 DSN 317-552-2406, C907-552-2406.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	216
IR916	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	3 OSS/OSOS, Elmendorf AFB, AK 99506 DSN 317-552-2406, C907-552-2406.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	495
IR917	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	83
IR918	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	3 OSS/OSOS, Elmendorf AFB, AK 99506 DSN 317-552-2406, C907-552-2406.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	69
IR919	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	3 OSS/OSOS, Elmendorf AFB, AK 99506 DSN 317-552-2406, C907-552-2406.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	190
IR921	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	3 OSS/OSOS, Elmendorf AFB, AK 99506 DSN 317-552-2406, C907-552-2406.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	216
IR922	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	3 OSS/OSOS, Elmendorf AFB, AK 99506 DSN 317-552-2406, C907-552-2406.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	189
IR923	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	156
IR926	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	164

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR927	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	141
IR928	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	221
IR929	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	171
IR939	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	114
IR952	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	114
IR953	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	113
IR983	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	58
SR038	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	41
SR039	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	41
SR040	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	83

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2007 SUSTAINABLE RANGES REPORT

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length (NM)**
SR059	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	731
SR060	611 AOG/CC, 9480 Pease Ave., Ste. 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	513
SR061	PACAF/DOCS, 25 E ST, SUITE I232, HICKAM AFB, HI 96853-5426 DSN 449-4173.	36 OSS/OSA, UNIT 14035, APO AP 96542-4035 DSN(315)-366-2770.	Continuous	582
SR062	815 AS, Keesler AFB, MS 39534 DSN 597-1920, C601-377-1920.	Same as Originating Activity	0600-2200 local	140
SR069	815 AS, Keesler AFB, MS 39534 DSN 597-1920, C601-377-1920.	Same as Originating Activity	0600-2200 local	147
SR070	815 AS, Keesler AFB, MS 39534 DSN 597-1920, C601-377-1920.	Same as Originating Activity	0600-2200 local	101
SR071	Base Operations, Lawson AAF, Fort Benning, Ga. DSN 835-3524/2857 C706-545-3524.	Same as Originating Activity	Continuous	159
SR072	Base Operations, Lawson AAF, Fort Benning, Ga. DSN 835-3524/2857 C706-545-3524.	Same as Originating Activity	Continuous	95
SR073	940SS/Dobbins AFB, GA 30069-5009 DSN 625-4107.	Same as Originating Activity	1200-0300Z ++	107
SR074	118 AW, 240 Knapp Blvd, Nashville, TN 37217, DSN 778-6362/6342, C615-399-5662/56	Same as Originating Activity	Continuous	177
SR075	118 AW, 240 Knapp Blvd, Nashville, TN 37217, DSN 778-6362/6342, C615-399-5662/56	Same as Originating Activity	Continuous	173
SR1001	118 AW, 240 Knapp Blvd, Nashville, TN 37217, DSN 778-6362/6342, C615-399-5662/56	Same as Originating Activity	Continuous	125
SR1002	118 AW, 240 Knapp Blvd, Nashville, TN 37217, DSN 778-6362/6342, C615-399-5662/56	Same as Originating Activity	Continuous	122
SR1003	908 AW, 401 W Maxwell Blvd, Maxwell AFB, AL 36112-6591 DSN 493-5016, C334-953-50	Same as Originating Activity	1400-0400Z++	124
SR1004	908 AW, 401 W Maxwell Blvd, Maxwell AFB, AL 36112-6591 DSN 493-5016, C334-953-50	Same as Originating Activity	1400-0400Z++	155
SR1005	908 AW, 401 W Maxwell Blvd, Maxwell AFB, AL 36112-6591 DSN 493-5016, C334-953-50	Same as Originating Activity	1300-0500Z++	150
SR1006	908 AW, 401 W Maxwell Blvd, Maxwell AFB, AL 36112-6591 DSN 493-5016, C334-953-50	Same as Originating Activity	1300-0500Z++	156
SR1007	164th TAG (ANG), Memphis Intl, TN 38118 DSN 966-8130.	Same as Originating Activity	Continuous	147
SR1008	164th TAG (ANG), Memphis Intl, TN 38118 DSN 966-8130.	Same as Originating Activity	Continuous	163
SR1009	164th TAG (ANG), Memphis Intl, TN 38118 DSN 966-8130.	Same as Originating Activity	Continuous	119

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\*\* Length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR101	3 OSS/DOH, 10460 L Street, Elmendorf AFB, AK 99506-2670 DSN 317-552-4658, C907-5	3 OSS/DOTS, DSN 317-552-3457, C907-552-3457.	Continuous	180
SR1010	3 OSS/DOH, 10460 L Street, Elmendorf AFB, AK 99506-2670 DSN 317-552-4658, C907-5	3 OSS/DOTS, DSN 317-552-3457, C907-552-3457.	Continuous	79
SR102	3 OSS/DOH, 10460 L Street, Elmendorf AFB, AK 99506-2670 DSN 317-552-4658, C907-5	3 OSS/DOTS, DSN 317-552-3457, C907-552-3457.	Continuous	112
SR103	3 OSS/DOH, 10460 L Street, Elmendorf AFB, AK 99506-2670 DSN 317-552-4658, C907-5	3 OSS/DOTS, DSN 317-552-3457, C907-552-3457.	Continuous	81
SR104	3 OSS/DOH, 10460 L Street, Elmendorf AFB, AK 99506-2670 DSN 317-552-4658, C907-5	3 OSS/DOTS, DSN 317-552-3457, C907-552-3457.	Continuous	145
SR105	3 OSS/DOH, 10460 L Street, Elmendorf AFB, AK 99506-2670 DSN 317-552-4658, C907-5	3 OSS/DOTS, DSN 317-552-3457, C907-552-3457.	Continuous	56
SR106	3 OSS/DOH, 10460 L Street, Elmendorf AFB, AK 99506-2670 DSN 317-552-4658, C907-5	3 OSS/DOTS, DSN 317-552-3457, C907-552-3457.	Continuous	74
SR119	3 OSS/DOH, 10460 L Street, Elmendorf AFB, AK 99506-2670 DSN 317-552-4658, C907-5	3 OSS/DOTS, DSN 317-552-3457, C907-552-3457.	Continuous	114
SR137	3 OSS/DOH, 10460 L Street, Elmendorf AFB, AK 99506-2670 DSN 317-552-4658, C907-5	3 OSS/DOTS, DSN 317-552-3457, C907-552-3457.	Continuous	190
SR138	16 OSS/DOO, Hurlburt Field, FL 32544 DSN 579-6877/7812, C850-884-6877/7812.	Same as Originating Activity	Continuous	907
SR166	3 OSS/DOH, 10460 L Street, Elmendorf AFB, AK 99506-2670 DSN 317-552-4658, C907-5	3 OSS/DOTS, DSN 317-552-3457, C907-552-3457.	Continuous	154
SR200	16 OSS/DOO, Hurlburt Field, FL 32544 DSN 579-6877/7812, C850-884-6877/7812.	Same as Originating Activity	Continuous	291
SR201	16 OSS/DOO, Hurlburt Field, FL 32544 DSN 579-6877/7812, C850-884-6877/7812.	Same as Originating Activity	Continuous	434
SR205	16 OSS/DOO, Hurlburt Field, FL 32544 DSN 579-6877/7812, C850-884-6877/7812.	Same as Originating Activity	Continuous	823
SR206	16 OSS/DOO, Hurlburt Field, FL 32544 DSN 579-6877/7812, C850-884-6877/7812.	Same as Originating Activity	Continuous	226
SR208	16 OSS/DOO, Hurlburt Field, FL 32544 DSN 579-6877/7812, C850-884-6877/7812.	Same as Originating Activity	Continuous	427
SR210	16 OSS/DOO, Hurlburt Field, FL 32544 DSN 579-6877/7812, C850-884-6877/7812.	Same as Originating Activity	Continuous	801
SR211	14 OSS/OSOP, Columbus AFB, MS 39701-5000 DSN 742-7560, C662-434-7560.	37/41 FTS, Columbus AFB, MS 39701-5000 DSN 742-7666/7667, C662-434-7666/7667. (W)	SR-SS, Daily	143
SR212	14 OSS/OSOP, Columbus AFB, MS 39701-5000 DSN 742-7560, C662-434-7560.	37/41 FTS, Columbus AFB, MS 39701-5000 DSN 742-7666/7667, C662-434-7666/7667.	SR-SS, Mon-Fri	143
SR213	437 OSS/OSTA, Charleston AFB, SC 29404-5054 DSN 673-5613, C843-963-5613.	20 OSS/OSOS, Shaw AFB, SC 29152-5000 DSN 965-1118/1119, FAX DSN 965-4804. After	Continuous	153

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\*\* Length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

2007 SUSTAINABLE RANGES REPORT

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR214	58 OSS/DOO, Kirtland AFB, NM 87117-5861 DSN 263-5979/5888/5701, C505-853-5979/58	Same as Originating Activity	Continuous	242
SR216	58 OSS/DOO, Kirtland AFB, NM 87117-5861 DSN 263-5979/5888/5701, C505-853-5979/58	Same as Originating Activity	Continuous	420
SR217	97 OSS/DOA, 400 N. 6th Street, Altus AFB, OK 73521 DSN 866-6098.	Same as Originating Activity	Continuous	88
SR218	97 OSS/DOA, 400 N. 6th Street, Altus AFB, OK 73521 DSN 866-6098	Same as Originating Activity	Continuous	99
SR219	97 OSS/DOA, 400 N. 6th Street, Altus AFB, OK 73521 DSN 866-6098.	Same as Originating Activity	Continuous	116
SR220	58 OSS/DOO, Kirtland AFB, NM 87117-5861 DSN 263-5979/5888/5701, C505-853-5979/58	Same as Originating Activity	Continuous	148
SR221	58 OSS/DOO, Kirtland AFB, NM 871175861 DSN 263-5979/5888/5701, C505-853-5979/588	Same as Originating Activity	Continuous	189
SR222	58 SOW, 4249 Hercules Way SE, Kirtland AFB, NM 87117 DSN 263-5701, C505-853-5701	58 OSS/DOO, 4249 Hercules Way SE, Kirtland AFB, NM 87117 DSN 263-5701, C505-853-	Continuous	230
SR223	58 SOW, 4249 Hercules Way SE, Kirtland AFB, NM 87117 DSN 263-5701, C505-853-5701	58 OSS/DOO, 4249 Hercules Way SE, Kirtland AFB, NM 87117 DSN 263-5701, C505-853-	Continuous	234
SR224	58 SOW, 4249 Hercules Way SE, Kirtland AFB, NM 87117 DSN 263-5701, C505-853-5701	58 OSS/DOO, 4249 Hercules Way SE, Kirtland AFB, NM 87117 DSN 263-5701, C505-853-	Continuous	249
SR225	97 OSS/DOA, 400 N. 6th Street, Altus AFB, OK 73521 DSN 866-6098.	Same as Originating Activity	Continuous	111
SR226	97 OSS/DOA, 400 N. 6th Street, Altus AFB, OK 73521 DSN 866-6098.	Same as Originating Activity	Continuous	114
SR227	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-33	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-37	Continuous	303
SR228	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4983 DSN 731-330	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4983 DSN 731-37	Continuous	275
SR229	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-33	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-37	Continuous	198
SR230	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4836 DSN 731-33	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4983 DSN 731-37	Continuous	1016
SR231	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-33	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-37	Continuous	129
SR232	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-33	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-37	Continuous	137
SR233	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-33	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-37	Continuous	291
SR234	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-33	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-37	Continuous	278

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\*\* Length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR235	314 OSS/OSK, 380 CMSGT Williams Street, Little Rock AFB, AR 72099-4976 DSN 731-3	314 OSS/OSK, 380 CMSGT Williams Street, Little Rock AFB, AR 72099-4976 DSN 731-3	Continuous	73
SR236	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-33	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-37	Continuous	278
SR237	136 TAW/Operations Hensley Field , Dallas, TX 75211 DSN 874-6207.	Same as Originating Activity	Continuous	193
SR238	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-33	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-37	Continuous	234
SR239	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-33	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-37	Continuous	311
SR240	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-33	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-37	Continuous	302
SR241	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-33	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-37	Continuous	239
SR242	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	204
SR243	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	127
SR244	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850 C580-213-7850.	8 FTS/DOO, Vance AFB, OK 73705-5202 DSN 448-6037 C580-213-6037	Sunrise -Sunset and active days per local directives	126
SR245	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	196
SR246	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-33	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-37	Continuous	107
SR247	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-33	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-37	Continuous	98
SR249	314 OSS/OSK, 380 CMSGT Williams Street, Little Rock AFB, AR 72099-4976 DSN 731-3	314 OSS/OSK, 380 CMSGT Williams Street, Little Rock AFB, AR 72099-4976 DSN 731-3	Continuous	139
SR250	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	134
SR251	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850 C580-213-7850.	8 FTS/DOO, Vance AFB, OK 73705-5202 DSN 448-6037 C580-213-6037.	Sunrise-Sunset and active days per local directives	143
SR253	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	195
SR255	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	163
SR258	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	120
SR261	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	129
SR267	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-33	314 OSS/OSK, 380 CMSGT Williams Drive, Little Rock AFB, AR 72099-4976 DSN 731-37	Continuous	230
SR270	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850 C580-213-7850.	8 FTS/DOO, Vance AFB, OK 73705-5202 DSN 448-6037 C580-213-6037.	Sunrise-Sunset and active days per local directives	143

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\*\* Length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR273	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	197
SR274	463 TAW, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	80
SR275	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	73
SR276	71 FTS/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850 C580-213-7850.	8FTS/DOO, Vance AFB, OK 73705-5202 DSN 448-6037 C580-213-6037.	Sunrise-Sunset and active days per local directives	126
SR277	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	86
SR280	317 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	172
SR281	317 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	133
SR282	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	172
SR283	136 TAW/Operations Hensley Field, Dallas, TX 75211 DSN 874-6207.	Same as Originating Activity	0700-2200 local	182
SR284	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	156
SR286	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850, C580-213-7850.	32 FTS/DOOT, Vance AFB, OK 73705-5202 DSN 448-6251, C580-213-6251.	Sunrise to Sunset daily	169
SR287	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850, C580-213-7850.	32 FTS/DOOT, Vance AFB, OK 73705-5202 DSN 448-6251, C580-213-6251.	Sunrise to Sunset daily	169
SR290	47 OSS/OSOR, 570 2nd St., Ste 6, Laughlin AFB, TX 78843-5222 DSN 732-5864, C830-	86 FTS/DOS, 80 Rio Lobo Ln, Laughlin AFB, TX 78843 DSN 732-5584, C830-298-5584.	Sunrise-Sunset daily	185
SR292	47 OSS/OSOR, 570 2nd St., Ste. 6, Laughlin AFB, TX 78843-5222 DSN 732-5864, C830	86 FTS/DOS, 80 Rio Lobo Ln, Laughlin AFB, TX 78843 DSN 732-5584, C830-298-5584.	Sunrise-Sunset daily	183
SR293	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	47
SR294	47 OSS/OSOR, 570 2nd St., Ste 6, Laughlin AFB, TX 78843-5222 DSN 732-5864/5337,	85 FTS/DOS, 570 2nd St., Laughlin AFB, TX 78843-5220 DSN 732-5121/5429, C830-298	Sunrise-Sunset daily	686
SR295	47 OSS/OSOR, 570 2nd St., Ste. 6, Laughlin AFB, TX 78843-5222 DSN 732-5864/5337,	85 FTS/DOS, 570 2nd St., Laughlin AFB, TX 78843-5220 DSN 732-5121/5429, C830-298	Sunrise-Sunset daily	670
SR296	47 OSS/OSOR, 570 2nd St., Ste 6, Laughlin AFB, TX 78843-5222 DSN 732-5864, C830-	85 FTS/DOS, 570 2nd St., Laughlin AFB, TX 78843-5220 DSN 732-5121, C830-298-5121	Sunrise-Sunset daily	133
SR300	47 OSS/OSOR, 570 2nd St., Ste. 6, Laughlin AFB, TX 78843-5222 DSN 732-5864, C830	85 FTS/DOS, 570 2nd St., Laughlin AFB, TX 78843-5220 DSN 732-5121, C830-298-5121	Sunrise-Sunset daily	133
SR301	12 OSS/OSOA, Randolph AFB, TX 78150-5000 DSN 487-5580, C210-652-5580.	559 FTS, Randolph AFB, TX 78150 DSN 487-5661, C210-652-5661.	Sunrise-Sunset Daily, except holidays	115
SR311	12 OSS/OSOA, Randolph AFB, TX 78150-5000 DSN 487-5580, C210-652-5580.	559 FTS, Randolph AFB, TX 78150 DSN 487-5661, C210-652-5661.	Sunrise-Sunset Daily, except holidays	118
SR353	12 OSS/OSOA, Randolph AFB, TX 78150-5000 DSN 487-5580, C210-652-5580.	559 FTS, Randolph AFB, TX 78150 DSN 487-5661, C210-652-5661.	Sunrise-Sunset Daily, except holidays	120
SR359	12 OSS/OSOA, Randolph AFB, TX 78150-5000 DSN 487-5580, C210-652-5580.	559 FTS, Randolph AFB, TX 78150 DSN 487-5661, C210-652-5661.	Sunrise-Sunset daily except holidays	114

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\*\* Length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR381	12 OSS/OSOA, Randolph AFB, TX 78150-5000 DSN 487-5580, C210-652-5580.	559 FTS, Randolph AFB, TX 78150 DSN 487-5661, C210-652-5661.	Sunrise- Sunset daily	109
SR390	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850 C580-213-7850.	8 FTS/DOO, Vance AFB, OK 73705-5202 DSN 448-6037 C580-213-6037.	Sunrise-Sunset	198
SR397	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850 C580-213-7850.	8 FTS/DOO, Vance AFB, OK 73705-5202 DSN 448-6037 C580-213-6037.	Sunrise-Sunset	194
SR398	71 FTW/OSOP, Vance AFB, OK 73705-5202 DSN 448-7850 C580-213-7850.	8 FTS/DOO, Vance AFB, OK 73705-5202 DSN 448-6037 C580-213-6037.	Sunrise-Sunset	179
SR488	129 RQW/DOW, PO Box 103, Stop 14, Moffett Federal Afl, CA 94035-5000 DSN 359-93	Same as Originating Activity	Continuous	761
SR489	129 RQW/DOW, PO Box 103, Stop 14, Moffett Federal Afl, CA 94035-5000 DSN 359-93	Same as Originating Activity	Continuous	761
SR616	129 RQW/DOW, PO Box 103, Stop 14, Moffett Federal Afl, CA 94035-5000 DSN 359-93	Same as Originating Activity	Continuous	145
SR617	129 RQW/DOW, PO Box 103, Stop 14, Moffett Federal Afl, CA 94035-5000 DSN 359-93	Same as Originating Activity	Continuous	110
SR618	129 RQW/DOW, PO Box 103, Stop 14, Moffett Federal Afl, CA 94035-5000 DSN 359-93	Same as Originating Activity	Continuous	145
SR619	129 RQW/DOW, PO Box 103, Stop 14, Moffett Federal Afl, CA 94035-5000 DSN 359-93	Same as Originating Activity	Continuous	141
SR701	146 AW/DOXT (ANG), 106 Mulcahey Dr., Port Hueneme, CA 93041-4003 DSN 893-7590/75	Same as Originating Activity	Continuous	97
SR702	146 AW/DOXT (ANG), 106 Mulcahey Dr., Port Hueneme, CA 93041-4003 DSN 893-7590/75	Same as Originating Activity	Continuous	114
SR703	129 RQW/DOW, PO Box 103, Stop 14, Moffett Federal Afl, CA 94035-5000 DSN 359-93	Same as Originating Activity	Continuous	43
SR707	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	175
SR708	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	119
SR709	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	118
SR710	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	185
SR711	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	355
SR712	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	162
SR713	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	334

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\*\* Length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

2007 SUSTAINABLE RANGES REPORT

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR714	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	192
SR715	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	310
SR727	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	31
SR728	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	23
SR729	153 TAG, Cheyenne, WY 82001 DSN 553-1347.	Same as Originating Activity	0900-2200 Lcl Tue-Wed; 1900-2200 Lcl Fri; 0800-2200 Lcl Sat-Sun	124
SR730	153 TAG, Cheyenne, WY 82001 DSN 553-1347.	Same as Originating Activity	0900-2200 Lcl Tue-Wed; 1900-2200 Lcl Fri; 0800-2200 Lcl Sat-Sun	232
SR731	153 TAG, Cheyenne, WY 82001 DSN 553-1347.	Same as Originating Activity	0900-2200 Lcl Tue-Wed; 1900-2200 Lcl Fri; 0800-2200 Lcl Sat-Sun	155
SR771	139 Airlift Wg., 705 Memorial Drive, St. Joseph, MO 64503-9307 DSN 356-3225/3470	Same as Originating Activity	1300-0500Z++ daily	148
SR776	139 Airlift Wg., 705 Memorial Drive, St. Joseph, MO 64503-9307 DSN 356-3225/3470	Same as Originating Activity	1300-0500Z++ daily	147
SR781	139 Airlift Wg., 705 Memorial Drive, St. Joseph, MO 64503-9307 DSN 356-3225/3470	Same as Originating Activity	1300-0500Z++ daily	128
SR782	139 Airlift Wg., 705 Memorial Drive, St. Joseph, MO 64503-9307 DSN 356-3225/3470	Same as Originating Activity	1300-0500Z++ daily	136
SR785	191 AG, Selfridge ANGB, MI 48045 DSN 273-4498/4441, C810-463-3664.	Same as Originating Activity	1600-0400Z++ Tue-Sat, 1600-2200Z++ Sun	177
SR800	191 AG, Selfridge ANGB, MI 48045 DSN 273-4498/4441, C810-463-3664.	Same as Originating Activity	1600-0400Z++ Tue-Sat, 1600-2200Z++ Sun	166
SR801	191 AG, Selfridge ANGB, MI 48045 DSN 273-4498/4441, C810-463-3664.	Same as Originating Activity	1600-0400Z++ Tue-Sat, 1600-2200Z++ Sun	75
SR802	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	142

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR803	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	164
SR804	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	105
SR805	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	110
SR806	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	115
SR807	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	140
SR808	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	117
SR820	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	88
SR821	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	148
SR822	133 TAW, Minneapolis-St. Paul Intl, MN 55111, DSN 825-5680.	Same as Originating Activity	1930-2230 lcl Tue and Thu; 1000-1500 lcl third Sat each month; OT by NOTAM	200
SR823	133 TAW, Minneapolis-St. Paul Intl, MN 55111, DSN 825-5680.	Same as Originating Activity	1930-2230 lcl Tue and Thu; 1000-1500 lcl third Sat each month; OT by NOTAM	179
SR825	133 TAW, Minneapolis-St. Paul Intl, MN 55111, DSN 825-5680.	Same as Originating Activity	1930-2230 lcl Tue and Thu; 1000-1500 lcl third Sat each month; OT by NOTAM	142
SR835	133 TAW, Minneapolis-St. Paul Intl, MN 55111, DSN 825-5680.	Same as Originating Activity	1930-2230 lcl Tue and Thu; 1000-1500 lcl third Sat each month; OT by NOTAM	136
SR844	133 TAW, Minneapolis-St. Paul Intl, MN 55111, DSN 825-5680.	Same as Originating Activity	1930-2230 lcl Tue and Thu; 1000-1500 lcl third Sat each month; OT by NOTAM	88
SR845	440 AW/DOO, General Mitchell IAP, Milwaukee, WI 53207, DSN 741-5155/5157, FAX DS	Same as Originating Activity	2200-0330Z++ Tue-Fri; 1500-2200Z++ Sat-Sun	255
SR846	440 AW/DOO, General Mitchell IAP, Milwaukee, WI 53207, DSN 741-5155/5157, FAX DS	Same as Originating Activity	2000-0400Z++ Tue-Fri; 1600-2200Z++ Sat-Sun	159

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR847	Alpena CRTC/OTM (ANG), 5884 A Street, Alpena MI 49707-8125 DSN 741-3509/3226.	Same as Originating Activity	0700-2300 local daily	119
SR867	Alpena CRTC/OTM (ANG), 5884 A Street, Alpena MI 49707-8125 DSN 741-3509/3226.	Same as Originating Activity	0700-2300 local daily	152
SR871	440 AW/DOO, General Mitchell IAP, Milwaukee, WI 53207, DSN 741-5155/5157, FAX DS	Same as Originating Activity	2000-0400Z++ Tue-Fri; 1600-2200Z++ Sat-Sun	141
SR872	913 AG (AFRC), Willow Grove ARS, Willow Grove, PA 19090 DSN 991-1910/1981, C215-	Same as Originating Activity	0800-2300 local	155
SR873	913 AG (AFRC), Willow Grove ARS, Willow Grove, PA 19090 DSN 991-1910/1981, C215-	Same as Originating Activity	0800-2300 local	207
SR874	167 TAG, Eastern West Virginia Regional, Martinsburg, WV 25401 DSN 242-9250.	Same as Originating Activity	Continuous	80
SR900	167 TAG, Eastern West Virginia Regional, Martinsburg, WV 25401 DSN 242-9250.	Same as Originating Activity	Continuous	87
SR901	167 TAG, Eastern West Virginia Regional, Martinsburg, WV 25401 DSN 242-9250.	Same as Originating Activity	Continuous	95
SR902	913 AG (AFRC), Willow Grove ARS, Willow Grove, PA 19090 DSN 991-1910/1981, C215-	Same as Originating Activity	0800-2300 local	156
SR904	167 TAG, Eastern West Virginia Regional, Martinsburg, WV 25401 DSN 242-9250.	Same as Originating Activity	Continuous	121
SR905	167 TAG, Eastern West Virginia Regional, Martinsburg, WV 25401 DSN 242-9250.	Same as Originating Activity	Continuous	141
VR025	167 TAG, Eastern West Virginia Regional, Martinsburg, WV 25401 DSN 242-9250.	Same as Originating Activity	Continuous	170
VR041	327 AS/DOXT, 1146 Fairchild Street, Willow Grove ARS, PA DSN 991-1910, C215-443-1	Same as Originating Activity	0900-2300 local daily	141
VR042	327 AS/DOXT, 1146 Fairchild Street, Willow Grove ARS, PA DSN 991-1910, C215-443-1	Same as Originating Activity	0900-2300 local daily	129
VR043	911 AW, Pittsburgh Intl, PA DSN 277-8722/8761.	Same as Originating Activity	1000-0300Z Mon-Sat	125
VR045	914 AW/328 AS, 10460 Wagner Dr, Niagra Falls Intl Airport, NY 14304-5010, DSN 238	Same as Originating Activity	1500-0300Z++	183
VR054	914 AW/328 AS, 10460 Wagner Dr, Niagra Falls Intl Airport, NY 14304-5010, DSN 238	Same as Originating Activity	1500-0300Z++	181
VR058	327 AS/DOXT, 1146 Fairchild Street, Willow Grove ARS, PA DSN 991-1910, C215-443-1	Same as Originating Activity	0900-2300 local	132
VR060	166 Airlift Gp, 166 OSF/DOW, 2600 Spruance Dr, Corporate Commons, New Castle, DE	Same as Originating Activity	0800-2359 local	153
VR071	166 Airlift Gp, 166 OSF/DOW, 2600 Spruance Dr, Corporate Commons, New Castle, DE	Same as Originating Activity	0800-2359 local	199

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR073	166 Airlift Gp, 166 OSF/DOW, 2600 Spruance Dr, Corporate Commons, New Castle, DE	Same as Originating Activity	0800-2359 local	111
VR083	166 Airlift Gp, 166 OSF/DOW, 2600 Spruance Dr, Corporate Commons, New Castle, DE	Same as Originating Activity	0800-2359 local	66
VR084	Commander, Ft Pickett, VA 23824-5000 DSN 438-8506, C804-292-8506.	Same as Originating Activity	Continuous	196
VR085	130 AG (ANG), Kanawha County, Charleston, WV 25311 DSN 366-6291.	Same as Originating Activity	0800-2300 local	149
VR086	130 AG (ANG), Kanawha County, Charleston, WV 25311 DSN 366-6291.	Same as Originating Activity	0800-2300 Local	156
VR087	130 AG (ANG), Kanawha County, Charleston, WV 25311 DSN 366-6291.	Same as Originating Activity	0800-2300 local	155
VR088	130 AG (ANG), Kanawha County, Charleston, WV 25311 DSN 366-6291.	Same as Originating Activity	0800-2300 local	129
VR092	143 AW/Operations, 7 Flightline Dr, North Kingstown, RI 02852-7548 DSN 476-3405,	Same as Originating Activity	1200-0400Z++ Daily	152
VR093	143 AW/Operations, 7 Flightline Dr, North Kingstown, RI 02852-7548 DSN 476-3405,	Same as Originating Activity	1200-0400Z++ Daily	98
VR094	143 AW/Operations, 7 Flightline Dr, North Kingstown, RI 02852-7548 DSN 476-3405,	Same as Originating Activity	1200-0400Z++ Daily	160
VR095	143 AW/Operations, 7 Flightline Dr, North Kingstown, RI 02852-7548 DSN 476-3405,	Same as Originating Activity	1000-2200 local	183
VR096	143 AW/Operations, 7 Flightline Dr, North Kingstown, RI 02852-7548 DSN 476-3405,	Same as Originating Activity	1000-2200 local	97
VR097	4 OSS/OSR, Seymour Johnson AFB, NC 27531-5004 DSN 722-2672, C919-722-2672.	4 OSS/OSOSF, Seymour Johnson AFB, NC 27531-5004 DSN 722-2129/2124, C919-722-2129	0700-2100 local Mon-Fri, OT by NOTAM	34
VR100	20 OSS/OSTA, Shaw AFB, SC 29152 DSN 965-1121/1122, C803-895-1121/1122, Fax DSN 9	20 OSS/OSOS, Shaw AFB, SC 29152 DSN 965-1118/1119, C803-895-1118/1119. Non-duty	Continuous ( Jan, Mar, May, Jul, Sep, Nov) VR-092 reverse direction other months	199
VR1001	187 FW, 5187 Selma Highway , Montgomery, AL 36108-4824 DSN 358-9255, C334-394-72	Same as Originating Activity	0700-1700 Local or by NOTAM	123
VR1002	4 OSS/OSR, Seymour Johnson AFB, NC 27531-5004 DSN 722-2672, C919-722-2672.	4 OSS/OSOSF, Seymour Johnson AFB, NC 27531-5004 DSN 722-2129/2124, C919-722-2129	0700-2100 local Mon-Fri, OT by NOTAM	29
VR1003	4 OSS/OSR, Seymour Johnson AFB, NC 27531-5004 DSN 722-2672, C919-722-2672.	4 OSS/OSOSF, Seymour Johnson AFB, NC 27531-5004 DSN 722-2129/2124, C919-722-2129	Continuous	222
VR1004	4 OSS/OSE, Seymour Johnson AFB, NC 27531 DSN 722-2672, C919-722-2672	4 OSS/OSOSF Seymour Johnson AFB, NC 27531-5004 Duty hrs DSN 722-2129/2124, C919-	Continuous	238
VR1005	4 OSS/OSR, Seymour Johnson AFB, NC 27531-5004 DSN 722-2672, C919-722-2672.	4 OSS/OSOSF, Seymour Johnson AFB, NC 27531-5004 DSN 722-2129/2124, C919-722-2129	0700-2100 local Mon-Fri, OT by NOTAM	204

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1006	4 OSS/OSR, Seymour Johnson AFB, NC 27531 DSN 722-2672, C919-722-2672.	4 OSS/OSOSF Seymour Johnson AFB, NC 27531-5004 Duty hrs DSN 722-2129/2124, C919-	Continuous	168
VR1007	4 OSS/OSR, Seymour Johnson AFB, NC 27531 DSN 722-2672, C919-722-2672.	4 OSS/OSOSF, Seymour Johnson AFB, NC 27531-5004 Duty hrs DSN 722-2129/2124, C919	Continuous	203
VR1008	20 OSS/OSTA, Shaw AFB, SC 29152 DSN 965-1121/1122, C803-895-1121/1122, Fax DSN 9	20 OSS/OSOS, Shaw AFB, SC 29152 Duty hrs DSN 965-1118/1119, C803-895-1118/1119.	Continuous	185
VR1009	20 OSS/OSTA, Shaw AFB, SC 29152 DSN 965-1121/1122, C803-895-1121/1122, Fax DSN 9	20 OSS/OSOS, Shaw AFB, SC 29152 Duty hrs DSN 965-1118/1119, C803-895-1118/1119.	Continuous	164
VR101	20 OSS/OSTA, Shaw AFB, SC 29152 DSN 965-1121/1122, C803-895-1121/1122, Fax DSN 9	20 OSS/OSOS, Shaw AFB, SC 29152 Duty hrs DSN 965-1118/1119, C803-895-1118/1119.	Continuous (Feb, Apr, Jun, Aug, Oct, Dec) VR-058 opposite direction other months	199
VR1010	20 OSS/OSTA, Shaw AFB, SC 29152 DSN 965-1121/1122, C803-895-1121/1122, Fax DSN 9	20 OSS/OSOS, Shaw AFB, SC 29152 Duty hrs DSN 965-1118/1119, C803-895-1118/1119.	Continuous	209
VR1013	20 OSS/OSTA, Shaw AFB, SC 29152 DSN 965-1121/1122, C803-895-1121/1122, Fax DSN 9	20 OSS/OSOS, Shaw AFB, SC 29152 Duty hrs DSN 965-1118/1119, C803-895-1118/1119.	Continuous	152
VR1014	20 OSS/OSTA, Shaw AFB, SC 29152 DSN 965-1121/1122, C803-895-1121/1122, Fax DSN 9	20 OSS/OSOS, Shaw AFB, SC 29152 Duty hrs DSN 965-1118/1119, C803-895-1118/1119.	Continuous	267
VR1016	4 OSS/OSR, Seymour Johnson AFB, NC 27531 DSN 722-2672, C919-722-2672.	4 OSS/OSOSF, Seymour Johnson AFB, NC 27531-5004 DSN 722-2129/2124, C919-722-2129	Continuous	144
VR1017	20 OSS/OSTA, Shaw AFB, SC 29152 DSN 965-1121/1122, C803-895-1121/1122, Fax DSN 9	20 OSS/OSOS, Shaw AFB, SC 29152, Duty hrs DSN 965-1118/1119, C803-895-1118/1119.	0600-2400 local daily	341
VR1020	27 OSS/OSOH, 110 E Sextant Ave, Suite 1081, Cannon AFB, NM 88103 DSN 681-2279.	27 OSS/OSOS, 110 E Sextant Ave, Suite 1080, Cannon AFB, NM 88103 DSN 681-2276.	Continuous	317
VR1021	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	390
VR1022	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	435
VR1023	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	489
VR1024	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	570
VR1030	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	281
VR1031	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	686
VR1032	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	174
VR1033	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	74

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1039	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	76
VR104	301 OG/SUA, NAS JRB, Fort Worth, TX 76127 DSN 739-6903/04/05, C817-782-6903/04/0	Same as Originating Activity	0700-2200 local	72
VR1040	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	26
VR1041	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	62
VR1043	14 OSS/OSOP, Columbus AFB, MS 39710-5000 DSN 742-7560/7633, C662-434-7560/7633.	37/41 FTS, Columbus AFB, MS 39710-5000 DSN 742-7666/7667, C662-434-7666/7667.	Sunrise-Sunset weekdays	177
VR1046	14 OSS/OSOP Columbus AFB, MS 39701 DSN 742-7633 C662-434-7633	48 FTS Columbus AFB, MS 39701 DSN 742-7847 C662-434-7847	Sunrise-Sunset daily	395
VR1050	187 FW, 5187 Selma Highway, Montgomery, AL 36108-4824 DSN 358-9255, C334-394-725	Same as Originating Activity	0700-1730 local, OT by NOTAM	176
VR1051	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ weekdays, occasional weekends	147
VR1052	FACSFAC, NAS Pensacola, FL 32508-5000 DSN 922-4671/4672, C850-452-4671/4672.	Same as Originating Activity	1200-0400Z++ weekdays, occasional weekends	419
VR1054	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ weekdays, occasional weekends	173
VR1055	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ weekdays, occasional weekends	301
VR1056	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ weekdays, occasional weekends	298
VR1059	COMTRAWING ONE, NAS MERIDIAN, MS 39309-0136 DSN 637-2487, C601-679-2487.	Same as Originating Activity	1100-0600Z++ daily	255
VR1061	COMTRAWING ONE, NAS MERIDIAN, MS 39309-0136 DSN 637-2487, C601-679-2487.	Same as Originating Activity	1100-0600Z++ daily	342
VR1065	COMTRAWING ONE, NAS MERIDIAN, MS 39309-0136 DSN 637-2487, C601-679-2487.	Same as Originating Activity	1100-0600Z++ daily	212
VR1066	COMTRAWING ONE, NAS MERIDIAN, MS 39309-0136 DSN 637-2487, C601-679-2487.	Same as Originating Activity	1100-0600Z++ daily	323
VR1070	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	8

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1072	301 OG/SUA, NAS JRB, Fort Worth, TX 76127 DSN 739-6903/04/05, C817-782-6903/04/0	Same as Originating Activity	0700-2200 local	220
VR1076	CG MCAS CHERRY POINT, ATTN RAC-DIOPS, Cherry Point, NC 28533 DSN 582-3466, C252	Central Scheduling Division MCAS Cherry Point, NC 28533 DSN 582-4040/4041, C252-	Continuous	421
VR1077	CG MCAS CHERRY POINT, ATTN RAC-DIOPS, Cherry Point, NC 28533 DSN 582-3466, C252	Central Scheduling Division MCAS Cherry Point, NC 28533 DSN 582-4040/4041, C252-	Continuous	384
VR1078	CG MCAS CHERRY POINT, ATTN RAC-DIOPS, Cherry Point, NC 28533 DSN 582-3466, C252	Central Scheduling Division MCAS Cherry Point, NC 28533 DSN 582-4040/4041, C252-	0700-2300 Local Daily	455
VR1079	CG MCAS CHERRY POINT, ATTN RAC-DIOPS, Cherry Point, NC 28533 DSN 582-3466, C252	Central Scheduling Division MCAS Cherry Point, NC 28533 DSN 582-4040/4041, C252-	0600-1800 Local Mon-Fri	243
VR108	14 OSS/OSOP, Columbus AFB, MS 39710-5000 DSN 742-7560/7633, C662-434-7560/7633.	48 FTS, Columbus AFB, MS 39710-5000 DSN 742-7840/7847, C662-434-7840/7847.	1300-0500Z++ daily	359
VR1080	14 OSS/OSOP, Columbus AFB, MS 39710-5000 DSN 742-7560/7633/3011, C662-434-7560/7	48 FTS, Columbus AFB, MS 39710-5000 DSN 742-7840/7847, C662-434-7840/7847.	1300-0500Z++ daily	439
VR1081	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0500Z++	358
VR1082	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1300-0500Z++ daily	293
VR1083	FACSFAC NPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1300-0500Z++ 7 days a week	299
VR1084	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0500Z++	358
VR1085	20 OSS/OSTA, Shaw AFB, SC 29152 DSN 965-1121/1122, C803-895-1121/1122, Fax DSN 9	20 OSS/OSOS, Shaw AFB, SC 29152 Duty hrs DSN 965-1118/1119, C803-895-1118/1119.	Continuous	312
VR1087	2 OSS/OSTP, 41 Orville Wright Ave., Suite 215, Barksdale AFB, LA 71110-2085 DSN	2 OSS/OSOSB, 41 Orville Wright Ave., Barksdale AFB, LA 71110 DSN 781-3828/5396 C	0700-2200 local	72
VR1088	4 OSS/OSR, Seymour Johnson AFB, NC 27531 DSN 722-2672, C919-722-2672.	4 OSS/OSOSF, Seymour Johnson AFB, NC 27531-5004 Duty hrs DSN 722-2129/2124, C919	Continuous	149
VR1089	347 OSS/OSTA, Moody AFB, GA 31699-5000 DSN 460-4131, C229-257-4131.	347 OSS/OSOS, Moody AFB, GA 31699-1899 Advance Mon-Fri 0800-1600 local DSN 460-4	0700-0000 local daily	163
VR1097	347 OSS/OSKA, Moody AFB, GA 31699-1899 DSN 460-4131, C229-257-4131.	3 FTS, Moody AFB, GA 31699-1899 Mon-Fri 0830-1700 local (excluding holidays) DSN	0700-0000 local daily	208
VR1098	187 FW, 5187 Selma Highway, Montgomery, AL 36108-4824 DSN 358-9255 C334-394-7255	Same as Originating Activity	0700-2000 local, OT by NOTAM	99
VR1102	14 OSS/OSOP, Columbus AFB, MS 39710-5000 DSN 742-7560/7633/3011, C662-434-7560/7	48 FTS, Columbus AFB, MS 39710-5000 DSN 742-7840/7847, C662-434-7840/7847.	Normally 0800-2100 local, Use other times not prohibited	240
VR1103	156 AW (PRANG) Muniz ANGB, 200 Jose A. (Tony) Santana Ave., Carolina, Puerto Ric	Same as Originating Activity	0700-2000 local daily	121

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1104	156 AW (PRANG) Muniz ANGB, 200 Jose A. (Tony) Santana Ave., Carolina, Puerto Ric	Same as Originating Activity	1100-2400Z++ daily	202
VR1105	156 AW (PRANG) Muniz ANGB, 200 Jose A. (Tony) Santana Ave., Carolina, Puerto Ric	Same as Originating Activity	1100-2400Z++ daily	253
VR1106	156 AW (PRANG) Muniz ANGB, 200 Jose A. (Tony) Santana Ave., Carolina, Puerto Ric	Same as Originating Activity	1000-2400Z++, 7 days a week	219
VR1107	27 OSS/OSOH, 110 E Sextant Ave, Suite 1081 Cannon AFB, NM 88103 DSN 681-2279.	27 OSS/OSOS, 110 E Sextant Ave, Suite 1080 Cannon AFB, NM 88103 DSN 681-2276.	Continuous	235
VR1108	156 AW (PRANG) Muniz ANGB, 200 Jose A. (Tony) Santana Ave., Carolina, Puerto Ric	Same as Originating Activity	0700-2000 local daily	121
VR1109	156 AW (PRANG) Muniz ANGB, 200 Jose A. (Tony) Santana Ave., Carolina, Puerto Ric	Same as Originating Activity	1000-2400Z++ 7 days a week	185
VR1110	46 OSS/OSCM, 505 North Barrancas Ave, Suite 104, Eglin AFB, FL 32542-6818 DSN 87	46 OSS/OSCS, 505 North Barrancas Ave, Suite 104, Eglin AFB, FL 32542-6818 DSN 87	Normally 1200-2300Z++ Mon-Fri, available OT	190
VR1113	USAFWC-79 Test and Evaluation Group/CD, Eglin AFB, FL 32542 DSN 872-2024, C904-	85 Test and Evaluation Squadron/DOOS, Eglin AFB, FL 32542 DSN 872-2622, C904-882	Normally 1200-2300Z++ Mon-Fri, route usage is allowable OT	209
VR1116	USAFWC-79 Test and Evaluation Group/CD, Eglin AFB, FL 32542 DSN 872-2024, C904-	85 Test and Evaluation Squadron/DOOS, Eglin AFB, FL 32542 DSN 872-2622, C904-882	Normally 1200-2300Z++ Mon-Fri, route usage is allowable OT	102
VR1117	46 OSS/OSCM, 505 North Barrancas Ave, Suite 104, Eglin AFB, FL 32542-6818 DSN 87	46 OSS/OSCS (ROCC), 505 North Barrancas Ave, Suite 104, Eglin AFB, FL 32542-6818	Normally 1200-2300Z++ Mon-Fri, route usage is allowable OT	288
VR1120	347 Rescue Wing, Detachment 1/RO, 8707 North Golf Course St., MacDill AFB, FL 33	347 Rescue Wing, Detachment 1/ROA, 8707 North Golf Course St., MacDill AFB, FL 3	Normally 0900-2400Z++ daily, available OT	90
VR1121	347 Rescue Wing, Detachment 1/RO, 8707 North Golf Course St., MacDill AFB, FL 33	347 Rescue Wing, Detachment 1/ROA, 8707 North Golf Course St., MacDill AFB, FL 3	Normally 0900-2400Z++ daily, available OT	83
VR1122	347 Rescue Wing, Detachment 1/RO, 8707 North Golf Course St., MacDill AFB, FL 33	347 Rescue Wing, Detachment 1/ROA, 8707 North Golf Course St., MacDill AFB, FL 3	Normally 0900-2400Z++ daily, available OT	107
VR1123	347 WG, Detachment 1/RO, 8707 North Golf Course St., MacDill AFB, FL 33621-5205	347 WG, Detachment 1/ROA, 8707 North Golf Course St., MacDill AFB, FL 33621-5205	Continuous	69
VR1124	347th Rescue WG, Detachment 1/RO, 8707 North Golf Course St., MacDill AFB, FL 33	347th Rescue WG, Detachment 1/ROA, 8707 North Golf Course St., MacDill AFB, FL 3	Continuous	168
VR1128	188 FW/XP, 4850 Leigh Ave., Fort Smith, AR 72903-6096 DSN 778-5185/5271.	Same as Originating Activity. Route scheduled no more than 24 hr in advance. Min	Continuous (except Sunday 1000-1200 local)	83

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

2007 SUSTAINABLE RANGES REPORT

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1130	188 FW/XP, 4850 Leigh Ave., Fort Smith, AR 72903-6096 DSN 778-5185/5271.	Same as Originating Activity. Route scheduled no more than 24 hr in advance. Min	Continuous (except Sunday 1000-1200 local)	120
VR1137	188 FW/XP, 4850 Leigh Ave., Fort Smith, AR 72903-6096 DSN 778-5185/5271.	Same as Originating Activity. Route scheduled no more than 24 hr in advance. Min	Continuous (except Sunday 1000-1200 local)	109
VR1138	149 FTR GP (TX-ANG), Kelly AFB, TX 78241 DSN 945-5934, C210-925-5934.	Same as Originating Activity	0800-1830 local daily	94
VR1139	149 FTR GP (TX-ANG), Kelly AFB, TX 78241 DSN 969-5934.	Same as Originating Activity	0800-1830 local daily	94
VR114	150 FW OG/CC, 2251 Air Guard Rd. SE, Kirtland AFB, NM 87117-5875 DSN 246-7426.	Same as Originating Activity	Sunrise-2200 local daily	243
VR1140	47 OSS/OSOR, 570 2nd St., Ste 6, Laughlin AFB, TX 78843-5222 DSN 732-5864, C830-	87 FTS/DOS, 570 2nd St., Laughlin AFB, TX 78843 DSN 732-5484, C830-298-5484. Sch	Sunrise-Sunset only	125
VR1141	47 OSS/OSOR, 570 2nd St., Ste. 6, Laughlin AFB, TX 78843-5222 DSN 732-5864, C830	87 FTS/DOS, 570 2nd St., Laughlin AFB, TX 78843 DSN 732-5484, C830-298-5484. Sch	Sunrise-Sunset daily	115
VR1142	301 OG/SUA, NAS JRB, Fort Worth, TX 76127 DSN 739-6903/04/05, C817-782-6903/04/0	Same as Originating Activity	0600-2200 local daily	80
VR1143	188 FW/XP, 4850 Leigh Ave., Fort Smith, AR 72903-6096 DSN 778-5185/5271.	Same as Originating Activity. Route scheduled no more than 24 hr in advance. Min	Continuous ( except Sunday 1000-1200 local )	188
VR1144	OC-ALC/10 FLTS, 4805 West Dr, Tinker AFB, OK 73145-3300 DSN 336-7719/7710, C405-	Same as Originating Activity	Daylight hours only	164
VR1145	47 OSS/OSOR, 570 2nd St., Ste. 6, Laughlin AFB, TX 78843-5222 DSN 732-5864, C830	87 FTS/DOS, 570 2nd St., Laughlin AFB, TX 78843 DSN 732-5484, C830-298-5484. Sch	Sunrise-Sunset Sat-Sun	115
VR1146	149 FW (TX ANG), 107 Hensley Street, Kelly AFB, TX 78241-5544 DSN 945-5934, C210	Same as Originating Activity	Sunrise-Sunset	128
VR1175	149 FW (TX ANG), 107 Hensley Street, Kelly AFB, TX 78241-5544 DSN 945-5934, C210	Same as Originating Activity	Sunrise-Sunset	128
VR1176	149 FW (TX ANG), 107 Hensley Street, Kelly AFB, TX 78241-5544 DSN 945-5934, C210	Same as Originating Activity	Sunrise-Sunset	194
VR118	149 FW (TX ANG), 107 Hensley Street, Kelly AFB, TX 78241-5544 DSN 945-5934, C210	Same as Originating Activity	Sunrise-Sunset	194
VR1182	301 OG/SUA, NAS JRB, Fort Worth, TX 76127 DSN 739-6903/04/05, C817-782-6903/04/0	Same as Originating Activity	0600-2200 local daily	57
VR119	301 OG/SUA, NAS JRB, Fort Worth, TX 76127 DSN 739-6903/04/05, C817-782-6903/04/0	Same as Originating Activity	0600-2200 local daily	206
VR1195	188 FW/XP, 4850 Leigh Ave., Fort Smith, AR 72903-6096 DSN 778-5185/5271.	Same as Originating Activity. Route scheduled no more than 24 hr in advance. Min	Continuous (except Sunday 1000-1200 local)	109

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1196	301 OG/SUA, NAS JRB, Fort Worth, TX 76127 DSN 739-6903/04/05, C817-782-6903/04/0	Same as Originating Activity	0600-2200 local daily	193
VR1205	80th Flying Training Wing, 1911 J. Ave. Ste 6, Sheppard AFB, TX 76311-2056 DSN 7	90 FTS/DOTOD, Sheppard AFB, TX 76311 DSN 736-2675/4995, C940-676-2675/4995.	Sunrise-Sunset Mon-Fri, OT by NOTAM	193
VR1206	80th Flying Training Wing, 1911 J. Ave. Ste 6, Sheppard AFB, TX 76311-2056 DSN 7	90 FTS/DOTOD, Sheppard AFB, TX 76311 DSN 736-2675/4995, C940-676-2675/4995.	Sunrise-Sunset Mon-Fri, OT by NOTAM	210
VR1211	27 OSS/OSOH, 110 E. Sextant Ave, Suite 1081, Cannon AFB, NM 88103 DSN 681-2279.	27 OSS/OSOS, 110 E. Sextant Ave, Suite 1080, Cannon AFB, NM 88103 DSN 681-2276.	Continuous	172
VR1214	80th Flying Training Wing, 1911 J. Ave. Ste 6, Sheppard AFB, TX 76311-2056 DSN 7	90 FTS/DOTOD, Sheppard AFB, TX 76311 DSN 736-2675/4995, C940-676-2675/4995.	Sunrise-Sunset Mon-Fri, OT by NOTAM	210
VR1215	80th Flying Training Wing, 1911 J. Ave. Ste 6, Sheppard AFB, TX 76311-2056 DSN 7	90 FTS/DOTOD, Sheppard AFB, TX 76311 DSN 736-2675/4995, C940-676-2675/4995.	Sunrise-Sunset Mon-Fri, OT by NOTAM	217
VR1217	80th Flying Training Wing, 1911 J. Ave. Ste 6, Sheppard AFB, TX 76311-2056 DSN 7	90 FTS/DOTOD, Sheppard AFB, TX 76311 DSN 736-2675/4995, C940-676-2675/4995.	Sunrise-Sunset Mon-Fri, OT by NOTAM	217
VR1218	80th Flying Training Wing, 1911 J. Ave. Ste 6, Sheppard AFB, TX 76311-2056 DSN 7	90 FTS/DOTOD, Sheppard AFB, TX 76311 DSN 736-2675/4995, C940-676-2675/4995.	Sunrise-Sunset Mon-Fri, OT by NOTAM	248
VR1233	80th Flying Training Wing, 1911 J. Ave. Ste 6, Sheppard AFB, TX 76311-2056 DSN 7	90 FTS/DOTOD, Sheppard AFB, TX 76311 DSN 736-2675/4995, C940-676-2675/4995.	Sunrise-Sunset Mon-Fri, OT by NOTAM	248
VR125	80th Flying Training Wing, 1911 J. Ave. Ste 6, Sheppard AFB, TX 76311-2056 DSN 7	90 FTS/DOTOD, Sheppard AFB, TX 76311 DSN 736-2675/4995, C940-676-2675/4995.	Sunrise-Sunset Mon-Fri, OT by NOTAM	230
VR1250	80th Flying Training Wing, 1911 J. Ave. Ste 6, Sheppard AFB, TX 76311-2056 DSN 7	90 FTS/DOTOD, Sheppard AFB, TX 76311 DSN 736-2675/4995, C940-676-2675/4995.	Sunrise-Sunset Mon-Fri, OT by NOTAM	230
VR1251	OC-ALC/10 Flight Test Sqdn, 4805 West Dr, Tinker AFB, OK 73145-3300 DSN 336-7719	Same as Originating Activity	Sunrise-Sunset	314
VR1252	OC-ALC/10 Flight Test Sqdn, 4805 West Dr, Tinker AFB, OK 73145-3300 DSN 336-7719	Same as Originating Activity	Sunrise-Sunset	314
VR1253	301 OG/SUA, NAS JRB, Fort Worth, TX 76127 DSN 739-6903/04/05, C817-782-6903/04/0	Same as Originating Activity	Sunrise-Sunset Mon-Sat	82
VR1254	188 FW/XP, 4850 Leigh Ave., Fort Smith, AR 72903-6096 DSN 778-5185/5271.	Same as Originating Activity. Route scheduled no more than 24 hr in advance. Min	Continuous	187
VR1255	184 ARW (Kansas ANG), McConnell AFB, KS 67221-9010 (1330-2215Z wk, sked rqr are	Same as Originating Activity	0700-1730 local daily	165
VR1256	150 FW OG/CC, 2251 Air Guard Rd. SE, Kirtland AFB, NM 87117-5875 DSN 246-7426.	Same as Originating Activity	Sunrise-2200 local daily	243
VR1257	ANG CRTC-Gulfport/OSA, 4715 Hewes Ave, Gulfport, MS 39507-4324 DSN 363-6027, C22	Same as Originating Activity	Continuous	202
VR1259	412 OSS/OSAA, 235 S. Flightline Rd, Edwards AFB, CA 93524-6460 DSN 527-2446, C66	412 OSS/OSR, 300 E. Yeager Blvd, Edwards AFB, CA 93524 DSN 527-4110, C661-277-41	Continuous	193
VR1260	412 OSS/OSAA, 235 S. Flightline Rd, Edwards AFB, CA 93524-6460 DSN 527-2446, C66	412 OSS/OSR, 300 E. Yeager Blvd, Edwards AFB, CA 93524 DSN 527-4110, C661-277-41	Continuous	45

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2007 SUSTAINABLE RANGES REPORT

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1261	452 OSS/DOT, March Fld, CA 92518 DSN 447-3846, C909-655-3846.	452 OSS/DOT, March Fld, CA 92518 DSN 447-4404/2422, C909-655-4404/2422.	Continuous	106
VR1262	412 OSS/OSAA, 235 S. Flightline Rd, Edwards AFB, CA 93524-6460 DSN 527-2446, C66	412 OSS/OSR, 300 E. Yeager Blvd, Edwards AFB, CA 93524 DSN 527-4110, C661-277-41	Continuous	224
VR1264	412 OSS/OSAA, 235 S. Flightline Rd, Edwards AFB, CA 93524-6460 DSN 527-2446, C66	412 OSS/OSR, 300 E. Yeager Blvd, Edwards AFB, CA 93524 DSN 527-4110, C661-277-41	Sunrise-Sunset daily	118
VR1265	412 OSS/OSAA, 235 S. Flightline Rd, Edwards AFB ,CA 93524 DSN 527-2446, C661-277	412 OSS/OSR, 300 E. Yeager Blvd, Edwards AFB, CA 93524 DSN 527-4110, C661-277-41	Sunrise-Sunset daily	111
VR1266	412 OSS/OSAA, 235 S. Flightline Rd, Edwards AFB, CA 93524 DSN 527-2446, C661-277	412 OSS/OSR, 300 E. Yeager Blvd, Edwards AFB, CA 93524 DSN 527-4110, C661-277-41	Sunrise-Sunset daily	207
VR1267	355 OSS/OSOA, Davis-Monthan AFB, AZ 85707 DSN 228-4680 C520-228-4680.	355 OSS/OSOSO, Davis-Monthan AFB, AZ 85707-4932, 0730-1630 local Mon- Fri, same	1300-0530Z	276
VR1267A	27 OSS/OSOH, 110 E Sextant Ave, Suite 1081, Cannon AFB, NM 88103 DSN 681-2279.	27 OSS/OSOS, 110 E Sextant Ave, Suite 1080, Cannon AFB, NM 88103 DSN 681-2276.	Continuous	317
VR1268	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	354
VR1293	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	517
VR1300	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	185
VR1301	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	443
VR1302	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	246
VR1303	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	296
VR1304	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	91
VR1305	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, Rm 121, NAS Le	Same as Originating Activity	Daylight hours, OT by NOTAM	436
VR1350	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	424
VR1351	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	292
VR1352	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	386
VR1353	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	339
VR1354	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	150

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1355	G-3, 3D MAW, MCAS Miramar, San Diego, CA 92145 DSN 267-9462, C858-577-9462. Non-	Same as Originating Activity	Continuous	405
VR138	Commanding Officer, Yuma MCAS, Box 99160 Yuma, AZ 85369-9160 DSN 269-2326/2077,	Same as Originating Activity	0700-1800 local (daylight hours)	158
VR140	Commanding Officer, Yuma MCAS, Box 99160 Yuma, AZ 85369-9160 DSN 269-2326/2077,	Same as Originating Activity	0700-1800 local	216
VR142	Commanding Officer, Yuma MCAS, Box 99160 Yuma, AZ 85369-9160 DSN 269-2326/2077,	Same as Originating Activity	0700-1800 local	101
VR1422	Commanding Officer, Yuma MCAS, Box 99160 Yuma, AZ 85369-9160 DSN 269-2326/2077,	Same as Originating Activity	0700-1800 local	371
VR1423	412 OSS/OSAA, 235 S. Flightline Rd, Edwards AFB, CA 93524-6460 DSN 527-2446, C66	412 OSS/OSR, 300 E. Yeager Blvd, Edwards AFB, CA 93524 DSN 527-4110, C661-277-41	Continuous	20
VR1427	124 WG/OGAM (ANG), 3996 W. Aeronca St., Boise, ID 83705-8004 DSN 422-5310, C208-	124 WG/OSS (ANG), 3996 W. Aeronca St., Boise, ID 83705-8004 DSN 422-5348, C208-4	Continuous or by NOTAM	420
VR143	124 WG/OGAM (ANG), 3996 W. Aeronca St., Boise, ID 83705-8004 DSN 422-5310, C208-	124 WG/OSS (ANG), 3996 W. Aeronca St., Boise, ID 83705-8004 DSN 422-5348, C208-4	Continuous	319
VR1445	124 WG/OGAM (ANG), 3996 W. Aeronca St., Boise, ID 83705-8004 DSN 422-5310, C208-	124 WG/OSS (ANG), 3996 W. Aeronca St., Boise, ID 83705-8004 DSN 422-5348, C208-4	Continuous	190
VR1446	124 WG/OGAM (ANG), 3996 W. Aeronca St., Boise, ID 83705-8004 DSN 422-5310, C208-	124 WG/OSS (ANG), 3996 W. Aeronca St., Boise, ID 83705-8004 DSN 422-5348, C208-4	Continuous or by NOTAM	431
VR151	124 WG/OGAM (ANG), 3996 W. Aeronca St., Boise, ID 83705-8004 DSN 422-5310, C208-	124 WG/OSS (ANG), 3996 W. Aeronca St., Boise, ID 83705-8004 DSN 422-5348, C208-4	Continuous or by NOTAM	452
VR152	124 WG/OGAM (ANG), 3996 W. Aeronca St., Boise, ID 83705-8004 DSN 422-5310, C208-	124 WG/OSS (ANG), 3996 W. Aeronca St., Boise, ID 83705-8004 DSN 422-5348, C208-4	Continuous or by NOTAM	452
VR1520	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave, Oak Ha	Same as Originating Activity	Continuous	262
VR1521	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave, Oak Ha	Same as Originating Activity	Continuous	374
VR1525	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave, Oak Ha	Same as Originating Activity	Continuous	315
VR1546	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave, Oak Ha	Same as Originating Activity	Continuous	315
VR156	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave, Oak Ha	Same as Originating Activity	Continuous	130
VR158	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave, Oak Ha	Same as Originating Activity	Continuous	223
VR159	99 ECRG/XON, 41 Orville Wright Ave., Barksdale AFB, LA 71110-2085.	2 OSS/OSOSB, 41 Orville Wright Ave., Barksdale AFB, LA 71110 DSN 781-3828/5396 C	0700-1600 local daily	213
VR1616	184 ARW (Kansas ANG), McConnell AFB, KS 67221-9010 (1330-2215Z wkd, scheduling r	Same as Originating Activity	0700-2100 local daily	190

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1617	12 OSS/OSOA, Randolph AFB, TX 78150-5000 DSN 487-5580, C210-652-5580.	560 FTS, Randolph AFB, TX 78150 DSN 487-3518, C210-652-3518.	Sunrise-Sunset, daily	242
VR162	12 OSS/OSOA, Randolph AFB, TX 78150 DSN 487-5580, C210-652-5580.	99 FTS, Randolph AFB, TX 78150 DSN 487-6746, C210-652-6746.	Sunrise-Sunset, daily	178
VR1624	388 RANS/AM, 5948 Southgate Ave., Suite 211, Hill AFB, UT 84056-5232.	388 RANS/DOOS, D Ave., Bldg 120, Hill AFB, UT 84056-5232 DSN 777-4401, C801-777-	0700-2400 lcl Mon-Thurs, 0700-1800 lcl Fri, 0800-1700 lcl Sat	151
VR1625	388 RANS/AM, 5948 Southgate Ave., Suite 211, Hill AFB, UT 84056-5232.	388 RANS/DOOS, D Ave., Bldg 120, Hill AFB, UT 84056-5232 DSN 777-4401, C801-777-	0700-2400 lcl Mon-Thurs, 0700-1800 lcl Fri, 0800-1700 lcl Sat	90
VR1626	140th Wing /DOT, Buckley ANGB, Aurora, CO 80011-9546 DSN 847-9466, C303-340-9470	140th Wing /DOT, Buckley ANGB, Aurora, CO 80011-9546 DSN 847-9472, C720-847-9472	0800-1600 local Tue-Sat, OT by NOTAM	196
VR1627	301 OG/SUA, NAS JRB, Fort Worth, TX 76127 DSN 739-6903/04/05, C817-782-6903/04/0	Same as Originating Activity	0700-2200 local	372
VR1628	97 OSS/DOA, 400 N. 6th St. Altus AFB, OK 73521 DSN 866-6098.	Same as Originating Activity	0600-0300 local Mon-Fri, OT by NOTAM	98
VR1629	388 RANS/AM, 5948 Southgate Ave., Suite 211, Hill AFB, UT 84056-5232.	388 RANS/DOOS, D Ave., Bldg 120, Hill AFB, UT 84056-5232 DSN 777-4401, C801-777-	0700-2400 lcl Mon-Thurs, 0700-1800 lcl Fri, 0800-1700 lcl Sat	10
VR163	388 RANS/AM, 5948 Southgate Ave., Suite 211, Hill AFB, UT 84056-5232.	388 RANS/DOOS, D Ave., Bldg 120, Hill AFB, UT 84056-5232 DSN 777-4401, C801-777-	0700-2400 lcl Mon-Thurs, 0700-1800 lcl Fri, 0800-1700 lcl Sat	10
VR1631	COMTRAWING TWO, NAS Kingsville, TX 78363 DSN 876-6518, C361-516-6518.	Same as Originating Activity. Scheduling hrs-0700-1600 Mon-Fri ONLY (excluding h	Daily 0600-2200 local	229
VR1632	185 FG/OGW, Sergeant Bluff, IA 51054-1002 DSN 939-6578.	Same as Originating Activity	0700-1730 local Tue-Fri, OT by NOTAM	251
VR1633	184 ARW (Kansas ANG), McConnell AFB, KS 67221-9010 (1330-2215Z wk, sked rqr 2 hr	Same as Originating Activity	0600-2200 local	191
VR1635	114 FW (ANG), Joe Foss Field, Sioux Falls, SD 57104-0264 DSN 798-7745, C605-988-	114 FW (ANG), Joe Foss Field, Sioux Falls, SD 57104-0264 DSN 798-7754/7746, C605	Daylight hours, Mon-Sat, OT By NOTAM	279
VR1636	114 FW (ANG), Joe Foss Field, Sioux Falls, SD 57104-0264 DSN 798-7745, C605-988-	114 FW (ANG), Joe Foss Field, Sioux Falls, SD 57104-0264 DSN 798-7754/7746, C605	Daylight hours, Mon-Sat, OT by NOTAM	279
VR1638	185 FW/OGS, Sioux City, IA 51111-1300 DSN 585-0203.	Same as Originating Activity	By NOTAM, (2 hours and 15 minutes prior to entry time required)	299
VR1639	185 FW/OGS, Sioux City, IA 51111-1300 DSN 585-0203.	Same as Originating Activity	By NOTAM, (2 hours and 15 minutes prior to entry time required)	299
VR1640	509 OSS/OSKA, 905 Spirit Blvd, Whiteman AFB, MO 65305 DSN 975-1713/1754, C660-68	Same as Originating Activity	Sunrise-Sunset Tue-Sun	124

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1641	188 FW/XP, 4850 Leigh Ave., Fort Smith, AR 72903-6096 DSN 778-5185/5271.	Same as Originating Activity. Route scheduled no more than 24 hr in advance. Min	Continuous (except Sunday 1000-1200 local)	122
VR1642	149 FTR GP (TX-ANG), Kelly AFB, TX 78241 DSN 945-5934, C210-925-5934.	Same as Originating Activity	0800-1830 local daily, Prior coordination required for Sun-Mon operations	211
VR1644	80th Flying Training Wing, 1911 J. Ave. STE 6, Sheppard AFB, TX 76311-2056 DSN 7	90 FTS/DOTOD, Sheppard AFB, TX 76311 DSN 736-2675/4995, C940-676-2675/4995.	Sunrise-Sunset Mon-Fri, OT by NOTAM	211
VR1645	80th Flying Training Wing, 1911 J. Ave. STE 6, Sheppard AFB, TX 76311-2056 DSN 7	90 FTS/DOTOD, Sheppard AFB, TX 76311 DSN 736-2675/4995, C940-676-2675/4995.	Sunrise-Sunset Mon-Fri, OT by NOTAM	206
VR1647	ANG CRTC, Camp Douglas, WI 54618-5001 DSN 871-1445 C608-427-1445.	Same as Originating Activity	Sunrise to Sunset Mon-Sat, OT by NOTAM	169
VR1648	180th TFG/DO (ANG), Toledo Express Airport, Swanton, OH 43558 DSN 580-4084.	Same as Originating Activity	Sunrise-2100 local	190
VR1650	80th Flying Training Wing, 1911 J. Ave. STE 6, Sheppard AFB, TX 76311-2056 DSN73	90 FTS/DOTOD, Sheppard AFB, TX 76311 DSN 736-2675/4995, C817-676-2675/4995.	Sunrise-Sunset Mon-Fri, OT by NOTAM	233
VR1666	127th TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	233
VR1667	127th TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	167
VR1668	127th TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055/5719.	Same as Originating Activity	Sunrise-Sunset	145
VR1679	127th TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	227
VR168	127th TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	284
VR1709	127th TFW/DO, Selfridge ANGB, MI 48045 DSN 273-5055/5719.	Same as Originating Activity	Sunrise-Sunset	219
VR1711	80th Flying Training Wing, 1911 J. Ave. STE 6, Sheppard AFB, TX 76311-2056 DSN 7	90 FTS/DOTOD, Sheppard AFB, TX 76311 DSN 736-2675/4995, C940-676-2675/4995.	Sunrise-Sunset Mon-Fri, OT by NOTAM	195
VR1712	123 ACS, Blue Ash, OH 45242 DSN 340-2950, C513-936-2950.	Same as Originating Activity	Continuous	230
VR1713	123 ACS, Blue Ash, OH 45242 DSN 340-2950, C513-936-2950.	Same as Originating Activity	Continuous	202
VR1721	123 ACS, Blue Ash, OH 45242 DSN 340-2950, C513-936-2950.	Same as Originating Activity	Continuous	217
VR1722	183 FW/OSF, Capital Airport, Springfield, IL 62707 DSN 892-8202.	Same as Originating Activity	Sunrise-Sunset only	135
VR1726	Alpena CRTC/OTM (ANG), 5884 A. Street, Alpena, MI 49707-8125 DSN 741-3509/3226.	Same as Originating Activity	Continuous	137
VR1743	180TH TFG/DO, Toledo Express Airport, Swanton, OH 43558 DSN 580-4084.	Same as Originating Activity	Sunrise-2100 local	152

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1753	127th TFW/DO, Selfridge ANGB, MI 48045 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	219
VR1754	122 FW, Ft. Wayne IAP, IN 46809-0122 DSN 786-1202.	Same as Originating Activity	1300-0300Z++ daily	227
VR1755	122 FW, Ft. Wayne IAP, IN 46809-0122 DSN 786-1202.	Same as Originating Activity	1300-0300Z++ daily	135
VR1756	122 FW, Ft. Wayne IAP, IN 46809-0122 DSN 786-1202.	Same as Originating Activity	1300-0100Z++ daily	176
VR1757	127TH TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	190
VR1759	127TH TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	167
VR176	127TH TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	227
VR179	127TH TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	284
VR1800	ANG CRTC, Camp Douglas, WI 54618-5001 DSN 871-1445 C608-427-1445.	Same as Originating Activity	0730 local-Sunset Tue-Sat, OT by NOTAM	84
VR1801	Alpena CRTC/OTM (ANG), 5884 A. Street, Alpena, MI 49707-8125 DSN 741-3509/3226.	Same as Originating Activity	Continuous	137
VR186	180 TFG/DO, Toledo Express Airport, Swanton, OH 43558 DSN 580-4084.	Same as Originating Activity	Sunrise - 0200Z++	190
VR187	180 TFG/DO, Toledo Express Airport, Swanton, OH 43558 DSN 580-4084.	Same as Originating Activity	Sunrise-2100 local	152
VR188	181st TFG (ANG), Hulman Regional, Terre Haute, IN 47803 DSN 724-1234.	Same as Originating Activity	Sunrise-Sunset Tue-Sun, OT by NOTAM	264
VR189	COMTRAWING TWO, NAS Kingsville, TX 78363 DSN 876-6518, C361-516-6518.	Same as Originating Activity. Scheduling hrs-0700-1600 Mon-Fri ONLY (excluding h	0600-2400 local daily	249
VR1900	177th FW/Det 1 (ANG), Atlantic City ANGB, NJ 08234-9500 DSN 455-6707. E-mail wgr	Same as Originating Activity	Sunrise-Sunset daily	294
VR1902	113 WG, Andrews AFB, MD 20331 DSN 857-3307/08, C240-857-3307/3308/4190.	Same as Originating Activity	0730 local-Sunset daily	158
VR1905	113 WG, Andrews AFB, MD 20331 DSN 857-3307/08, C240-857-3307/3308/4190.	Same as Originating Activity	0730 local-Sunset daily	186
VR1909	113 WG, Andrews AFB, MD 20331 DSN 857-3307/08, C240-857-3307/3308/4190.	Same as Originating Activity	0730 local-Sunset daily	194
VR1912	20 OSS/OSTA, Shaw AFB, SC 29152 DSN 965-1121/1122, C803-895-1121/1122, Fax DSN 9	20 OSS/OSOS, Shaw AFB, SC 29152-5000 DSN 965-1118/1119, C803-895-1118, Fax DSN 9	Continuous	172
VR1915	192nd FG (ANG), Byrd Intl, Richmond, VA 23150 DSN 864-6411/6410.	Same as Originating Activity	Sunrise-Sunset	302
VR1916	20 OSS/OSTA, Shaw AFB, SC 29152 DSN 965-1121/1122, C803-895-1121/1122, Fax DSN 9	20 OSS/OSOS, Shaw AFB, SC 29152-5000 DSN 965-1118/1119, C803-895-1118, Fax DSN 9	Continuous	144

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1926	20 OSS/OSTA, Shaw AFB, SC 29152 DSN 965-1121/1122, C803-895-1121/1122, Fax DSN 9	20 OSS/OSOS, Shaw AFB, SC 29152-5000 DSN 965-1118/1119, C803-895-1118, Fax DSN 9	Continuous	143
VR1927	4 OSS/OSR, Seymour Johnson AFB, NC 27531-5004 DSN 722-2672, C919-722-2672.	4 OSS/OSOSF, Seymour Johnson AFB, NC 27531-5004 DSN 722-2129/2124, C919-722-2129	Continuous	423
VR1928	4 OSS/OSR, Seymour Johnson AFB, NC 27531-5004 DSN 722-2672, C919-722-2672.	4 OSS/OSOSF, Seymour Johnson AFB, NC 27531-5004 DSN 722-2129/2124, C919-722-2129	Continuous	502
VR1929	COMFITWINGLANT NAS Oceana, Virginia Beach, VA 23460-5200 DSN 433-4013, C757-433-	COMMANDING OFFICER, FACSFAC/VACAPES, NAS Oceana, Virginia Beach, VA 23460 DSN 43	Continuous	172
VR1939	COMFITWINGLANT NAS Oceana, Virginia Beach, VA 23460-5200 DSN 433-4014, C757-433-	COMMANDING OFFICER, FACSFAC/VACAPES, NAS Oceana, Virginia Beach, VA 23460 DSN 43	Continuous	370
VR196	COMFITWINGLANT, NAS Oceana, Virginia Beach, VA 23460-5200 DSN 433-4013, C757-433	COMMANDING OFFICER, FACSFAC/VACAPES, NAS Oceana, Virginia Beach, VA 23460 DSN 43	Continuous	223
VR197	COMFITWINGLANT, NAS Oceana, Virginia Beach, VA 23460-5200 DSN 433-4013, C757-433	FACSFAC/VACAPES, NAS Oceana, Virginia Beach, VA 23460 DSN 433-1228 C757-433-1228	Continuous	362
VR198	COMFITWINGLANT, NAS Oceana, Virginia Beach, VA 23460-5200 DSN 433-4013, C757-433	FACSFAC/VACAPES, NAS Oceana, Virginia Beach, VA 23460 DSN 433-1228 C757-433-1228	Continuous	168
VR199	4 OSS/OSR, Seymour Johnson AFB, NC 27531-5004 DSN 722-2672, C919-722-2672.	4 OSS/OSOSF, Seymour Johnson AFB, NC 27531-5004 DSN 722-2129/2124, C919-722-2129	Continuous	368
VR201	COMFITWINGLANT, NAS Oceana, Virginia Beach, VA 23460-5200 DSN 433-4013, C757-433	COMMANDING OFFICER, FACSFAC/VACAPES, NAS Oceana, Virginia Beach, VA 23460 DSN 43	0900 local-Sunset	194
VR202	150 FW OG/CC 2251, Air Guard Rd. SE, Kirtland AFB, NM 87117-5875 DSN 246-7426.	Same as Originating Activity	Normally 1500-2400Z++ daily, usage between 2400-1500Z++ is available	470
VR208	ANG CRTG-Gulfport/OSA, 4715 Hewes Ave, Gulfport, MS 39507-4324 DSN 363-6027, C22	Same as Originating Activity	Continuous	172
VR209	174th FW, 6001 E. Molloy Rd, Syracuse, NY 13211-7099 DSN 489-9217.	174th FW, Det. 1, Ft. Drum, NY 13608 DSN 772-5990/2835 C315-772-5990.	0800 local-Sunset daily	136
VR222	174th FW, 6001 E. Molloy Rd, Syracuse, NY 13211-7099 DSN 489-9217.	174th FW, Det. 1, Ft. Drum, NY 13608 DSN 772-5990/2835, C315-772-5990.	0800 local-Sunset daily	130
VR223	97 OSS/DOA, 400 N. 6th St., Altus AFB, OK 73521 DSN 866-6098.	Same as Originating Activity	0600-0300 local Mon-Fri, OT by NOTAM	99
VR231	301 OG/SUA, NAS JRB, Fort Worth, TX 76127 DSN 739-6903/04/05, C817-782-6903/04/0	Same as Originating Activity	0700-2200 local	296
VR239	2 OSS/OSTP, 41 Orville Wright Ave., Suite 215, Barksdale AFB, LA 71110-2085 DSN	2 OSS/OSOSB, 41 Orville Wright Ave., Barksdale AFB, LA 71110 DSN 781-3828/5396 C	0700-2200 local	243
VR241	2 OSS/OSTP, 41 Orville Wright Ave., Suite 215, Barksdale AFB, LA 71110-2085 DSN	2 OSS/OSOSB, 41 Orville Wright Ave., Barksdale AFB, LA 71110 DSN 781-3828/5396 C	0700-2200 local	213
VR242	188 FW/XP, 4850 Leigh Ave., Fort Smith, AR 72903-6096 DSN 778-5185/5271.	Same as Originating Activity. Route scheduled no more than 24 hr in advance. Min	Continuous	219

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR243	97 OSS/DOA, 400 N. 6th St., Altus AFB, OK 73521 DSN 866-6098.	Same as Originating Activity	0600-0300 local, Mon-Fri, OT by NOTAM	179
VR244	611 AOG/CC, 9480 Pease Ave., Ste 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-4	353 CTS/JSO, Eielson AFB, AK 99702 C907-377-3005 DSN 317-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	179
VR245	611 AOG/CC, 9480 Pease Ave., Ste 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-4	3 OSS/OSOS, Elmendorf AFB, AK 99506 DSN 317-552-2406 C907-552-2406.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	190
VR249	611 AOG/CC, 9480 Pease Ave., Ste 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-4	3 OSS/OSOS, Elmendorf AFB, AK 99506 DSN 317-552-2406, C907-552-2406.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	396
VR259	611 AOG/CC, 9480 Pease Ave., Ste 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-4	353 CTS/JSO, Eielson AFB, AK 99702 C907-377-3005 DSN 317-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	83
VR260	97 OSS/DOA, 400 N. 6th St., Ste. A, Altus AFB, OK 73521 DSN 866-6098.	Same as Originating Activity	0600-0300 local, Mon-Fri, OT by NOTAM	179
VR263	611 AOG/CC, 9480 Pease Ave., Ste 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-4	3 OSS/OSOS, Elmendorf AFB, AK 99506 DSN 317-552-2406, C907-552-2406.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	190
VR267	611 AOG/CC, 9480 Pease Ave., Ste 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-4	3 OSS/OSOS, Elmendorf AFB, AK 99506 DSN 317-552-2406, C907-552-2406.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	362
VR268	611 AOG/CC, 9480 Pease Ave., Ste 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-4	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	156
VR269	611 AOG/CC, 9480 Pease Ave., Ste 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-4	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	113
VR288	611 AOG/CC, 9480 Pease Ave., Ste 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-4	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	58

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Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR289	611 AOG/CC, 9480 Pease Ave., Ste 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-4	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	41
VR296	611 AOG/CC, 9480 Pease Ave., Ste 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-4	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	41
VR299	611 AOG/CC, 9480 Pease Ave., Ste 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-4	353 CTS/JSO, Eielson AFB, AK 99702 DSN 317-377-3005, C907-377-3005.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	83
VR316	47 OSS/OSOR, 570 2nd St., Ste 6, Laughlin AFB, TX 78843-5222 DSN 732-5864, C830-	86 FTS/DOS, 80 Rio Lobo Ln, Laughlin AFB, TX 78843 DSN 732-5584, C830-298-5584.	Sunrise-Sunset daily	189
VR319	47 OSS/OSOR, 570 2nd St., Ste 6, Laughlin AFB, TX 78843-5222 DSN 732-5864, C830-	86 FTS/DOS, 80 Rio Lobo Ln, Laughlin AFB, TX 78843 DSN 732-5584, C830-298-5584.	Sunrise-Sunset daily	189
VR331	97 OSS/DOA, 400 N. 6th St., Ste. A, Altus AFB, OK 73521 DSN 866-6098.	Same as Originating Activity	0600-0300 local, Mon-Fri, OT by NOTAM	195
VR410	97 OSS/DOA, 400 N. 6th St., Ste. A, Altus AFB, OK 73521 DSN 866-6098.	Same as Originating Activity	0600-0300 local, Mon-Fri, OT by NOTAM	195
VR411	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	167
VR413	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	311
VR510	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	0800-1630 local	194
VR511	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	592
VR512	57 OSS/OSM, Nellis AFB, NV 89191 DSN 682-7891, C702-652-7891.	57 OSS/OSOS, Nellis AFB, NV 89191 DSN 682-2040, C702-652-2040.	Continuous	359
VR531	56 RMO/ASM, 7224 N. 139th Drive, Luke AFB, AZ 85309-1420 DSN 896-5855, C623-856-	56 RMO/ASMS, 7224 N. 139th Drive, Luke AFB, AZ 85309-1420 DSN 896-7654, C623-856	0600-2400 Mon-Fri local, Wkend/hol when sked with Goldwater Rng/Sell MOA Msn	127
VR532	56 RMO/ASM, 7224 N. 139th Drive, Luke AFB, AZ 85309-1420 DSN 896-5855, C623-856-	56 RMO/ASMS, 7224 N. 139th Drive, Luke AFB, AZ 85309-1420 DSN 896-7654, C623-856	0600-2400 Mon-Fri local, Wkend/hol when sked with Goldwater Rng/Sell MOA Msn	109

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\*\* Length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR533	56 RMO/ASM, 7224 N. 139th Drive, Luke AFB, AZ 85309-1420 DSN 896-5855, C623-856-	56 RMO/ASMS, 7224 N. 139th Drive, Luke AFB, AZ 85309-1420 DSN 896-7654, C623-856	0600-2400 Mon-Fri local, Wkend/hol when sked with Goldwater Rng/Sell MOA Msn	300
VR534	56 RMO/ASM, 7224 N. 139th Drive, Luke AFB, AZ 85309-1420 DSN 896-5855, C623-856-	56 RMO/ASMS, 7224 N. 139th Drive, Luke AFB, AZ 85309-1420 DSN 896-7654, C623-856	0600-2400 Mon-Fri local, Wkend/hol when sked with Goldwater Rng/Sell MOA Msn	218
VR535	56 RMO/ASM, 7224 N. 139th Drive, Luke AFB, AZ 85309-1420 DSN 896-5855, C623-856-	56 RMO/ASMS, 7224 N. 139th Drive, Luke AFB, AZ 85309-1420 DSN 896-7654, C623-856	0600-2400 Mon-Fri local, Wkend/hol when sked with Goldwater Rng/Sell MOA Msn	217
VR536	56 RMO/ASM, 7224 N. 139th Drive, Luke AFB, AZ 85309-1420 DSN 896-5855, C623-856-	56 RMO/ASMS, 7224 N. 139th Drive, Luke AFB, AZ 85309-1420 DSN 896-7654, C623-856	0600-2400 Mon-Fri local, Wkend/hol when sked with Goldwater Rng/Sell MOA Msn	269
VR540	56 RMO/ASM, 7224 N. 139th Drive, Luke AFB, AZ 85309-1420 DSN 896-5855, C623-856-	56 RMO/ASMS, 7224 N. 139th Drive, Luke AFB, AZ 85309-1420 DSN 896-7654, C623-856	0600-2400 Mon-Fri local, Wkend/hol when sked with Goldwater Rng/Sell MOA Msn	272
VR541	56 RMO/ASM, 7224 N. 139th Drive, Luke AFB, AZ 85309-1420 DSN 896-5855, C623-856-	56 RMO/ASMS, 7224 N. 139th Drive, Luke AFB, AZ 85309-1420 DSN 896-7654, C623-856	0600-2400 Mon-Fri local, Wkend/hol when sked with Goldwater Rng/Sell MOA Msn	208
VR544	G-3, 3D MAW, MCAS Miramar, San Diego, CA 92145 DSN 267-9462, C858-577-9462. Non-	Same as Originating Activity	Continuous	101
VR545	355th Wing, OSS/OSOA, 5350 E. Madera St, Davis-Monthan AFB, AZ 85707-4932 DSN 22	355 OSS/OSOSO, Davis-Monthan AFB, AZ 85707 0730-1630 local Mon-Fri, same day onl	1300-0530Z++	310
VR552	355 OSS/OSOA, Davis-Monthan AFB, AZ 85707 DSN 228-4680, C520-228-4680.	355 OSS/OSOSO, Davis-Monthan AFB, AZ 85707 0730-1630 local Mon-Fri, same day onl	1300-0530Z++	277
VR604	162 FW/OGC, 1660 E. El Tigre Way, Tucson, AZ, 85706-6086 DSN 844-6371.	Same as Originating Activity	Continuous	434
VR607	355 OSS/OSOA, Davis-Monthan AFB, AZ 85707 DSN 228-4680, C520-228-4680.	355 OSS/OSOSO, Davis-Monthan AFB, AZ 85707 0730-1630 local Mon-Fri, same day onl	1300-0530Z	199
VR615	355 OSS/OSOA, Davis-Monthan AFB, AZ 85707 DSN 228-4680, C520-228-4680.	355 OSS/OSOSO, Davis-Monthan AFB, AZ 85707 0730-1630 local Mon-Fri, same day onl	1300-0530Z++	155
VR619	355 OSS/OSOA, Davis-Monthan AFB, AZ 85707 DSN 228-4680, C520-228-4680.	355 OSS/OSOSO, Davis-Monthan AFB, AZ 85707 0730-1630 local Mon-Fri, same day onl	1300-0530Z++	181
VR634	452 OSS/OSK, March ARB, CA 92518 DSN 447-4376, C909-655-4376.	452 OSS/OSAA, March ARB, CA 92518 DSN 447-4404/2422, C909-655-4404/2422.	Continuous	110

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\*\* Length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Military Training Route Inventory				
MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR664	452 OSS/OSK, March ARB, CA 92518 DSN 447-4376, C909-655-4376.	452 OSS/OSAA, March ARB, CA 92518 DSN 447-4404/2422, C909-655-4404/2422.	Continuous	157
VR704	452 OSS/OSK, March ARB, CA 92518 DSN 447-4376, C909-655-4376.	452 OSS/OSAA, March ARB, CA 92518 DSN 447-4404/2422, C909-655-4404/2422.	Continuous	226
VR705	452 OSS/DOT, March Fld, CA 92518 DSN 447-3846, C909-655-3846.	452 OSS/DOT, March Fld, CA 92518 DSN 447-4404/2422, C909-655-4404/2422.	Continuous	208
VR707	124 WG/OGAM (ANG), 3996 W. Aeronca St., Boise, ID 83705-8004 DSN 422-5310, C208-	124 WG/OSS (ANG), 3996 W. Aeronca St., Boise, ID 83705-8004 DSN 422-5348, C208-4	Continuous or by NOTAM	300
VR708	124 WG/OGAM (ANG), 3996 W. Aeronca St., Boise, ID 83705-8004 DSN 422-5310, C208-	124 WG/OSS (ANG), 3996 W. Aeronca St., Boise, ID 83705-8004 DSN 422-5348, C208-4	Continuous or by NOTAM	300
VR724	62 OSS/OSK, 1172 E Street, McChord AFB, WA 98438 DSN 382-4057, C253-982-4057.	62 OSS/OSO, 100 Main St., McChord AFB, WA 98438 DSN 382-9925, C253-982-9925. Dut	Continuous	180
VR725	140th Wing /Airspace, Buckley ANGB, Aurora Co, 80011-9546 DSN 847-9466, C303-677	140th Wing /Airspace, Buckley ANGB, Aurora Co, 80011-9546 DSN 847-9472, C720-847	0800-1600 local Tue-Sat, OT by NOTAM	15
VR840	140th Wing /Airspace, Buckley ANGB, Aurora Co, 80011-9546 DSN 847-9466, C303-677	140th Wing /Airspace, Buckley ANGB, Aurora Co, 80011-9546 DSN 847-9472, C720-847	0800-1600 local Tue-Sat, OT by NOTAM	15
VR841	140th Wing /Airspace, Buckley ANGB, Aurora Co, 80011-9546 DSN 847-9466, C303-677	140th Wing /Airspace, Buckley ANGB, Aurora Co, 80011-9546 DSN 847-9472, C720-847	0800-1600 local Tue-Sat, OT by NOTAM	180
VR842	114 FW (ANG), Joe Foss Fld, Sioux Falls, SD 57104-0264 DSN 798-7754/7746, C605-9	Same as Originating Activity	Daylight Hours Tue-Sat, OT by NOTAM	315
VR931	132 FW OG/CC (ANG), 3100 McKinley Ave, Des Moines, IA 50321-2799 DSN 946-8250.	Same as Originating Activity	By NOTAM, (2 hr prior notification required)	264
VR932	132 FW OG/CC (ANG), 3100 McKinley Ave, Des Moines, IA 50321-2799 DSN 946-8250.	Same as Originating Activity	0930-2130 local Tue-Sat, OT by NOTAM	264
VR933	184 ARW (Kansas ANG), McConnell AFB, KS 67221-9010 (1330-2215Z wkd, sked rqr 2 hr	Same as Originating Activity	0700-1730 local daily	181
VR934	184 ARW (Kansas ANG), McConnell AFB, KS 67221-9010 (1330-2215Z wkd, sked rqr 2 hr	Same as Originating Activity	0700-1700 local daily	328
VR935	184 ARW (Kansas ANG), McConnell AFB, KS 67221-9010 (1330-2215Z wkd, sked rqr 2 hr	Same as Originating Activity	0700-2200 local daily	165
VR936	184 ARW (Kansas ANG), McConnell AFB, KS 67221-9010 (1330-2215Z wkd, sked rqr 2 hr	Same as Originating Activity	0730-2000 local daily	168
VR937	184 ARW (Kansas ANG), McConnell AFB, KS 67221-9010 (1330-2215Z wkd, sked rqr 2 hr	Same as Originating Activity	0700-1900 local daily	179
VR938	184 ARW (Kansas ANG), McConnell AFB, KS 67221-9010 (1330-2215Z wkd, sked rqr 2 hr	Same as Originating Activity	0700-1700 local daily	157
VR940	132 FW OG/CC (ANG), 3100 McKinley Ave, Des Moines, IA 50321-2799 DSN 946-8250.	Same as Originating Activity	By NOTAM, 2 hr prior notification required	318
VR941	132 FW OG/CC (ANG), 3100 McKinley Ave, Des Moines, IA 50321-2799 DSN 946-8250.	Same as Originating Activity	By NOTAM, 2 hr prior notification required	288

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\*\* Length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

Military Training Route Inventory				
MTR	Originating Agency <sup>*</sup>	Scheduling Agency <sup>*</sup>	Effective Times	Length <sup>**</sup> (NM)
VR954	185 FW/OGS, Sioux City, IA 51111-1300 DSN 585-0203.	Same as Originating Activity	By NOTAM, 2 hours and 15 minutes prior to entry time required	121
VR955	185 FW/OGS, Sioux City, IA 51111-1300 DSN 585-0203.	Same as Originating Activity	By NOTAM, 2 hours and 15 minutes prior to entry time required	121

\* Data fields are limited to 80 characters in the source database (National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File); therefore, some data field entries are not complete. Please refer to DoD Flight Information Publications for complete originating and scheduling activity information.

\*\* Length calculations were performed using an Albers Equal Area Conic projection for the conterminous United States and the appropriate Universal Transverse Mercator zones for Alaska (6N), Hawaii (4N), and Guam (55N).

Source: Department of Defense based on data from the National Geospatial-Intelligence Agency Digital Aeronautical Flight Information File, Edition 0612 (effective: 23 November 2006 through 18 January 2007).

## **APPENDIX C: ARMY**

### **C.1 FORCES INFLUENCING THE ARMY'S SUSTAINABLE RANGE PROGRAM**

#### **C.1.1 Army Campaign Plan (ACP)**

The Army is pursuing the most comprehensive transformation of its forces since the early years of World War II; however, the soldier remains the centerpiece of combat systems and formations. The Army Campaign Plan (ACP) provides direction for detailed planning, preparation, and execution of the full range of tasks necessary to provide relevant and ready land power to the Nation, while maintaining the quality of the all-volunteer force. The components of the ACP are Modularity, Global Defense Positioning and Realignment (GDPR), Base Realignment and Closure (BRAC), and the Global War on Terrorism (GWOT).

#### **C.1.2 Modularity**

The Army is improving its readiness capabilities to deal with the irregular and asymmetric, as well as traditional military challenges. To prepare for these missions, the Army is building brigade-based modular units to enhance the combat power of joint and coalition task forces to meet operational demands. The Army Modular Force will be more powerful, versatile, and deployable to ensure the Army is able to meet a broad spectrum of capabilities. Modularity creates more ground maneuver units. The Army is building a pool of 70 Brigade Combat Teams (BCTs) and has completed the conversion of 31 brigades into BCTs.

#### **C.1.3 Global Defense Posture and Realignment (GDPR) and Base Realignment and Closure (BRAC)**

One of the Army's near-term transformational challenges is better use of the forces to provide needed capabilities to the Combatant Commander. This strategy enables rapid power projection and expands global presence and theater security programs by combining quick deployment of Continental United States (CONUS)-based forces with strategically positioned overseas-based forces. Approximately 40,000 soldiers will be re-stationed from Europe to CONUS and 10,000 Soldiers from Korea to CONUS.

Additionally, GDPR will establish a small forward-deployed permanent presence at Joint Main Operating Bases in Europe and Korea, have selected units on rotation to austere Joint Forward Bases, and have some level of training at Joint Forward Operating Locations. The transformed Army will have BCTs rotating to Europe, Korea, Southwest Asia, or where ever they are needed in the world. BRAC established maneuver units at new locations. For example, an Infantry BCT will be located at Fort Knox, KY, and the 7<sup>th</sup> Special Forces Group at Eglin Air Force Base. BRAC will consolidate Army Service Schools at fewer locations, each having greater concentrations of training. For example, the Armor School will consolidate at Fort Benning, GA, combining it with the Infantry School to form the Maneuver Center of Excellence.

#### **C.1.4 Global War on Terrorism (GWOT)**

The Global War on Terrorism (GWOT) is reflected in two major campaigns; Operation Iraqi Freedom (OIF) in Iraq and Operation Enduring Freedom (OEF) in Afghanistan. These two campaigns are placing tremendous demands on all Active Army, Army Reserve, and Army National Guard units. Major units are operating on a one year deployed – one year reset/train cycle. This requires continuous training of Active Component (AC) units as they reset, and United States Army Reserve (USAR) and Army National Guard (ARNG) units as they mobilize, and places a heavy demand on the training base as new soldiers are trained to fill units.

## **C.2 CURRENT AND FUTURE RANGE AND TRAINING LAND REQUIREMENTS**

### **C.2.1 Training Land and Maneuver Space**

Land power remains an indispensable element in meeting the nation's global security requirements. New Army doctrinal requirements dictate increases in speed, range, and mobility of combat units. Technological advances, such as Unmanned Aerial Vehicles (UAVs), Stryker Infantry Carrier Vehicles (ICVs), and Battle Command Systems, create the capability to sense and fight over more terrain than ever before. The Army must exploit these capabilities by training Soldiers, leaders, and units to operate across large areas while remaining unified and decisive. BRAC 05 will concentrate units and schools to larger installations, increasing their need for land. The GDPR is moving units from overseas to the U.S., increasing requirements for training land. Army Force Generation (ARFORGEN) requires units to train to a higher level at home station, resulting in more collective training, and, thus, the need for more land. The Future Combat System (FCS) BCT Area of Operations will be up to 75 km X 75 km. This is an increase of approximately 18 times that of a current modular BCT.

Modularity, BRAC 05, GDPR, and GWOT are increasing both the number of units and level of training being conducted in the U.S. These challenges, coupled with new weapon system capabilities and new doctrinal maneuver space requirements, are placing pressure on existing training land assets and underscoring the current need for increases in the Army's training land base. Prior to BRAC 05, the Army identified a shortfall of training land on the majority of its major installations in CONUS. The shortfall of 5,000,828 acres is based on a doctrinal requirement of 12,024,568 acres against total Army assets of 7,023,740 acres which was reported initially in the 2004 DoD Sustainable Range Report to Congress. This shortfall is being further exacerbated by the continuing pressures of encroachment, which reduces accessibility to both ranges and training land.

The Army has instituted a number of measures to address these challenges:

- Army Compatible Use Buffers (ACUB) to reduce external encroachment
- Joint Land Use Studies to encourage compatible development
- Encroachment tools to quantify and mitigate encroachment
- Land acquisition, where feasible, at selected installations, with approval from OSD

The Army Range and Training Land Strategy (February 2004) serves as a strategy to prioritize investments for buffers and land acquisition at installations and seeks to optimize the use of all range and land assets.

## **C.3 ARMY OVERALL RANGE CAPACITY AND MODERNIZATION REQUIREMENTS**

### **C.3.1 CURRENT RANGE CAPACITY AND REQUIREMENTS**

The Army has sufficient range facilities to meet current through-put and surge requirements required to support deployments. However, funding to operate ranges facilities is becoming an increasing challenge under the expanded schedule necessary to keep pace with deployments. The Army resources the operation of its ranges on a peacetime schedule of 242 days a year. Army installations are operating their ranges, particularly collective training and urban operation training facilities for reset and mobilization, on a 24 hour-7 day a week schedule for short, intense periods of time. For example, range operations staffs at both Camp Atterbury, Indiana and Camp Shelby, Mississippi have had to double the manning to accommodate the expanded training schedules. Funding to operate the ranges under these conditions has become an increasing challenge for the Army, with Commanders having to use GWOT funds to supplement range operations above peace-time levels.

Although the Army overall has sufficient range facilities to meet current requirements, many of its range facilities have not been modernized to meet new weapon systems requirements, changes in training standards, or new doctrinal requirements. To address this challenge, the Army is assessing its assets and constructing new ranges to meet doctrinal requirements in a continuous and integrated management process through the Army's Sustainable Range Program (SRP) modernization planning process. This process, overseen by the HQDA G-3/5/7, integrates mission support, environmental stewardship, and economic feasibility at the installation, Army Command, Installation Management Command, and Headquarters, Department of the Army levels to support current and future range and training land requirements.

This approach begins at the installation level with an analysis that calculates and compares the doctrinal requirement, along with other requirements derived from Army standards and training strategies and the units' Mission Essential Tasks (METs). These METs assess ranges and training land against current assets, utilization rates, environmental conditions and requirements, and infrastructure to determine shortages and overages of ranges and training lands.

The Army Range and Training Land Program (RTLTP) Requirements Model (ARRM) automates the analysis process and provides the installation and HQDA with a report that identifies shortages and excesses of facilities, as well as the type and number of ranges and maneuver acres necessary to support live training.

Based on this analysis, installations submit to their Army Command a prioritized list of range projects to correct shortages and modernize existing ranges. Commands review and consolidate the list of projects from their installations using the Live Fire Training Investment Strategy (LFTIS), which is based on ODCS G-3/5/7 Guidance and Command priorities. Commands forward their LFTIS to ODCS, HQDA G-3/5/7, where it is reviewed by the Requirements Review Prioritization Board (RRPB). The RRPB validates the requirement and prioritizes the projects by fiscal year for funding. The approved projects become a part of the Army Master Range Plan (AMRP) which is the Army's database of records for all approved range projects.

The result of the planning process at the installation level is the creation of the Range Complex Master Plan (RCMP). The Army is continuing its effort to develop an automated tool using a Geographical Information System (GIS) platform that will not only support long range planning, but day-to-day integrated decision-making to support sustainable range operations. The format was recently tested at Fort Bliss, Texas in April 2006. A stand alone tool is expected to go into beta testing in 3<sup>rd</sup> quarter, Fiscal Year (FY) 2007. Fielding of the stand alone tool is anticipated during the first quarter, FY 2008.

### **C.3.2 Army Range Capabilities**

Effective live training, carried out to a high doctrinal standard, is the cornerstone of operational success. The training of critical tasks that individual, crew, platoon, and companies have to accomplish to be combat ready is directly related to the availability and capability of live fire ranges and maneuver areas. The continued improvement of live fire ranges and facilities is key to the development of readiness. Live fire ranges and facilities are expected to be even more important for units in the future as the Army implements the Army Force Generation (ARFORGEN) strategy. ARFORGEN will place all units, continuously in a reset, train, or ready status.

Army doctrine requires combined arms teamwork and synchronization. Units must train for wartime combined arms operations. Combined arms proficiency results from regular practice of combat missions and tasks in the live domain. It starts with the development of individual skills. Individual skills, when combined and practiced, build unit proficiency from crew through brigade task force.

The modernization of Army ranges under the Sustainable Range Program, supported by the Range Modernization Requirements Planning Process, as outlined above, supports this doctrine. To meet this training challenge, the Army is modernizing its inventory of ranges to support training for multiple purposes, weapons, and combined arms by incorporating new technologies and capabilities into standard range designs.

The Army has thirty-nine types of modernized ranges. The capabilities and standard configurations for these ranges are found in Training Circular 25-8 (TC 25-8), which is currently being updated to include changes in ranges to meet new doctrinal requirements, new weapon systems, and new training standards. Final publication is anticipated by the end of 2<sup>nd</sup> quarter, FY 2007. The ranges described in the circular represent the inventory of standard, modernized range facilities, categorized in four major subgroups: small arms ranges; urban operations training facilities; collective training ranges; and special purpose ranges. Three new ranges have been added to the inventory of modernized ranges as a result of new doctrinal changes: the Convoy Live Fire Course; the Engineer Multipurpose Assault Course; and the Digital Air-Ground Integration Range. Changes in existing range designs have been made to increase range capabilities, add technology, and increase through-put capacity to match new training standards and support new weapon system qualifications. The new family of modernized ranges will replace older types still in the Army's inventory that cannot accommodate new training or weapon system requirements.

A part of the overall modernization process the Army has designed is the construction of the next generation of ranges – the digital range. These digital ranges will provide Soldiers and units with the capability to exercise digital command and control in a live fire training environment, as well as providing unprecedented situational awareness, tailored scenarios, and immediate feedback required to prepare for multiple threat environments. The Army's digital range plan for construction and range descriptions are provided in Table C-1.

**Table C-1. Digital Range Plan for Construction**

Digital Range Type	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total
DAGIR (Digital Air Ground Integration Range) - replacing Digital Aviation Gunnery Ranges	0	0	1	3	0	0	4
BAX (Battle Area Complex)	0	0	1	0	0	2	3
DMPRC (Digital Multi-Purpose Range Complex)	2	1	0	2	0	0	5
DMPTR (Digital Multi-Purpose Training Range)	1	0	2	0	0	0	3
<b>Total</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>15</b>

### C.3.2.1 Digital Air Ground Integration Range (DAGIR)

The DAGIR is designed to train and qualify Army Aviation (helicopter) crews, teams/platoons, and companies/troops. It will support aerial operations, reconnaissance, and target engagements, such as Joint tactical engagements and convoy live fire training. The DAGIR will include open and urban terrain, and targets supporting simultaneous, integrated air and ground operations. The DAGIR will be included in the updated version of TC 25-8, Training Ranges.

### **C.3.2.2 Battle Area Complex (BAX)**

The BAX provides a collective live fire training facility for all elements in the Stryker Brigade Combat Team (SBCT). SBCT crews and dismounted soldiers train to detect, identify, engage and defeat stationary and moving combined arms targets in both open and urban terrain environments. The BAX supports live fire operations independently of, or simultaneously with, supporting vehicles in free maneuver. All targets are fully automated, utilizing event-specific, computer-driven target scenarios and scoring.

### **C.3.2.3 Digital Multi-purpose Range Complex (DMPRC)**

This complex is used to train armor, infantry and aviation crews, sections, squads and platoons to detect, identify, engage, and defeat stationary and moving infantry and armor targets. Combined Arms Live Fire Exercises (CALFEX) may be conducted on this facility. The DMPRC supports dismounted infantry platoon live fire operations independently of or simultaneously with supporting vehicles. All targets are fully automated, utilizing event-specific, computer-driven target scenarios and scoring.

### **C.3.2.4 Digital Multipurpose Training Range (DMPTR)**

This complex is used to train crews and dismounted infantry squads to detect, identify, engage and defeat stationary and moving infantry and armor targets. The complex is specifically designed to meet the training and crew qualification requirements for armor, infantry and aviation crews and sections. The DMPTR supports dismounted infantry squad live fire operations independently of or simultaneously with supporting vehicles. All targets are fully automated, utilizing event-specific, computer-driven target scenarios and scoring.

## **C.4 ENCROACHMENT**

### **C.4.1 Encroachment Challenges**

Meeting the requirements for new ranges and training land assets that are being influenced by the ACP, GDPR, and BRAC are compounded by the continuing pressures from encroachment. Encroachment is exacerbated, if not triggered, by urban sprawl and incompatible land use, which places increased pressure on installations as the Army endeavors to meet increased training requirements. Urban development is increasing rapidly around the country and is the most significant factor affecting the quality of live training. With more than 50 percent of Americans living in the suburbs, millions of acres of once rural land are now urbanized. Many suburbs are rising up near Army installations that were once far from public view. More than 40 percent of Army installations report encroachment issues.

Currently, the Office of the Deputy Chief of Staff G-3/5/7, Directorate of Training captures encroachment impacts by type of restriction, cause of the restriction, and overall impact of restriction on training through direct queries with installation range managers and use of the Installation Status Report (ISR) – Part I (Infrastructure). However, the Army is developing a number of different tools that will assist in not only quantifying encroachment impacts on training, but assessing overall impact on Training Readiness. A description of those tools can be found in Section 4.2.

#### **C.4.1.1 Threatened and Endangered Species (TES)**

TES impacts on operational ranges remain one of the Army's major encroachment challenges. The Army has 188 threatened and endangered species on 102 of its installations. Both the number of threatened and endangered species has increased (by ten), as well as the number of installations impacted (by 2), since

the Army reported to Congress last year. In addition, the Army has identified hundreds of species at risk of becoming threatened or endangered, on or adjacent to more than 80 installations. Currently, fourteen installations contain designated critical habitat for at least one of 13 species. The legal requirement under the Endangered Species Act to conserve listed species and critical habitat has and continues to challenge how the Army utilizes its land.

Examples of such restrictions include the following:

- At nine Army installations in the Southeastern U.S. limitations associated with Red-Cockaded Woodpecker (RCW) nesting clusters include, no bivouacking or occupation for more than 2 hours, no use of camouflage netting, no weapons firing other than 7.62mm and .50 cal blank (e.g., no artillery, rockets), no use of smoke generators, no use of riot agents, no use of certain incendiary devices, no use of HC smoke, and no digging of tank ditches or fighting positions. During maneuver, vehicles cannot come within 50 feet of nesting trees unless they use an existing road. Additionally, Fort Benning is preparing a biological assessment to address the impacts on the RCW resulting from relocating the Armor School to Fort Benning. The BRAC move is expected to cause significant alterations to RCW habitat; especially in the proposed maneuver areas. Initial design analysis indicates a substantial level of RCW “take” will occur. Informal discussions with the U.S. Fish and Wildlife Service indicate a Jeopardy Biological Opinion may be avoided, but this will likely require a substantial and intensive increase in the level of population monitoring and habitat management (e.g. hardwood control, prescribed fire) post-wide. Cost estimates for this habitat work will be high and recurring, but impossible to estimate until the assessment is complete.
- At Army installations in Hawaii, over 100 threatened and endangered species potentially impose restrictions on training, access to training areas, and the intensity of use.
- At Fort Lewis, Washington, seventy-two percent of the training land is designated as critical habitat for the northern spotted owl, even though no spotted owls exist on the installation. This requires the installation to manage the forested landscape for owl habitat versus for training requirements.

At Fort Hood, Texas, 9,429 acres of training land are restricted due to the Golden Cheeked Warbler and the Black Capped Vireo.

To meet these challenges, the Army continues to evolve from reactive management to proactive management using long term planning, utilizing recent critical habitat legal clarifications to the Endangered Species Act, employing focused research, establishing partnerships, and maintaining coordination between Army biologists and military operators.

The Army also adopted a policy and developed implementing guidance to manage species at risk in an attempt to prevent key species from needing protection under the Endangered Species Act. The Army is also programming funds to implement this new guidance starting in FY 2008.

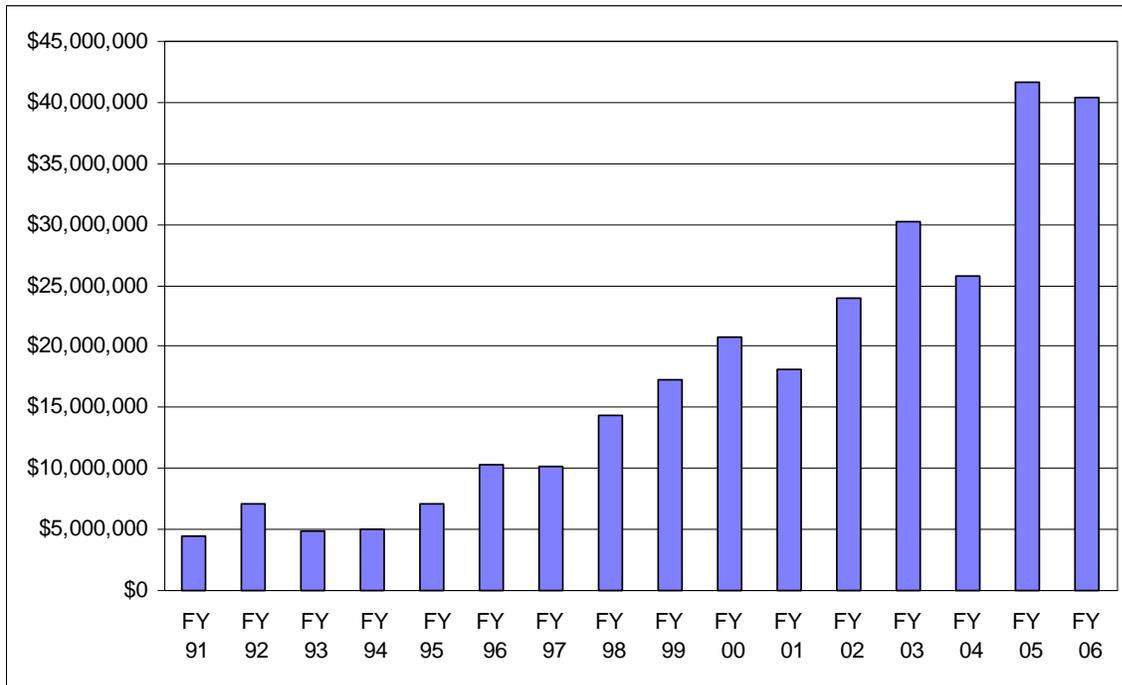
In addition, the Army is revising the 1996 Red-Cockaded Woodpecker (RCW) Guidelines to allow installations to potentially reduce some restrictions on installations that are nearing the installation’s recovery goal for potential breeding groups of RCW.

**C.4.1.2 Integrated Natural Resource Management Plans (INRMP)**

Congress amended the Endangered Species Act in the National Defense Authorization Act for FY 2004 to preclude designation of critical habitat on Department of Defense (DoD) lands that are subject to an INRMP when the appropriate Secretary (Interior or Commerce) determines that the plan provides a benefit to the species. It also requires consideration of “the impact on national security” when designating a critical habitat. During FY 2005 and 2006, the Army used these amendments to avoid designation of critical habitat for eight species on ten installations.

The INRMPs containing Threatened and Endangered Species (TES) management components are continuing to improve and are being implemented. Planning level surveys to identify TES and surveys to monitor them are receiving funding and implementation emphasis. The chart in Figure C-1 below shows the expenditures the Army has incurred over the years in managing TES. These are strictly species management expenditures - they do not reflect the indirect costs incurred by military operations or military construction for work-arounds and avoidance. The spike in FY 2005 costs reflects the cost of mitigating the Fort Irwin land expansion.

**Figure C-1. Army Expenditures for Threatened and Endangered Species**



**C.4.1.3 Urban Sprawl**

Urban sprawl is a major challenge for the Army as installations are now reporting training restrictions due to encroaching communities. Noise restrictions, exacerbated by encroaching communities, continue to be a challenge for the Army at Fort Campbell, Kentucky, where flight routes on the south end of the installation boundary are restricted to 500 feet due to noise prompted by new housing developments. At Fort Rucker, Alabama, Fort Stewart, Georgia, Fort Knox, Kentucky, and many other installations, noise restrictions limit the hours permitted for live fire and/or demolition, because of new housing development and community encroachment. At Fort Bragg, North Carolina, noise impacts on a new residential

development forced the closing of the Ste. Mere Eglise Drop Zone for heavy equipment parachute drops, which is a primary training event for units stationed there.

#### **C.4.1.4 Air Quality and Particulate Matter (PM) 2.5**

The Clean Air Act requires the EPA to set National Ambient Air Quality Standards (NAAQS) for widespread pollutants from numerous and diverse sources considered harmful to public health and the environment. This requires the control of emissions commonly generated on installations. The most serious encroachment problems that result from the NAAQS are generated from compliance with opacity and particulate matter (PM) 2.5 rules.

As part of the Congressionally mandated review of NAAQS, EPA revised PM 2.5 NAAQS on September 21, 2006 (published in the Federal Register on October 17, 2006). The new 24-hour standard is nearly one-half of the old standard (making it twice as stringent), while the annual standard was unchanged. Based on a review of the EPA projections for counties in non-attainment of the new air quality standards, the Army is anticipating impact on several training installations (Forts Benning and Gordon, Georgia; Fort Knox, Kentucky; Fort Lewis, Washington; and Fort Wainwright, Alaska) in those counties.

Army installations have been successful in reducing restrictions on training by demonstrating that the emissions from smokes and obscurants do not share the suspension and transport characteristics associated with emissions from industrial or commercial operations. Examples of such successes can be found at Fort Carson, Colorado, where Fort Carson staff worked with state regulators to modify their regulation to remove the three-kilometer buffer zone restriction, allowing the use of substantially more training land and allowing limited use of graphite smoke.

Air quality regulations restrict the generation of graphite smoke at the National Training Center (NTC) at Fort Irwin, California and at Yakima Training Center, Washington. Air quality regulations also restrict the generation of smoke from fog oil for training and maneuver training due to dust at the NTC.

Prescribed burning is required on some Army installations at frequent intervals to maintain habitats of threatened and endangered species protected under the Endangered Species Act or to reduce fuel loads to prevent the occurrence of catastrophic wildfires. This prescribed burning temporarily produces smoke which contributes to opacity and particulate matter encroachment issues. In Georgia, several Army installations are working with the state regulators to develop procedures under their Smoke Management Plan to apply for permits to conduct prescribed burns to meet requirements of the Endangered Species Act for Red-Cockaded Woodpecker, while minimizing the impact on training

#### **C.4.2 Tools to Quantify Encroachment**

The Army is continuing to develop tools to quantify encroachment on training. Below is a description of those tools and their developmental status.

##### **C.4.2.1 Army Encroachment Condition Module (ECM)**

The Army is continuing its development of the ECM to quantify environmental impacts on the training mission. The ECM is an objective, centralized Geographic Information System database that quantifies internal and external encroachment on Army training lands and ranges. It will collect geospatial data on eight encroachment factors, including threatened and endangered species, critical habitat, cultural resource sites, wetlands, air quality regulations, aviation training restrictions, spectrum, and noise. This tool will provide a quantifiable evaluation of encroachment on training that will be integrated with the existing Army Range and Training Land Requirements Module (ARRM) and feed the Installation Status

Report-Natural Infrastructure (see Section 4.2.2.) The Army has captured draft ECM data from 35 installations to date. The data from these 35 installations will be finalized by May 2007. ECM data from six additional installations will be collected over the next 12 months. Finalization of the data is anticipated by May 2008.

#### **C.4.2.2 Installation Status Reports: Infrastructure (ISR-I) & Natural Infrastructure (ISR-NI)**

The Installation Status Report is a management tool used by the Assistant Chief of Staff for Installation Management (ACSIM). ISR-I provides facility-level ratings for each range and its supporting infrastructure, to include ratings from related encroachment criteria, as well as improvement costs. ISR-NI, which is currently under development by the ACSIM, will provide an analysis of the capability of natural infrastructure (land, air, water, and energy) to support mission requirements at the base, region, and HQDA level. It specifically focuses on resource availability and adequacy based on mission requirements at specified organization levels. ISR-NI ties all ranges, training complexes, and associated encroachment factors together to provide an overall rating for the installation based on specific training requirements derived from ODCS G-3/5/7 and the use of geospatial data. The Army can view aggregated impacts and potential impacts to mission through ISR-NI and can view detailed infrastructure and individual asset data through ISR-I. Both systems are coordinated with ODCS G-3/5/7. This ensures that there is no data duplication and that data used for encroachment analysis is consistent within the ISR-NI that is currently under development. A beta test and data collection effort will take place in 2007. Phased implementation of ISR-NI will begin in FY 2008.

#### **C.4.3 Army Tools, Programs and Strategies for Mitigating Encroachment Challenges**

##### **C.4.3.1 Army Compatible Use Buffer (ACUB) Program**

The Army Compatible Use Buffer (ACUB) program represents a powerful tool and unique opportunity to work in partnership with state and local governments, and/or conservation groups to achieve a common goal of sustainability by establishing buffer areas outside the installation boundary. This program continues to grow as word of successful cooperative agreements spreads to Army installations and their neighbors. In 2006, the Army increased its number of approved ACUBs from nine to sixteen. The Army expects an additional 50% increase in the number of approved ACUBs in 2007. Current partners include: state agencies like Florida's Department of Environmental Protection, many other state and local agencies, non-governmental agencies like The Nature Conservancy and the Trust for Public Lands, and local land trusts like The Kansas Land Trust and the Tennessee Land Trust.

##### **C.4.3.2 Army Operational Range Assessment Program**

The Army's long-term viability depends on balancing mission requirements with protection of human health and the environment. As part of the Army's commitment to sustainability and military readiness, the Army is proactively conducting environmental assessments on all of its operational ranges in the U.S.

These assessments, completed as part of the Operational Range Assessment Program, are an important part of the Army's overall operational range sustainment effort. The program is designed to assess the likelihood that the chemicals found in munitions (munitions constituents) used during military testing and training are affecting the environment outside of the operational range boundary. The results will help the Army and its neighbors better understand and address potential concerns.

The Operational Range Assessments will be conducted in two phases: Phase I (FY 2005-09) and, where required, Phase II, quantitative assessment (starting FY 2010). The Phase I Assessments use existing

information and site visits to develop an understanding of the potential for munitions constituents to move off range and present an unacceptable risk to surrounding communities and the environment.

Ranges placed in the “Inconclusive” category during the Phase I assessment will require a Phase II assessment. The Phase II assessment will most likely include sampling and analysis of various media (e.g. ground water, surface water) to address the areas of concern identified during the Phase I assessment as requiring further study. Through December 2006 the Army had assessed 3323 ranges and an overall acreage of 2,787,851 acres. Slightly over 800 ranges (24%) on 28 installations will require a Phase Two Assessment and sampling. The Army will complete the remaining Phase One Assessments in FY 2009. Below is the current Range Assessment (Phase One) Report Status as of December 2006:

**Table C-2. Summary of Results for Sites with Reports in Preparation**

Reports prepared	29
Ranges assessed	839
Total acreage assessed	654,993
Installations requiring further sampling (i.e. Phase II)	11
Ranges requiring further sampling	256
Acres requiring further sampling	120,466
Installations requiring <b>no</b> further sampling (i.e. Unlikely)	18
Ranges requiring <b>no</b> further sampling	583
Acres requiring <b>no</b> further sampling	20,635

**Table C-3. Summary of Results for Sites with Draft and Final Draft Reports**

Reports prepared	42
Ranges assessed	2,484
Total acreage assessed	2,132,858
Installations requiring further sampling (i.e. Phase II)	17
Ranges requiring further sampling	795
Acres requiring further sampling	808,633
Installations requiring <b>no</b> further sampling (i.e. Unlikely)	25
Ranges requiring <b>no</b> further sampling	1,689
Acres requiring <b>no</b> further sampling	1,838,117

**Table C-4. Schedule for Funding Phase I Assessments**

Fiscal Year Funded	Number of Assessments	Funding (Million \$)
FY 2005	77	5.9
FY 2006	155	9.5
FY 2007	41	2.7
FY 2008	70	4.5
FY 2009	35	2.2

These assessments are not part of a cleanup program. They are designed to help the Army better manage the operational ranges required to maintain a trained and ready force, while ensuring the protection of human health and the environment in the communities surrounding operational ranges.

### **C.4.3.3 Remediation and Munitions Technology Support**

To better understand the fate, transport, and effects of munitions constituents on ranges, the Army is conducting analytical characterizations of munitions constituents. Part of this program is to develop an improved sampling methodology for more efficient and more cost effective range assessments. To better define the air impacts on the environment of firing munitions, air emissions studies are being conducted to identify and quantify emissions produced when munitions are tactically fired.

Studies of the fate and transport of munitions constituents in the environment will allow all of the Services to cost effectively assess their ranges, develop best management practices, and improve range design. Corrosion studies will provide basic information on the potential for unexploded ordnance items to become future sources of munitions constituents in the environment. Under most conditions thick-skinned munitions are not perforated, have not released any of their contents to the environment, and will not likely do so for hundreds of years. In some cases, thin-skinned munitions from World War I may already be perforated.

Perchlorates have been identified as a munitions constituent that may impact the environment, and that could potentially curtail the use of selected perchlorate containing munitions during training. The Army is proactively addressing this issue by implementing a perchlorate strategy to produce Army guidance for addressing potential perchlorate contamination, replace perchlorate in certain munitions, and assess mission impacts and possible follow-on actions. Toxicological studies are being conducted to review the toxicity of Research Department Explosive (RDX) and perchlorates. These efforts may demonstrate that the currently accepted human health effects have been overstated so that health based standards may be raised.

The Army continues to work on developing sustainable ammunition that is less toxic and non-carcinogenic in order to reduce the impact of live fire training.

### **C.4.3.4 Tools for Assessing and Mitigating Noise**

One element of an effective noise management strategy is the ability to forecast and assess community noise exposure. Evaluation of impacts of weapons noise on humans and threatened and endangered species requires knowledge about physiological and psychological reactions to military weapons noises. Assessment of these effects in any given scenario requires algorithms for prediction of the noise field around the weapon, from small to large distances. One such tool is the BNOISE (Blast Noise) Model, developed by the Army for use by the U.S. Army Center for Health Promotion and Preventative Medicine (USACHPPM) to support testing and training operations by the Army and DoD. BNOISE2 calculates and displays blast noise exposure contours resulting from specified large caliber weapons and explosive charges. Another such tool is the Small Arms Range Noise Assessment Model (SARNAM), a software program that provides the capability to calculate and display noise level contours for firing operations on small arms ranges. The noise module of the Range Manager's Tool Kit (RMTK), an automated tool, developed by the Army and Marine Corps to quickly display the noise impacts associated with live fire training, enables range officers to assess noise impacts on a day-to-day basis.

**Table C-5. Operational Noise Management Plans**

Operational Noise Management Plans*				
Completed FY 2005	Completed FY 2006	Completed FY 2007	Planned FY 2007	
Fort Lenard Wood	Fort Carson	Idaho ARNG	Fort Benning (draft)	Massachusetts ARNG
Fort McClellan	Fort Bliss	Minnesota ARNG	Fort Eustis (draft)	Nevada ARNG
Fort Stewart	Fort Rucker	North Carolina ARNG	Fort Lewis (draft)	New Hampshire ARNG
Alaska ARNG	Aberdeen Proving Ground	South Carolina ARNG	Fort Story (draft)	New Jersey ARNG
Arizona ARNG	Camp Robinson	South Dakota ARNG	Arkansas ARNG (draft)	Ohio ARNG
California ARNG	Alabama ARNG		Iowa ARNG (draft)	Utah ARNG
Colorado ARNG	Louisiana ARNG		Nebraska ARNG (draft)	Vermont ARNG
Florida ARNG	Missouri ARNG		Fort McCoy	Washington ARNG
Hawaii ARNG	Pennsylvania ARNG		Delaware ARNG	West Virginia ARNG
Michigan ARNG	Tennessee ARNG		Indiana ARNG	Wisconsin ARNG
Mississippi ARNG			Kansas ARNG	Wyoming ARNG
New Mexico ARNG				
Oregon ARNG				
Virginia ARNG				

\*Note: The state ARNG Statewide Operational Noise Management Plans cover all noise producing ARNG training sites and aviation facilities within that state.

**Table C-6. Transformation, BRAC, and Army Range Campaign Operational Noise Management Plans**

Transformation, BRAC and Army Range Campaign Operational Noise Management Plans				
Completed FY 2005	Completed FY 2006		Completed FY 2007	Planned FY 2007
Fort AP Hill AWG	Fort AP Hill (2 studies)	Fort Lewis (3 studies)	Fort Hunter Liggett	US Army Alaska
Fort Bliss	Fort Bliss	Fort Riley		Fort Drum
Fort Lewis (2 studies)	Fort Benning (3 studies)	Camp Humphreys		Fort Stewart
Fort Polk (2 studies)	Fort Carson	Makua Military Reservation		Fort Stewart Wright AAF
Fort Sill	Fort Hood	Arden Hills Training Site		Fort Stewart Hunter AAF
US Army Hawaii	Fort Knox			Yakima Training Center
Warrenton Training Center	Fort Lee (2 studies)			US Army Hawaii

Operational Noise Management Plans are also used by many Army installations to manage noise and its impacts on testing and training. Noise plans include quantification of the current and projected noise environment, education and public outreach, complaint management, noise and vibration mitigating, noise abatement procedures, and land use planning.

#### **C.4.3.5 Sustainable Range Program (SRP) Outreach**

##### **C.4.3.5.1 SRP Outreach Communication Campaign**

To improve public support and the Army's understanding of public concerns related to live training, the Office of the Deputy Chief of Staff, G-3, in coordination with the Office of the Chief of Public Affairs

and the Office of the Director of Environmental Programs, developed the SRP Outreach and Public Involvement Communications Campaign. The Campaign provides installations with a strategy to easily and effectively communicate with the public regarding live fire training and encroachment challenges. A Training Support Package has been designed as a part of the SRP Communications and Information Campaign to provide installation staff with tools to help communicate with stakeholders (government and non-government) and the local community on sustainable range issues.

#### **C.4.3.5.2 SRP Range Tours**

As a part of its overall SRP Outreach Program, the Army hosted range tours at Fort Carson, Colorado, and Schofield Barracks, Hawaii in 2006. These tours provided an opportunity for partners and stakeholders to visit an Army installation and witness, first-hand, the types of training conducted and the encroachment challenges faced.

#### **C.4.3.5.3 SRP Web Portal (SRPWeb)**

The SRPWeb Portal provides an outreach mechanism between the public and the Army providing the public the opportunity to learn about and understand Army ranges, training, and mission. The Portal provides information for the public on the Army's SRP and its components, discusses what an Army range is, how the Army uses and maintains its training land, and its encroachment challenges.

#### **C.4.3.5.4 SRP – The Garrison Commander's Guide Video**

The SRP video is intended to provide Garrison Commander's and their staff with an understanding of the importance of core SRP programs and the critical need for multi-functional, integrated planning and decision making among the garrison staff to support sustainable ranges. The video scheduled for release in FY 2007.

### **C.5 CONCLUSION**

The Army faces challenges as it transforms, implements the ACP, and assumes the greatest burden in the GWOT. Training remains central to its success in all of these undertakings. Range sustainability will continue to be critical to training readiness.

## APPENDIX D: NAVY

### D.1 INTRODUCTION

The Navy is focused on the future viability of its training ranges. During FY 2006, the Navy has made further progress with its Range Sustainability Program. The following discussion is an overview of the Navy's ongoing range sustainability and installation management efforts.

This year's report, the fourth in a series of Sustainable Ranges Reports, puts even greater emphasis on future capabilities and investment. This appendix outlines the Navy's effort in three distinct sections: (1) current and future training requirements, (2) tools to evaluate training requirements, and (3) the Navy's plan to address training range constraints.

The Navy has instituted a robust plan to tackle tough range sustainment issues. Navy leadership has taken the following steps to assure the future of Navy Ranges.

- **Execution of a Comprehensive Range-Sustainment Strategy.** The Tactical Training Theater Assessment and Planning program (TAP) supports investment planning while increasing knowledge of environmental issues and restraints on Navy ranges.
- **Development of a Navy-wide Range Sustainment Policy.** OPNAV N43, in conjunction with OPNAV N45, is currently finalizing a Navy-wide range sustainment policy instruction that will assign specific range sustainment responsibilities to each level of the range support command structure. The policy will integrate current range sustainment strategies from the test and training communities.
- **Implementation of an Operational Range Clearance (ORC) Policy.** The Navy has published and is currently executing an ORC policy at all of its ranges. The ORC policy will keep Navy's ranges free of unexploded ordnance and environmentally friendly.
- **Development of Encroachment Action Plans.** An Encroachment Action Plan (EAP) is the blueprint for an installation or range's Encroachment Management Program. EAPs will supplement RCMPs to quantify encroachment at the Navy's ranges and provide short, mid, and long-term encroachment management strategies to address encroachment challenges and impacts.
- **Development of a Littoral Anti-Submarine Warfare Training Range Capability. Anti-Submarine Warfare (ASW) is a core Navy mission.** The Navy is conducting environmental planning to build the Under Sea Warfare Training Range (USWTR). USWTR will allow the Navy to train in a realistic environment to meet the ASW challenges presented by the proliferation of diesel submarines to potentially hostile countries.
- **Funding Operational Range Clearance and the Range Complex Management Staff at a low risk level.** For President's Budget 2008, Navy established and funded a separate line item in the Navy's budget plan that will pay for fully implementing the Operational Range Clearance Policy and to fund Range Complex Commander staff support to oversee and implement Navy sustainment policies and management plans at Navy's training ranges.

The Navy continues to strive to provide its servicemen and women the most realistic and comprehensive training environment possible. Realistic training and accurate feedback is the best way to assure the superiority of the Navy's fighting force. The Navy remains dedicated to sustaining its ranges. The Navy, with continued support from OSD, the Administration, and Congress, will provide the best training possible on its ranges.

## **D.2 CURRENT AND FUTURE TRAINING REQUIREMENTS**

### **D.2.1 Organization and Command Structure of Navy Training Ranges**

For administrative purposes, Navy ranges are grouped into geographic complexes. While specific ranges within those complexes may have different operational chains-of-command, they have common administrative requirements, such as environmental support and range clearance that apply to each complex. Range complexes meet specific warfare requirements for fleet concentrations in the various regions.

Validation of requirements for all training ranges in the U.S. and its territories falls under the purview of Commander, Fleet Forces Command (CFFC) and Commander, Pacific Fleet (CPF). Under the Fleet and Type Commanders, control of the ranges rests with tenant commands on the installations where they reside. For example, the ranges in the San Diego area are grouped into the Southern California Complex (SOCAL). The SOCAL complex has several land, water, and air ranges under the cognizance of the Commander Naval Air Forces Pacific (CNAP), Naval Special Warfare Command (SPECWARCOM), and the San Diego Fleet Aviation Surveillance Control Facility (FASCFAC). Beneath that level of command, local commands such as the Southern California Offshore Range (SCORE) control the day-to-day operations of the ranges. Environmental issues common to ranges within a given complex are managed by the Regional Environmental Coordinator.

Because of the common administrative requirements and geographic proximity, it is intuitive and practical that the Navy manages its ranges as range complexes. For inventory and budgeting purposes the Navy groups sets of ranges, and even sets of small complexes, in order to provide efficiency.

### **D.2.2 Training Range and Operational Area Requirements**

The Navy accomplishes most of its training on designated ranges and Operating Areas (OPAREAs). Located near concentrations of forces in the U.S. and its territories, these areas give units the ability to train under conditions controlled by exercise administrators to provide high fidelity training. For safety purposes, they also may provide a training space with reduced or restricted civilian traffic.

Naval Forces also train on ranges controlled by the Army and Air Force. Joint use of ranges both in the U.S. and abroad helps to economize time and resources spent on travel, in addition to exposing Naval Forces to a joint environment.

The Secretary of the Navy's "At-Sea Policy" allows established guidelines for training outside of designated ranges and OPAREAs in international sea and airspace. For the Navy to maintain control of the sea lines of communications far from land, it must be able to train significant distances away from the coastal areas where designated training areas are located. The At-Sea Policy provides for this required ability.

### **D.2.3 Current Range Requirements (Systems and Mission Areas)**

The Navy's range requirement is to provide forces with land, air, sea-space, and frequency spectrum to support the Fleet Response Plan (FRP). Navy has developed a Fleet Response Training Plan to meet the requirements of the FRP. The FRTP is the Navy's training cycle that requires forces to build up for full operations, deploy for those operations, return from deployment maintaining a high level of readiness, and eventually stand down for maintenance. To meet these milestones, the Navy has a geographically dispersed set of training complexes on each coast that provide the areas necessary to conduct controlled and safe training scenarios representative of those that its men and women will face in actual combat.

Today's high performance aircraft and ships employ weapons of greater capability and complexity. These weapons have unique training and delivery characteristics that require a robust Training Range/OPAREA infrastructure.

To quantify its requirements, the Navy has recently developed the Navy Range Required Capabilities Document (RCD). This RCD describes the required capabilities for training ranges for different levels of training complexity for eight range functions. The range functions, which are aligned with a Navy Primary Mission Areas (PRMARs), include: Anti-Air Warfare (AAW), Amphibious Warfare (AMW), Anti-Surface Warfare (ASU), Anti-submarine Warfare (ASW), Mine Warfare (MIW), Strike Warfare (STW), Command and Control Warfare (C<sup>2</sup>W), and Naval Special Warfare (NSW). The RCD uses a set of attributes (Airspace, Sea Space, Undersea Space, Land Area, Scheduling, Communications, Meteorological, Targets, Instrumentation, and Opposition Force) to describe the required capabilities for each range function at the level of training complexity.

Training for the FRTP takes place in the following phases:

**(1) Maintenance Phase.** To better accommodate TYCOM unit maintenance and training schedules, the basic phase may precede maintenance in part or in whole. Maintenance is critical to the success of FRP since this is the preferred period during the entire FRP in which major shipyard or depot level repairs, upgrades, and modernization will occur. In addition to the timely completion of the maintenance package, units must continue to focus on individual/team training and achieving unit level readiness.

**(2) Basic Phase (Unit Level Training).** The basic phase focuses on completion of TYCOM unit level training (ULT) requirements: team training both onboard and ashore, unit level exercises inport and at sea, unit qualifications, assessments, qualifications, and certifications. During the basic phase, a unit will maximize distance learning options for individual skills development. Additionally, a unit will maximize inport synthetic training. Successful completion of basic phase ensures units are proficient in all required Navy Mission Essential Task (NMET) capabilities, meet TYCOM certification criteria, and are ready for more complex integrated training events. ULT follows an *assess, train, and certify* process, which has been instituted by the TYCOMs.

**(3) Integrated Phase.** The goal of integrated phase training is to synthesize unit/staff actions into coordinated strike group operations in a challenging, multi-warfare operational environment. This phase provides an opportunity for strike group decision makers and watch standers to complete staff planning and warfare commanders courses; conduct multi-unit inport and at sea training; and to build on individual skill proficiencies attained in their respective basic phase. The integrated phase is adaptable in order to provide training for Major Combat Operations (MCO) Surge certification, Major Combat Operations (MCO) Ready certification, and/or tailored training to support emergent combatant commander requirements.

**(4) Sustainment Phase.** The sustainment phase begins upon completion of the integrated phase, continues throughout the post deployment period and ends with the commencement of the maintenance phase. Sustainment consists of a variety of training evolutions designed to sustain warfighting readiness as a group, multi-unit, or unit, until and following employment. Sustainment phase training exercises units and staffs in multi-mission planning and execution and to inter-operate in a joint/coalition environment. Sustainment training, inport and at sea, allows forces to demonstrate proficiency in operating as part of a joint and coalition combined force and ensures that proficiency is maintained in all NMETs in order to maintain MCO Ready. The extent of the sustainment training will vary depending on the unit's length of time in an *MCO Ready* status, as well as the anticipated tasking. During sustainment, units/groups maintain an *MCO Ready* status until the commencement of the maintenance phase unless

otherwise directed by C2F/C3F. Unit/group integrity during this period is vital to ensure integrated proficiency is maintained. This is especially vital for strike groups.

During the Sustainment Phase, a CSG/ESG is at its highest readiness level and ready to embark on operations around the globe.

The Navy defines range functions as the ability to support training in the following Naval Warfare Mission Areas:

- **Anti-Air Warfare (AAW).** The detection, tracking, destruction, or neutralization of enemy air platforms and airborne weapons, whether launched by the enemy from air, surface, subsurface, or land platforms.
- **Amphibious Warfare (AMW).** Attacks launched from the sea by naval forces and by landing forces embarked in ships or craft designed to achieve a shore presence in a littoral zone. This includes fire support for troops in contact with enemy forces through the use of close air support or shore bombardment.
- **Antisurface Ship Warfare (ASU).** The detection, tracking, and destruction or neutralization of enemy surface combatants and merchant ships.
- **Antisubmarine Warfare (ASW).** The detection, tracking, and destruction or neutralization of enemy submarines.
- **Command and Control Warfare (C2W).** The integrated use of psychological operations (PSYOP), military deception, Operations Security (OPSEC), Electronic Combat (EC), and physical destruction, mutually supported by intelligence, to deny information to, influence, degrade, or destroy adversary C2 capabilities while protecting friendly C2 capabilities against such actions (Formerly Electronic Warfare [ELW] and subsequently Space & Electronic Warfare [SEW]).
- **Mine Warfare (MIW).** The use of mines for control/denial of sea or harbor areas, and mine countermeasures to destroy or neutralize enemy mines.
- **Naval Special Warfare (NSW).** Naval operations generally accepted as being nonconventional—in many cases clandestine—in nature. The NSW includes special mobile operations, unconventional warfare, coastal and river interdiction, beach and coastal reconnaissance, and certain tactical intelligence operations.
- **Strike Warfare (STW).** The destruction or neutralization of enemy targets ashore through the use of conventional or nuclear weapons. This includes, but is not limited to, strategic targets, building yards, and operating installations from which the enemy is capable of conducting air, surface, or subsurface operations against U.S. or coalition forces.

## D.2.4 Future Training Requirements

### Projections Through 2025

Navy training ranges will support training for the operational forces well into the 21<sup>st</sup> century. The requirement will be to support all phases of the FRP. Fleet Forces Command conducts Navy's strategic planning for Navy complexes to include support for future training operations, as well as improvements to infrastructure to support the Joint National Training Capability. The individual Range Complex Management Plans (RCMPs), now under development for each Navy range complex, will address training and encroachment issues at Navy's range complexes. The Navy will use these plans to implement the OSD's Sustainable Range Guidance and to evaluate new requirements throughout the Planning, Programming, Budgeting, and Execution (PPBE) process.

## **Catalog of New Platforms and Systems for Navy Ranges**

The catalog was developed to provide a single, comprehensive document of new platforms and systems that are likely to require investment in Navy range capability or range environmental planning, and that are expected to achieve Initial Operational Capability (IOC) or Full Operational Capability (FOC) within the next 10 years. It is used as a reference document in the development of each individual RCMP and will ensure that each RCMP has a common source of information regarding new platforms and weapons systems.

New requirements at Navy training range complexes will result from new platforms such as the Next Generation Nuclear Aircraft Carrier (CVN[X]), Multi-Mission Surface Combatant (DD[X]), Littoral Combat Ship (LCS), Advanced Amphibious Assault Vehicle (AAAV), Mine Countermeasures Unmanned Underwater Vehicles (UUV), MV-22 Osprey, Joint Strike Fighter (JSF), EA-18G Superhornet EC variant, Extended Range Guided Munition (ERGM), Advanced Gun System (AGS), and Organic Mine Countermeasures Systems (AN/AQS-20/X).

### **D.3 TOOLS TO EVALUATE TRAINING REQUIREMENTS**

The Navy has made great strides in meeting its training requirement. Recent funding increases have allowed Navy ranges to update infrastructure and instrumentation. Additionally, the TAP program has been funded to a low risk level, allowing the Navy to sustain its ranges into the future. The Navy recognizes ranges are an important national asset and continues to strive to better evaluate the adequacy of its ranges.

A 2005 study OPNAV N43 funded using the Center for Naval Analysis, determined the adequacy of the Navy's SCORE range to meet the Navy's ASW requirements in the Southern California Range Complex. The study determined that current instrumentation and available water space was adequate to meet most training requirements, but did not provide the shallow water ASW training that the Navy will need to meet future threats. The Navy Range Office is continuing to determine how best to expand the study into other warfare areas and ranges to provide a comprehensive evaluation of the Navy's training ranges.

In 2006, OPNAV N43 funded two additional studies that sought to help the Navy quantify the link between investment in ranges and readiness. Although final results of the two studies are not yet available, preliminary results show some promise. The ultimate goal of the studies is to understand how to develop and maintain range metrics that identify and rank range investment priorities in relation to the readiness return-on-investment that those priorities provide.

Additionally, Range Complex Management Plans (RCMPs) give a detailed breakdown of each range's current ability to meet mission requirements. Each document gives a list of the specific warfare areas that a range complex is required to provide. The document then assigns a low, medium, or high risk rating by warfare area to the training currently available at the complex.

### **D.4 COMPREHENSIVE PLAN TO ADDRESS TRAINING CONSTRAINTS**

#### **D.4.1 Resource Enhancement Proposals**

The Navy has a well-established, funded program to identify training constraints and ensure sustainable range management. In 2001, the Navy began building a five-part Fleet training range-sustainment program called the Tactical Training Theater Assessment and Planning Program (TAP). The Navy range-sustainability program is designed to ensure the Navy maintains access to its existing ranges and OPAREAs and can expand the capabilities of range/OPAREA infrastructure to continue supporting the training requirements of evolving weapons and platforms. The Navy sustainment program focuses on

integrated planning and management to ensure training assets meet critical future mission support capabilities. TAP is the systematic investment strategy developed for Navy training ranges/OPAREAs to achieve sustained Fleet readiness. The following are TAP's five components and their functions:

**Range Complex Management Plans (RCMPs).** RCMPs address long-term sustainable use, management procedures, and record keeping to support current and future operations. All collected data will adhere to standardized formats (GIS, ACCESS) to ensure future compatibility with a proposed Navy range management system. The RCMPs include the following:

- Complete description of all training areas
- Comprehensive baseline of current range operations
- Strategic 10-year planning vision
- Analysis of encroachment and sustainment challenges
- Identification of existing environmental planning requirements
- Community involvement blueprint
- Range investment strategy

RCMPs have been completed for twelve range complexes. The RCMPs for the remaining four training range complexes will be completed by the end of CY 2007.

The Navy's 2008 President's Budget includes funding to establish dedicated staff positions to carry out the guidance provided in the RCMPs. These personnel will report directly to the Range Complex Commander and will be dedicated to range management and sustainment.

**Marine Species Density Data (MSDD).** The MSDD component compiles existing marine species information and collects new information through surveys to determine marine species population densities in OPAREAs. This population density information is required to make accurate assessments of potential impacts to marine species from planned training operations. The development of MSDD for all Navy OPAREAs will be coordinated with the Fleet Commands and OPNAV to ensure consistency in (1) outreach and coordination with the regulatory community, (2) the methodology/algorithms used to extrapolate literature and cite data for calculating densities, and (3) maintenance of all data in a centralized data repository.

**Marine Resource Assessments (MRAs)** are the first step in the process and consist of in-depth literature reviews of existing information that focus on ocean areas where Navy routinely trains. The MRAs recently completed for many east coast OPAREAs are being used to support development and/or updates of comprehensive environmental planning documentation. West Coast MRAs are more than 50 percent complete with two additional plans due for completion by FY 2008.

**Operational Range Clearance (ORC).** The ORC component establishes a plan for routine clearance and disposal of un-exploded ordnance and target debris, and maintains ranges by minimizing potential for possible future contamination. The ORC resources available through the range-sustainment program are in addition to the clearance currently conducted at Navy training ranges to maintain the safety of the range. Two ORC plans have been completed with the remaining nine due to be complete in FY 2007.

**Environmental Planning.** Implementing the RCMP has identified range complexes where additional environmental planning is required. The environmental planning will be conducted and documented as required by the NEPA or EO 12114 for action occurring overseas. Integrated operational and environmental planning is essential to ensuring operations and maintenance of ranges and OPAREAs are conducted in a manner that is (1) protective of human health and the environment, (2) consistent with current and future readiness requirements, and (3) compliant with existing environmental legal

requirements. A large part of the environmental planning effort will be ensuring the currency of all required supporting studies and analysis of training operations conducted to fulfill NEPA and Executive Order (EO) 12114.

**Range Sustainability and Environmental Program Assessments (RSEPA).** Navy's range assessment program is known as Range Sustainability and Environmental Program Assessments (RSEPA). A critical component to ensure the long-term sustainability of the Navy's ranges is to understand the environmental conditions at each range and to demonstrate that the Navy is conscientiously managing these resources in an environmentally sound manner. The Navy is taking steps to analyze and address environmental concerns by executing initiatives designed to sustain operational readiness while assessing the potential risk to human health and the environment. One initiative is the Chief of Naval Operations Navy Range Sustainability Environmental Program Assessment (RSEPA) policy. RSEPA was developed to provide a consistent and defensible approach for assessing the environmental condition of land-based operational ranges within the U.S. and its territories. The RSEPA program will determine environmental impacts of munitions use on DOD ranges, address issues of land-based range compliance, and assess the potential for off-range release of munitions constituents. The primary goals of the RSEPA process are to: (1) identify and eliminate the potential for off-range impacts to human health and the environment, and (2) comply with applicable laws and regulations. The Navy has initiated range assessments under the RSEPA process on eleven training range complexes and two Major Range and Test Facilities Base (MRTFB) Sites requiring assessments. One additional MRTFB range assessment will be initiated in FY 2007. Completed range assessments to date do not show any off-range migration of munitions constituents that present a risk to human health or the environment.

**Analyze Shortfalls.** The Navy-wide Range Sustainment Policy will give Headquarters level guidance on how the Navy will allocate limited resources. The RCD will allow the Navy to determine what range capabilities fall short of their requirements or will fall short of their requirements in the future. Each RCMP will include investment strategies for the range complex to prioritize resources to meet the shortfalls encountered. These documents are the pathway for guidance from and feedback to Navy leadership about ranges. When shortfalls are found and quantified, Navy leadership can analyze the best investment strategy to limit risk.

The Navy Range Sustainment Program as implemented through TAP is phased across the Future Year Defense Program (FYDP), and as the programs are developed they put in place a consistent system across the Navy. Many goals and milestones have already been achieved. Policy for preparing environmental documentation for training range complexes is being finalized, and policy for conducting the RSEPA process was completed in December 2003 and is now being updated. The Navy has funded the completion of several Marine Resource Assessments; funded efforts to develop a Navy-wide Range Management System; initiated the RSEPA process and has nearly completed the initial assessments; and completed the first ten RCMPs. The Navy program is well underway.

## **D.5 CURRENT AND FUTURE NAVY INVESTMENT STRATEGIES**

The Navy's training range investment strategy will be continually updated as Range Capability Documents generated under the RCMP portion of TAP are prepared and then updated. These range-specific investment strategies will delineate what infrastructure and technology is required to provide training to a specific warfare area during the three levels of the FRP, and thus allow ranges to create prioritized resource allocation structures for the following:

- Land, Air, and Water
- Facilities
- Operations and Maintenance

- Environmental
- Outreach
- Instrumentation

## APPENDIX E: U.S. MARINE CORPS

### E.1 SECTION 366 REPORT—RANGE SUSTAINMENT PROGRESS

This report is the Marine Corps' fourth annual input to the Congressional reporting requirements in Section 366 of the National Defense Authorization Act (NDAA) of FY 2003. In previous reports, the Marine Corps used this section to outline the plans and programs that modernize and sustain Marine Corps ranges. This year, rather than restating those processes and programs, the Marine Corps will provide (1) a short overview of the progress the Marine Corps has made since the initial Sustainable Ranges Section 366 Report was submitted in 2003, (2) a report on the status of short-term modernization goals articulated in the 2005 Sustainable Ranges Report, and (3) a statement of the challenges and opportunities the Marine Corps foresees in the Future Year Defense Program (FYDP) starting in Program Objective Memorandum (POM) 2008.

**Progress Review.** The end of FY 2006 marked the fifth anniversary of the Marine Corps' decision to create a division of Range and Training Area Management (RTAM) at the institutional level to provide policy and sponsor investment. The NDAA requirement to report on ranges was established shortly after RTAM was activated in 2001. The table below provides a summary of some of the progress made since that time.

**Table E-1. Marine Corps Progress Regarding Programming and Investment, and Policies and Standards**

2001	2006
<b>Programming and Investment</b>	
No range program line existed	Range Modernization/Transformation established as a program of record
Range investment for previous 22 years = \$95M	Range investment for past three years = \$200M
Requirement documentation absent/dated	Range Capabilities Document published
<b>Policies and Standards</b>	
Ground Range Safety Order outdated (1983)	Revised 2002 in partnership with U.S. Army
No Aviation Range Safety Program	Order published 2006, Chair OSD working group for joint aviation range safety
No Range Control Policies	MCO 3550.10 Range Management published 2004
No Range Management Policies	MCO 3550.10 Range Management published 2004
No standards for range certification (training, environment, facility)	MCO 3550.9 Range Certification published 2003
No standard requirements for spatial/systems components of ranges	Range required Capabilities Document published 2006
No inventory of ranges (Congressional requirement)	Complete inventory with capabilities/limitations available on-line
No standard range scheduling/management/information system	Range and Training Area Management System fully functional and fielded
No institutional vision/program for range modernization	<i>Mission Capable Ranges</i> published 2003
No standard installation studies/assessments of ranges	Range Complex Management Plans completed or funded at major ranges

Of particular note is the investment that has occurred as a result of supplemental funding enacted by the Congress. The past three years, coupled with the anticipated investments in 2007, mark the most significant modernization of Marine Corps ranges since World War II.

**Short-term Modernization Goals.** The 2005 report established some near-term goals for modernizing Marine Corps ranges. Those goals, and the progress toward achieving them, include:

- *Field basic urban training systems to all major ranges from which Marines deploy by the end of FY 2008. **Ahead of schedule.*** With the receipt of the FY 2006 supplemental funding, the Marine Corps has contracted basic facilities in Hawaii, Japan, Quantico, and Camp Pendleton. These systems were already in place and in use at Camp Lejeune and Twentynine Palms. Goal should be met by the end of FY 2007.
- Build and field a large combined arms urban training facility at Twentynine Palms to support urban training above the battalion level. Initial capability in FY 2009, full capability in FY2013. **On schedule.** With the receipt of FY 2006 additional funding, the contracting of this capability has begun.
- Field state-of-the-art range control systems to enhance ground and air training safety at all ranges. Prototype development fielded in FY 2006, fielding completed by FY 2013. **On schedule.** Prototype at Twentynine Palms is complete and in operation. Fielding has begun in Yuma and Cherry Point with other installations to follow in coming years.
- Field urban and maneuver instrumentation systems to provide after-action review and support Joint National Training Capability. Initial capability in FY 2006, full capability in FY 2013. **On schedule.** A limited capability has been fielded at Twentynine Palms and additional capabilities are funded in the POM 2008.

**Future Challenges and Opportunities.** The greatest fiscal challenge the Marine Corps will face is its ability to maintain and operate effectively the modern range capabilities acquired during this period of unprecedented investment. The Marine Corps is further challenged by acquisition and military construction processes that have time lines better suited to permanent infrastructure than to the ever-changing demands of training in a war-time environment. Finally, the Marine Corps will continue to be challenged by the urban growth that surrounds its major training complexes. The Marine Corps, with its coastal orientation, is particularly vulnerable to the pressures that urban growth brings. Accordingly, the Marine Corps remains highly supportive of OSD and Congressional efforts to permit buffering and to support outreach programs that address encroachment.

### **E.1.1 Section 320 Report— Encroachment Control For Mission Capable Ranges**

The requirements under FY 2004 NDAA Section 320, Report Regarding Impact of Civilian Community Encroachment and Certain Legal Requirements on Military Installations and Ranges and Plan to Address Encroachment, direct the Secretary of Defense to "... conduct a study on the impact of ... encroachment issues affecting military installations and operational ranges."

No documented or potential Marine Corps impacts of CAA, RCRA, and CERCLA on military training and testing were identified in FY 2006.

Civilian community encroachment on military installations and ranges is the primary concern in safeguarding the ability of the Marine Corps' installations to support the Operating Forces present and future training requirements. Military installations, including operational ranges and training areas, serve as realistic operations and training platforms that provide varied and realistic land, air, and sea resources suitable to fulfill Marine Corps Title 10 responsibilities. Military training on operational ranges and training areas are subject to many encroachment issues that can enhance or degrade the capability of an installation to support training and military readiness activities. Urbanization (uncontrolled urban growth) has been the root cause of many encroachment issues.

Encroachment Control Plans (ECPs) are being prepared to provide each installation with management processes, strategic planning, and range resources to combat encroachment so that ranges and training areas can continue to support realistic training. The ECPs for Marine Corps Air Station (MCAS) Beaufort, South Carolina; its supporting Townsend Bombing Range, Georgia; and MCAS Cherry Point, North Carolina are completed and pending command endorsement: ECPs at MCAS Yuma, Arizona and Marine Corps Base (MCB) Quantico, Virginia are scheduled to begin in FY 2007.

The Marine Corps Installation Commanders' Guide to Encroachment Partnering (EP) was published February 2006 to assist planning and execution per 10 USC § 2684a authority as amended. EP program efforts for FY 2006 concentrated on acquiring buffer areas in the vicinity of MCB Camp Pendleton, California; MCB Camp Lejeune, North Carolina; MCAS Beaufort, South Carolina; and Townsend Bombing Range, Georgia.

Marine Corps Installations (MCI) East Community Plans and Liaison Office (CPLO) Workshop was conducted October 2006 to coordinate regional issues in promoting Marine Corps installations operational capabilities while balancing the concerns and needs of neighboring communities, governmental and non-governmental stakeholders. A similar CPLO regional workshop is to be conducted by MCI-West in FY 2007.

The Marine Corps is currently developing its Range Environmental Vulnerability Assessment (REVA) program to assess the potential for munitions constituents (MC) to migrate off operational ranges and to identify potential impacts to human health and the environment. The REVA program is designed to provide a consistent and defensible process to assess Marine Corps operational ranges and training areas that may be impacted by environmental regulations. The goals of the REVA program are to:

- Provide environmental information for the RCMPs.
- Enhance the Marine Corps' ability to prevent or respond to a release or substantial threat of a release of MC from an operational range or training area.
- Assist range managers in making decisions to improve sustainable range management.

The REVA program is on target to complete the REVA User's Guide by first quarter in FY 2007. Funds are programmed to begin all assessments by FY 2008. As of the first quarter of FY 2007, site visits were conducted at MCAS Cherry Point, MCB Camp Lejeune; MCB Camp Pendleton; MCAS Beaufort/Townsend Range; Marine Corps Recruit Depot (MCRD) Parris Island; Marine Corps Air Ground Combat Center (MCAGCC) Twentynine Palms; Marine Corps Mountain Warfare Training Center (MCMWTC) Bridgeport; MCB Quantico; and MCAS Yuma.

## **E.1.2 Conclusion**

The Marine Corps is undertaking an aggressive and comprehensive Mission-Capable Ranges program. The program seeks to support, modernize, and transform Marine Corps operational ranges while protecting human safety and health, the environment, and the imperatives of military range training requirements. The program embraces processes and investment strategies that ensure operational range and training area access and usage in the foreseeable future.

As part of range support, modernization, and transformation, the Marine Corps recognizes encroachment control as necessary to ensure operational range access and usage. The Marine Corps has established a comprehensive Encroachment Partnering program to protect installation, range, and training area mission objectives and military readiness. Encroachment Partnering captures the interests and efforts of both civilian stakeholders and Marine Corps installation managers that serve to provide cooperative arrangements necessary to guard against encroachment.

Marine Corps range support, modernization, and transformation management processes and investment strategies combined with REVA, Encroachment Partnering, and other encroachment control actions, provide a comprehensive plan to manage Marine Corps installations, ranges, and training areas.

## APPENDIX F: AIR FORCE

### F.1 INTRODUCTION

In September 2006, the United States Air Force signed out a strategic plan entitled, *Transforming the Air Force, The Relevant Range...Enabling Air Force Operations*. This strategic vision for ranges and airspace is Air Force guidance for building and sustaining relevant ranges to meet the needs of the warfighter. The Air Force emphasizes the development of comprehensive range planning, which includes MAJCOM roadmaps and individual comprehensive range plans, based upon ten key investment areas. The investment areas provide the foundation for supporting a relevant range and a mechanism to articulate range and airspace requirements. Lastly, this strategic vision implements a continuous review process, linked to the Air Force programming cycle, to ensure the vision, policy and guidance, roadmaps, and range management plans, remain current and resourced for the future. Achieving this vision will ensure Airmen continue to have the finest training coupled with world-class technology and the ability to fully integrate all operations in tomorrow's battles.

#### F.1.1 Why Transform –What has changed?

Combat operations throughout the years have taught invaluable lessons. These lessons have guided the Air Force in transforming how it prepares for future combat operations. Perhaps the single finest example of this transformation related to Air Force range operations was the establishment of Red Flag, which came about as a direct result of lessons learned from combat operations in Southeast Asia. This program drove a paradigm shift for all Air Force training and ranges – the objective of introducing the warfighter to the mental and physical challenges of near combat operations before they first saw combat. Similar to this transformation that occurred in the post-Vietnam era, the Air Force is now in a post-9/11 era where it has identified significant lessons from years of actual combat operations in Southwest Asia. These operations involved new technology for kinetic and non-kinetic operations, new employment tactics, new skills and perhaps most significantly – an exponential increase in the Air Force requirement to conduct integrated operations. To remain relevant, the Air Force ranges must capture those lessons and transform as significantly as they did with the establishment of Red Flag.

#### F.1.2 The Vision

The combination of land, air, space, and cyberspace forms the ranges in which the Air Force operates. The relevant ranges enable Air Force operations – directly supporting the Air Force core competencies of *Developing Airmen, Technology to Warfighting, and Integrating Operations*. The relevant ranges will be able to selectively and simultaneously support all three Core Competencies. The ranges will support the classic and enduring skills of counter-air and counter-land warfare and, just as critical, selective ranges will enable airlift and space-lift operations. Some ranges will ensure Air Force forces are ready to go “Beyond the Wire” in an expeditionary combat support environment or just as readily apply skills in cyberspace. The relevant ranges, linked to an element of the Theater Air Control System, will enable a seamless, net-centric combat environment that subjects Airmen to the complete warfighting cycle (See-Assess- Decide-Act). This vision will take significant advantage of Distributed Mission Training and Distributed Mission Operations, yet it will also ensure the ability to validate tactics, techniques and procedures.

#### F.1.3 The Strategy – Comprehensive Range Planning

Comprehensive range planning is the foundation that ensures ranges and airspace meet current and future needs. Its purpose is to identify current and projected capability shortfalls, and guide sustainable range development to close the shortfalls. This approach ensures the range capability (mission) requirements

remain a priority with the full understanding that range development has its greatest chance of success through a strong community outreach program that appropriately considers and addresses both community and environmental issues and concerns. A hierarchy of plans, each integrated across ten investment areas will provide guidance and direction for future development. These are the focused investment areas:

- Land/Sea
- Air, Space, and Cyberspace
- Targets and Target Arrays
- Integrated Air Defense / Counter-Air Defense Systems
- Communication Systems
- Scoring and Feedback Systems
- Environment
- Unexploded Ordnance/ Range Residue Removal
- Physical Plant (Real Property and Infrastructure)
- Management

Key elements of the first two investment areas include the Air Force ability to lease or otherwise control access to land vice outright ownership of land to enable operations. Also, with respect to air and space, the Air Force must migrate toward *Dynamic yet Predictable* operating areas as often as they are needed vice whenever they are wanted. *Dynamic yet Predictable* is described in more detail in “***Transforming the Air Force Range, The Relevant Range...Enabling Air Force Operations.***”

#### **F.1.4 Review Cycle**

Any strategy would be incomplete without a review process to accommodate future changes. The review for this strategy is synchronized with the Air Force Program Objective Memorandum (POM) cycle and starts with the results of the Quadrennial Defense Review (QDR). This document will be reviewed and updated as required every four years, while Roadmaps and Comprehensive Range Plans will be reviewed every two years and updated every four years. The ultimate goal of this vision, strategy and process will ensure that the Air Force ranges continue to enable Air Force operations, now and in the future.

**APPENDIX G: LIST OF ACRONYMS**

A/I	Active/Inactive
AAAV	Advanced Amphibious Assault Vehicle (now called “EFV” – see below)
AAV	Amphibious Assault Vehicle
AAW	Anti-Air Warfare
AC	Active Component
ACC	Air Combat Command
ACOM	Army Command
ACP	Army Campaign Plan
ACSIM	Assistant Chief of Staff for Installation Management
ACUB	Army Compatible Use Buffer
AEC	Army Environmental Command
AF	Air Force
AFI	Air Force Instruction
AGS	Advanced Gun System
AICUZ	Air Installations Compatible Use Zones
AKO	Army Knowledge Online
AMRP	Army Master Range Plan
AMW	Amphibious Warfare
AN/AQS-20/X	Organic Mine Countermeasures Systems
ANG	Air National Guard
ARFORGEN	Army Force Generation
ARNG	Army National Guard
ARRM	Army Range and Training Land Program Requirements Model
ASCC	Army Service Component Commands
ASD(C3I)	Assistant Secretary of Defense for Command, Control, Communications, and Intelligence
ASD(NII)	Assistant Secretary of Defense for Networks and Information Integration
ASU	Anti-Surface Ship Warfare
ASW	Anti-Submarine Warfare
ATC	Air Traffic Control
BAX	Battle Area Complex
BCT	Brigade Combat Teams
BDA	Battle Damage Assessment
BLM	Bureau of Land Management
BMGR	Barry M Goldwater Range
BNOISE	Blast Noise
BRAC	Base Realignment and Closure
BW	Bomber Wing
C2W	Command and Control Warfare
C3	Command, Control, and Communication
CAA	Clean Air Act
CALFEX	Combined Arms Live Fire Exercises
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFFC	Commander of Fleet Forces Command
CMC	Commandant of the Marine Corps
CNAP	Commander of Naval Air Forces Pacific
CNO	Chief of Naval Operations
COA	Certificate of Authorization
COI	Community of Interest

COMACC	Commander, Air Combat Command
CONUS	Continental United States
COMPTUEX	Composite Training Unit Exercise
CPLO	Community Plans and Liaison Office
CRP	Comprehensive Range Planning
CSG	Carrier Strike Group
CVN[X]	Next Generation Nuclear Aircraft Carrier
DAFIF	Digital Aeronautical Flight Information File
DAGIR	Digital Air Ground Integration Range
DAMO-TRS	Office of the Deputy Chief of Staff, G-3/5/7, Training Directorate, Training Support Systems Division
DAR	Department of the Army Representative
DD[X]	Multi-Mission Surface Combatant
DISDI	Defense Installations Spatial Data Infrastructure
DMPRC	Digital Multipurpose Range Complex
DMPTR	Digital Multipurpose Training Range
DOE	Department of Energy
DON	Department of the Navy
DOD	Department of Defense
DODD	Department of Defense Directive
DODI	Department of Defense Instruction
DRRS	Defense Readiness Reporting System
DRU	Direct Reporting Units
DSA	Detect, Sense, and Avoid
EAP	Encroachment Action Plan
EC	Electronic Combat
ECM	Encroachment Condition Module
ECOS	Environmental Council of States
ECP	Encroachment Control Plan
EFV	Expeditionary Fighting Vehicle (formerly AAAV)
EIAP	Environmental Impact Analysis Process
EIMS	Environmental Information Management System
ELW	Electronic Warfare
EO	Executive Order
EP	Encroachment Partnering
EPA	Environmental Protection Agency
EPACT	Energy Policy Act
ERGM	Extended Range Guided Munition
ESG	Expeditionary Strike Group
EW	Electronic Warfare
FAA	Federal Aviation Administration
FAAO	Federal Aviation Administration Order
FCS	Future Combat System
FFC	Fleet Forces Command
FOC	Full Operational Capability
FRP	Fleet Response Program
FY	Fiscal Year
FYDP	Future Year Defense Program
GAO	Government Accountability Office
GDPR	Global Defense Posture Realignment
GIG	Global Information Grid

GIS	Geographic Information System
GISR	Geographic Information System-Repository
GM	Guidance Material
GWOT	Global War on Terrorism
HAAF	Hunter Army Airfield
HQ	Headquarters
HQDA	Headquarters Department of Army
HQMC	Headquarters Marine Corps
HQ USAF	Headquarters United States Air Force
HQUSAF/A7CA	Headquarters United States Air Force Office of Civil Engineer, Asset Management and Operations Division
ICRMP	Integrated Cultural Resource Management Plan
ICV	Infantry Carrier Vehicle
IOC	Initial Operational Capability
IPT	Integrated Product Team
IMAE-TS	United States Army Environmental Command, Training Support Division
INRMP	Integrated Natural Resource Management Plan
IR	Instrument Routes
ISR	Installation Status Report
ISR-I	Installation Status Report-Infrastructure
ISR-NI	Installation Status Report-Natural Infrastructure
IT	Information Technology
ITS	Individual Training Standards
JLUS	Joint Land Use Study
JNTC	Joint National Training Capability
JSF	Joint Strike Fighter
JTFEX	Joint Task Force Exercise
kHz	Kilohertz
KPP	Key Performance Parameters
LCS	Littoral Combat Ship
LFTIS	Live Fire Training Investment Strategy
LMR	Land Mobile Radio
LOB	Line of Business
MAGTF	Marine Air Ground Task Force
MAJCOM	Major Command
MASPS	Minimum Aviation System Performance Standards
MCAGCC	Marine Corps Air Ground Combat Center
MCAS	Marine Corps Air Station
MCB	Marine Corps Base
MCI -	Marine Corps Installations -
MCLB	Marine Corps Logistic Base
MCMWTC	Marine Corps Mountain Warfare Training Center
MCO	Marine Corps Order
MCRD	Marine Corps Recruit Depot
MEB	Marine Expeditionary Brigade
MEU	Marine Expeditionary Unit
MID	Management Initiative Decision
MIW	Mine Warfare
MMPA	Marine Mammal Protection Act
MOA	Military Operating Area
MOU	Memorandum of Understanding

MRA	Marine Resource Assessment
MRTFB	Major Range and Test Facilities Base
MSDD	Marine Species Density Data
MTR	Military Training Route
NAAQS	National Ambient Air Quality Standards
NAB	Naval Air Base
NAS	National Airspace System
NAVFACENGCOM	Naval Facilities Engineering Command
NAVREP	Naval Representative
NCSL	National Conference of State Legislatures
NDAA	National Defense Authorization Act
NEPA	National Environmental Policy Act
NGA	National Geospatial Intelligence Agency
NGO	Non-Governmental Organization
NI	Natural Infrastructure
NIA	Natural Infrastructure Assessment
NIC	Natural Infrastructure Capability
NICWG	Natural Infrastructure Capability Work Group
NRCS	Natural Resources Conservation Service
NSW	Naval Special Warfare
NTC	National Training Center
NTTR	Nevada Test and Training Range
OACSIM	Office of the Assistant Chief of Staff for Installation Management
OAR	Open Air Range
OAS	Offensive Air Support
OCF	Oahu Conservation Partnership
ODCS	Office of Deputy Chief of Staff
ODEP	Office of the Director of Environmental Programs
ODUSD (I&E)	Office of the Deputy Under Secretary of Defense (Installations & Environment)
OEA	Office of Economic Adjustment
OEF	Operation Enduring Freedom
OHA	Office of Hawaiian Affairs
OIF	Operation Iraqi Freedom
OMB	Office of Management and Budget
ONISTT	Open Net-Centric Interoperability Standards for Test and Training
OPAREA	Operating Area
OPNAV	Office of the Chief of Naval Operations
OPNAVINST	Naval Operations Instruction
OPSEC	Operations Security
ORAP	Operational Range Assessment Plan
ORC	Operational Range Clearance
ORIS	Operational Range Inventory Sustainment
OSD	Office of the Secretary of Defense
OT&E	Operational Test & Evaluation
PACFLT	United States Pacific Fleet
PBFA	Policy Board on Federal Aviation
POM	Program Objective Memorandum
PM	Particulate Matter
PMRF	Pacific Missile Range Facility
PPBE	Planning, Programming, Budgeting and Execution
PRMAR	Navy Primary Mission Area

PSYOP	Psychological Operations
QA/QC	Quality Assurance/Quality Control
QDR	Quadrennial Defense Review
RAC	Regional Airspace Coordinator
RAICUZ	Range Air Installations Compatible Use Zones
RAP	Regional Airspace Plan
RC	Radio Controlled
RCD	Range Capabilities Document
RCMP	Range Complex Management Plan (Navy and Marine Corps terminology)
RCMP	Range Complex Master Plan (Army terminology)
RCRA	Resource Conservation and Recovery Act
RCW	Red Cockaded Woodpecker
RDT&E	Research, Development, Test and Evaluation
RDX	Research Department Explosive
REPI	Readiness and Environmental Protection Initiative
REVA	Range Environmental Vulnerability Assessment
RIE	Range Information Enterprise
RMS	Range Management System
RMTK	Range Manager's Tool Kit
ROA	Remotely Operated Aircraft
RRPB	Requirements Review Prioritization Board
RRPI	Readiness and Range Preservation Initiative
RSEPA	Range Sustainability Environmental Program Assessment
RSTA	Reconnaissance, Surveillance, Targeting, and Acquisition
RTAMS	Range and Training Area Management System
RTLTP	Range and Training Land Program
RUSWG	Range Use Standardization Working Group
SBCT	Stryker Brigade Combat Team
SC	Special Committee
SCORE	Southern California Offshore Range
SEAL	Sea Air and Land
SERPPAS	Southeast Regional Partnership for Planning and Sustainability
SEW	Space and Electronic Warfare
SIP	State Implementation Plan
SOCAL	Southern California Complex
SOCOM	Special Operations Command
SPAWARSYSCEN	Space and Warfare Systems Center
SPECWARCOM	Naval Special Warfare Command
SR	Slow Routes
SRI	Sustainable Ranges Initiative
SRP	Sustainable Range Program
STW	Strike Warfare
SUA	Special Use Airspace
SUAS	Small Unmanned Aircraft System
SWAP	State Wildlife Action Plan
SWDA	Solid Waste Disposal Act
T&E	Test & Evaluation
T&R	Training and Readiness
T/TSNS	Test/Training Space Needs Statement
TAP	Tactical Training Theater Assessment Planning
TAPR	Tactical Training Theater Assessment Planning Repository

TC	Training Circular
TCF	The Conservation Fund
TCOI	Training Community of Interest
TCTS	Tactical Combat Training System
TECOM	Training and Education Command
TES	Threatened and Endangered Species
TREIS-T	Training Range Encroachment Information System Tool
TYCOM	Type Commander
UA	Unmanned Aircraft
UAPO	Unmanned Aircraft Program Office
UAS	Unmanned Aerial System
UAV	Unmanned Aerial Vehicle
US	United States
USAASA	United States Army Aeronautical Services Agency
USACHPPM	U.S. Army Center for Health Promotion and Preventative Medicine
USAF	United States Air Force
USAFR	United States Air Force Reserve
USAR	United States Army Reserve
USC	United States Code
USDA	United States Department of Agriculture
USD(AT&L)	Under Secretary of Defense (Acquisitions, Technology and Logistics)
USFFC	United States Fleet Forces Command
USFWS	United States Fish and Wildlife Service
USJFCOM	United States Joint Forces Command
USMC	United States Marine Corps
USN	United States Navy
USWTR	Under Sea Warfare Training Range
UTTR	Utah Test and Training Range
UUV	Unmanned Underwater Vehicles
UXO	Unexploded Ordnance
VACAPES	Virginia Capes
VR	Visual Routes
WDZ	Weapons Danger Zone
WESTPAC	Western Pacific
WIPT	Working Integrated Product Team
WRP	Western Regional Partnership
WMD	Weapons of Mass Destruction