



# United States Department of Defense

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## Report to the Congress

### Implementation of the Department of Defense Training Range Comprehensive Plan

*Ensuring Training Ranges  
Support Training Requirements*

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

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## EXECUTIVE SUMMARY

### INTRODUCTION

The Department of Defense (DoD) is submitting this report to update its plans for addressing training constraints caused by encroachment – limitations on the use of military lands, marine areas and airspace for military training within the United States, as well as overseas. DoD is providing this report in response to Section 366 of the National Defense Authorization Act for Fiscal Year (FY) 2003 (Public Law 107-314), which requires the Department to report on these and related topics (see Appendix A) in a series of single annual reports. The first Section 366 report, submitted in February 2004, provides a foundation for this year's and future reports for Section 366.

This report discusses the diverse requirements for training ranges, the adequacy of DoD resources to meet requirements, and plans for addressing gaps between the two. It also presents up-to-date information on the status of efforts for range-related information systems and inventory; a notional description of information enterprise and high-level graphical depiction of current systems; goals and milestones for Sustainable Range efforts; status of efforts to improve visibility of funding for range sustainability; and status of efforts for overseas range sustainability. This year's update will also include a current inventory of DoD ranges and range complexes and an update from each of the Armed Services.<sup>1</sup>

DoD's test and training ranges are diverse in many respects. They consist of land, airspace, sea surface, and undersea areas. The land areas include the types of terrain in which our forces may have to fight: deserts, mountains, coastal areas, swamps, forests, and plains. Our forces train and test at hundreds of locations in the United States and overseas. Ranges support a wide variety of offensive and defensive training missions, including land-based maneuvers, live fire with the full spectrum of weapon systems – from small arms to guided missiles, naval operations on the surface and undersea, amphibious operations, air-to-air, air-to-ground, surface-to-air, space operations, and electronic warfare. They must also have the capacity and capabilities needed to test new systems for all of these missions.

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<sup>1</sup> Section 366 was enacted in the Bob Stump National Defense Authorization Act for Fiscal Year 2003, Public Law 107-314. The terms "range" and "operational range" were given statutory definitions in the National Defense Authorization Act for Fiscal Year 2004, Public Law 108-136. 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 desires to provide to Congress a definitive and comprehensive statement of its test and training requirements, this report does not apply 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).

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. The term reflects longstanding practice and usage by the Military Services which have sometimes grouped ranges or range areas and associated airspace for internal management purposes, and this report refers to these groupings as "range complexes."

In this report, the term "range complex" is used in slightly different ways for each Armed Service. Army and Marine Corps range complexes represent the range portions of the larger Army and Marine Corps installations, excluding, e.g., the cantonment area. Navy range complexes are regional groupings of various land, air and sea ranges. Air Force range complexes are defined as the airspace and land area, with a focus in this year's report on air-to-ground training. It is critical for readers to note that the term "range complex" has no particular relationship to the term "operational range."

The diversity of DoD's ranges has influenced the Department's range management framework. Historically, range management has been decentralized, from OSD to the Services' headquarters to major commands to installations and units. The Military Services have established policies and procedures to manage their ranges. These policies and procedures involve cooperation among the range users, ranges themselves, and the different professional communities. While higher level organizations exercise their responsibilities for oversight, day-to-day range management and operations are appropriately decentralized. While some may advocate more centralized management, the Department believes that de-centralization more appropriately captures the realities and imperatives of Service-centric range management.

The organization of this report reflects the diversity among training and testing range complexes and DoD's organizational principles, roles, and responsibilities for range management. Chapters 2, 3, 4, and 5 discuss a limited number of topics that DoD is addressing on a Department-wide basis: range information enterprise; goals, actions, and milestones; funding; and overseas ranges and operating areas. Chapters 6, 7, 8, and 9 are reports from each of the Military Services that address Service-specific issues related to Section 366.

## **BACKGROUND**

Today, our military forces are deployed around the globe. When our nation sends military forces abroad, it does so under a solemn agreement with the American people: DoD will educate, train, and prepare them for the challenges of war before placing them in harm's way.

Training provides our soldiers, sailors, airmen and Marines with the combat skills they need to win and return safely to their families. Decades of experience have taught us that realistic training saves lives. Training, however, requires substantial resources: air, land, water, and frequency spectrum, that enable military forces to train as they would fight— replicating the challenges, stress, discomfort, and physical and psychological conditions of actual combat.

Substantial urban growth and other “encroachment” around previously isolated ranges strain our ability to conduct testing and training essential to maintaining readiness. We are working to expand efforts to sustain our training mission and protect the valuable natural resources entrusted to our care. Both are required as we endeavor to ensure that our men and women in uniform get the best training available.

The DoD's Readiness and Range Preservation Initiative (RRPI) is composed of eight provisions that constitute a combination of narrowly focused measures to enhance the readiness of our forces, while maintaining our commitment to environmental stewardship. Five of the eight RRPI provisions have been enacted into law thus far. The success of RRPI will ultimately contribute greatly to the goals of Training Transformation.

The centerpiece of Training Transformation is the Joint National Training Capability or JNTC. Through the JNTC and its allocated resources, joint context and training capabilities are being created and integrated with Service training programs. The joint context will create an agile, Live (ranges and other training space), Virtual (simulators), and Constructive (simulations) environment, or LVC, that will ensure an appropriate environment and level of participation is available to support the selected joint training objectives. Live remains the domain of choice for graduate-level, collective training exercises, followed in order by virtual participation (trainees in high fidelity simulators integrated with the live environment and scenario) and constructive participation (simulation providing valid representation of critical participants and functions that enable joint operations). Distributed participation is provided for all domains, enabled by a dedicated JNTC network across the country and expanding to accommodate global needs. While



the network leverages other DoD networks as well as commercial services, it is designed to be assimilated into the oncoming Global Information Grid.

Essential to the JNTC is the continued availability of training space on the ground, in the air, and at sea. As technology allows JNTC to capture participants and their contributions to the joint environment without necessarily co-locating them, it is essential that there be useable training space wherever our forces are stationed. Technology allows us to maintain “tactical adjacency”, even though forces are distributed across the country. And as our forces become more expeditionary, so are their training support mechanisms as provided by JNTC, providing global connectivity and capability within the next few years.

JNTC’s commitment to providing realistic Joint training relies heavily on the live environment and the fidelity of psychological and physical realism it provides. It also requires participants and their systems/platforms to perform in their intended environments, optimizing the human intimacy with their associated equipment. Finally, the live environment also brings an understanding of the breadth of impediments to successful operations and their full consequence if not addressed properly. While virtual and constructive participation is more desirable than no participation, the clear preference is participation in the live domain, where realism, including consequences, is most pronounced.

## **CONTEXT**

This year’s Section 366 update is part of a large initiative toward better training and equipping our troops for conflicts in the 21<sup>st</sup> Century. In the midst of Training Transformation efforts, however, several aspects of today’s military training strategy will remain. Challenges that will continue to steer DoD policy and actions include the need to manage operational readiness, encroachment, training range sustainability, training range information and the training range inventory.

Both in the United States and overseas, encroachment increasingly challenges DoD’s ability to provide training resources that are sufficient to meet established U.S. military training standards. DoD faces growing communities near many of its installations and ranges, and growing competition for the air, land, water, and frequency spectrum that are essential for military training. These challenges are increasing with the combined advent of longer-range weaponry and the need for our forces to train over larger areas to simulate realistic combat operations.

The DoD Range Sustainment Initiative addresses current challenges to the long term sustainability of military operations, including both training and testing operations. To be able to train our military forces and to test equipment and munitions, the military requires not only hard infrastructure, such as runways, hangars, roads, targets and all of the associated support equipment; it also requires air, land, water, and frequency spectrum resources. The military’s ability to conduct training and testing is increasingly constrained due to competition for these resources.

The success of the Sustainable Range Initiative depends on weaving its goals into DoD policy development, community outreach, regional and state coordination, compatible land use planning, natural resources management, and training and education of its military and civilian personnel.

## **RANGE INFORMATION ENTERPRISE**

### **Department Vision**

The Department is moving toward a more integrated range information enterprise that improves training range management, operation, and sustainment while increasing cross-service and cross-functional sharing of information. There are a number of challenges to this vision. Among the most significant challenges are the ever-changing requirements that necessitate the collection and analysis of new types of data, either by evolving current systems or creating new systems.

Another challenge is managing the impact of changing technology within the system lifecycle. For example, advances in geospatial technologies have provided new methods for data organization, visualization and analyses that can serve as common resources supporting multiple business processes and user groups across the range information enterprise. DoD capitalizes on these advances by reengineering or developing new systems to replace legacy systems.

The vision outlined in the Department's *Strategic Plan for Transformation of DoD Training* and the Joint National Training Center's (JNTC) plan to create a network of joint training enablers demand the development of technology to "...immerse the warfighter in a realistic operational environment." This in return requires planned transformation initiatives that promote:

- Cross Service sharing of training resources,
- System interoperability and information sharing,
- Creation of highly dynamic systems whose functional features can easily be extended.

The Department is working toward achieving this vision by facilitating change in business processes and information systems development across the training range enterprise.

### **Range Information Systems**

DoD has implemented many successful information systems that support training range business operations at every level of the Department. The ensuing sections provide a broad overview of the information systems supporting the training range mission, including examples of Service-wide integration of systems and business processes, as well as cooperative efforts to develop an extensible system that can be "plugged in" to a variety of settings.

### **Enterprise Success Stories**

Successful cross Service cooperation and coordination have created opportunities for cross-Service scheduling of training ranges. For example, the Army and the Marine Corps have jointly developed the Range Facility Management Support System (RFMSS) to improve training opportunities within both Services, which not only resulted in cost savings, but also helped generate additional interoperable systems that meet the needs of a wide variety of needs across the Armed Services. These joint efforts have allowed for increased functionality and greater efficiency during training and war-fighting preparations.

## **GOALS, ACTIONS AND MILESTONES**

Under the leadership of the Office of the Secretary of Defense (OSD), each of the Military Services has initiated a comprehensive range planning and management process as an integral part of DoD's Sustainable Ranges Initiative. It is a long-term process to sustain training and testing capability while actively engaging in environmental stewardship and mitigating encroachment concerns.

In order to facilitate reaching Sustainable Range program objectives, the Sustainable Range Working Integrated Product Team (WIPT) has developed a set of DoD-wide goals, actions and milestones to prioritize, track, and achieve planned actions. This common framework of goals and milestones will enable OSD and the Services to make meaningful comparisons and measurements of past performance and progress toward near and long-term objectives.

For effective integration and consistency with the Sustainable Range funding framework, the Sustainable Range goals, actions and milestones are organized under the same four main categories:

- Modernization & Investment;
- Operations and Maintenance;
- Environmental;
- Encroachment.

Like the funding frameworks, these goals and milestones will be continuously reviewed, updated, and monitored for meaningful progress toward the overall Sustainable Range program objectives.

## **FUNDING**

Section 366 requires the Department to project funding requirements to “enhance training range capabilities and address any shortfalls in the current DoD resources.” In order to fulfill this requirement, the Sustainable Range WIPT, working through a funding subgroup, developed a common construct for consistent and accurate reporting of range funding among the Services.

The goal is to account for 100 percent of Sustainable Range funding. If instituted, the funding construct will be used by the WIPT to help monitor Sustainable Range programs through the Planning, Programming, Budgeting and Execution (PPBE) process. The funding subgroup will continue to work with the Services, in particular the assistant secretaries for financial management, to provide a standardized reporting framework for Sustainable Range programs.

### **Funding Framework**

Building from the various disparate frameworks used to promulgate Defense Planning Guidance and those used by Services to build investment strategies for their Sustainable Range programs, the funding subgroup has identified and consolidated Sustainable Range programs and put them into four main categories:

- Modernization and Investment: Research and capital investments in ranges and range infrastructure. It is comprised primarily of Research Development Testing and Evaluation (RDT&E), Procurement, Military Construction (MILCON) funds, Operations and Maintenance (O&M) funds, and Military Personnel (MILPERS) funds;
- Operations and Maintenance: Day-to-day recurring activities for operating and managing range infrastructure and assets. It is comprised entirely of O&M and MILPERS funding;
- Environmental: Environmental management systems supporting sustained required access to ranges;

- **Encroachment:** Actions to optimize the accessibility to ranges by minimizing restrictions that do or could limit range activities.

The proposed framework will continue to be modified and refined to include any additional program elements. It is structured to capture and account for 100 percent of Sustainable Range program elements, and could become a standardized reporting mechanism for all Sustainable Range programs.

## **OVERSEAS RANGES AND OPERATING AREAS**

As part of the larger military transformation strategy, DoD is in the process of realigning its global force posture to better respond to new security challenges. The global realignment envisions moving 70,000 military personnel back to the United States, reducing force levels in Korea and Europe, repositioning the remaining forces, and establishing new plans for training and operating with our allies and partners in Europe. Consistent with the overall DoD transformation strategy, this undertaking will emphasize joint capabilities and training toward more agile, efficient force positioning and maneuvering.

The Department has been working with the White House, the State Department, Congress, and allied nations to develop new training plans to accommodate the evolving global force posture. Attention is being given to ensure that our plans take into account joint training objectives as well as the interests of multinational stakeholders and those of host nations.

In general, training constraints in overseas ranges are growing in complexity and scope. Urbanization, population growth, and demand for qualities of life (e.g., attractive urban planning, safety considerations, and noise reduction) are colliding with the need for realistic training.

Furthermore, the Department must consider environment, safety, and occupational health issues affecting the environment and health of our troops in overseas ranges. Early and proactive consideration and integration of these issues will facilitate DoD's ability to train effectively, establish and maintain a cooperative spirit with the host nation's public, contribute toward sustainable military operations and partnerships with host nations, and limit claims for financial liabilities.

Historically our overseas commands have been effective in utilizing the overseas ranges in spite of growing encroachment and environmental constraints. As we move forward with the Global Defense Posture Review, we will be mindful of the lessons learned thus far, and apply them at the outset as we act on new opportunities. The Sustainable Ranges WIPT will consider establishing a working group to concentrate on overseas ranges; examples of activities include establishing a coordinating forum for sustainability of overseas bases, development of regional case studies of existing capabilities and shortfalls, and expanding the range inventory to include those operated by other nations.

## **OBSERVATIONS**

Many of the observations presented in last year's Section 366 Report remain valid today. To provide ready military forces to meet our country's national security needs, our personnel must train as they would fight, especially for combined arms and joint training. To train as we would fight requires reliable access to adequate land, air, sea space, and frequency spectrum resources. Encroachment effectively reduces the amount of these resources that the Department has to support essential military training.

The Department is grateful for the support that the Congress has provided thus far on the Readiness and Range Preservation Initiative, buffer areas, and related range management issues, and we look forward to continuing to work with the Congress on the remaining RRPI items. Yet even with these essential changes in the law, and others proposed by the Department, tomorrow's encroachment problems will be substantially worse than today's without effective management and broad cooperation. As our weapon systems grow in capability, they detect at greater distances, travel faster, cover wider areas, and process more information. The Department recognizes the need for live training and the associated need for training space. These trends suggest training and testing needs for more land area, airspace, sea space, and frequency spectrum. At the same time, encroachment diminishes the availability of these resources.

The Department plans to continue to work with the Congress, other federal agencies, the states, Native American tribes, local governments, host nations abroad, and non-governmental organizations to address today's encroachment problems and to ensure the long-term sustainability of the range resources that are so essential to training, testing, readiness, and our nation's security.



# 1. INTRODUCTION

## 1.1. Purpose

The Department of Defense (DoD) is submitting this report to update its plans for addressing training constraints caused by encroachment – limitations on the use of military lands, marine areas and airspace for military training within the United States, as well as overseas. DoD is providing this report in response to Section 366 of the National Defense Authorization Act for Fiscal Year (FY) 2003 (Public Law 107-314), which requires DoD to report on these and related topics (see Appendix A). This report addresses Section 366's requirement for the submission of a report with the President's budget for FY 2006. Section 366 requires DoD to provide updated reports with the President's budget for FY 2007 and 2008. The first Section 366 report, submitted in February 2004, provided a foundation for this year's and future reports for Sections 366.

This report discusses requirements for training ranges, the adequacy of DoD resources to meet requirements and plans for addressing gaps between requirements and resources. This report presents an up to date status on range-related information systems progress and plans; goals, and milestones for sustainable range efforts; efforts to improve visibility of funding for range sustainability; and overseas range sustainability considerations. This year's update will also include a current inventory of DoD ranges and range complexes and an update from each of the Armed Services.

Finally, this report responds to some of the comments made by the Government Accountability Office in their review of the February 2004 Section 366 report.<sup>2</sup>

## 1.2. Background

Specifically, Section 366 requires DoD to assess current and future training range requirements and the ability of current DoD resources to meet them. It calls for a report on implementation of training range inventories and the development of comprehensive plans to address operational constraints caused by limitations on the use of air, land, and sea resources. This includes proposals to enhance training range capabilities, goals and milestones for planned actions, and projected funding requirements. It also requires the designation of officials with lead implementation responsibilities. The February 2004 Section 366 report covered many of these topics. This report should be viewed as a supplement to last year's report.

Section 366 was enacted in the Bob Stump National Defense Authorization Act for Fiscal Year 2003, Public Law 107-314. The terms "range" and "operational range" were given statutory definitions in the National Defense Authorization Act for Fiscal Year 2004, Public Law 108-136. 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 desires to provide to Congress a definitive and comprehensive statement of its test and training requirements, this report does not apply the statutorily defined terms of "range" or "operational range." While this

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<sup>2</sup> MILITARY TRAINING: DOD Report on Training Ranges Does Not Fully Address Congressional Reporting Requirements. GAO Report 04-608, June 2004.

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).

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. The term reflects longstanding practice and usage by the Military Services which have sometimes grouped ranges or range areas and associated airspace for internal management purposes, and this report refers to these groupings as "range complexes."

In this report, the term "range complex" is used in slightly different ways for each Armed Service. Army and Marine Corps range complexes represent the range portions of the larger Army and Marine Corps installations, excluding, e.g., the cantonment area. Navy range complexes are regional groupings of various land, air and sea ranges. Air Force range complexes are defined as the airspace and land area, with a focus in this year's report on air-to-ground training.

It is critical for readers to note that the term "range complex" has no particular relationship to the term "operational range."

Today, our military forces are deployed around the world fighting the Global War on Terror and carrying out other essential national defense missions. When our nation sends military forces abroad, it does so under a solemn agreement with the American people: DoD will educate, train, and prepare them for the challenges of war before placing them in harm's way.

Training provides our soldiers, sailors, airmen, and Marines with the combat skills they need to win and return safely to their families. Decades of experience have taught us that realistic training saves lives. Training, however, requires substantial resources: air, land, water and frequency spectrum that enable our military forces to train as they would fight— replicating the challenges, stress, discomfort, and physical and psychological conditions of actual combat.

To protect our military, we must preserve the ranges and operating areas that host this training and testing. Urban growth and other encroachment around previously isolated ranges strains our ability to conduct testing and training essential to maintaining readiness. We are expanding efforts to sustain our training mission while continuing to be responsible environmental stewards and good neighbors to our surrounding communities and protecting the valuable natural resources entrusted to our care. All are required as we endeavor to ensure that our men and women in uniform get the best training available.

Transforming our military forces to train and fight jointly requires aggressive, well-planned action. At home, growing encroachment pressures – such as private development adjacent to ranges, restrictions imposed by environmental regulation, or growing competition for airspace and frequency spectrum – are increasingly impeding DoD's ability to conduct training in realistic environments. These pressures limit low-altitude flight training, over-the-beach operations, night and all-weather training, live-fire training, maneuver training, the application of new weapon technologies, multi-service strike simulation, and other military activities. Encroachment must be met with a plan for protecting the environment while concurrently increasing training resource availability for service-unique and joint exercises. The DoD has faced these challenges by refining its plans and policies to meet new Training Transformation Goals.



## **1.2.1. Department of Defense Range Management Organization**

### **1.2.1.1. Diversity Among DoD Range Complexes**

DoD's testing and training ranges are diverse in many respects. They consist of land, airspace, sea surface, and undersea areas. The ranges include types of terrain in which our forces may have to fight: deserts, mountains, coastal areas, swamps, forests, plains, and water. Our forces train and test at hundreds of locations in the United States and overseas. Ranges 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 warfare, as well as live fire with the full spectrum of weapon systems – from small arms to guided missiles. They must also have the capacity and capabilities needed to test new technologies for all these missions.

Range operations and management require cooperation among many professional communities within DoD, including training, testing, instrumentation, communications, frequency spectrum management, airspace management, safety, installations, environment, acquisition, personnel, legal, public affairs, and community outreach. The Military Services are responsible for most training activities and, therefore, for the associated range requirements.

The diversity of DoD's ranges has influenced the Department's range management framework. Historically, range management has been decentralized from OSD to the Services' headquarters to major commands to installations and units. The Military Services have established policies and procedures to manage their ranges. These policies and procedures involve cooperation among the range users, ranges themselves, and the different professional communities. While higher level organizations exercise their responsibilities for oversight, day-to-day range management and operations are appropriately decentralized. While some may advocate more centralized management, the Department believes that de-centralization more appropriately captures the realities and imperatives of Service-centric range management.

### **1.2.1.2. Organizational Principles**

In the range management context, the Department has organized its range management efforts under two key principles:

The first principle is that the sustainable ranges management framework will be consistent with decentralized range management practices and the customary roles and responsibilities for Defense Department endeavors. In practice, this means that (1) the Office of the Secretary of Defense and DoD-wide organizations will exercise management oversight, develop over-arching policies, and facilitate cross-Service and joint activities, and (2) the Military Services, subject to the authority, direction, and control of the Secretary of Defense, will develop training, testing, and range requirements; schedule and conduct training and testing; develop implementing policy and guidance; design and implement programs and information systems; and develop funding plans, programs, and budgets. These divisions of effort reflect the Department and Service responsibilities enumerated in Title 10 of the United States Code, and in Department of Defense Directive (DoDD) 3200.15, "Sustainment of Ranges and Operating Areas (OPAREAs)." Maintaining consistency with this general framework helps to ensure the success of range sustainment efforts by creating synergies among DoD management plans.

The second principle is that range sustainment activities should be managed as a long-term effort that focuses on making incremental progress, rather than radical changes that either cause management perturbations or become problematic to implement. The Department has made a

conscious decision to pursue continuous improvement of its range management and sustainment efforts at a measured pace. More rapid or dramatic changes are not required or sought at this time. OSD and the Services are implementing robust programs devoted to sustainable range management. The Department is making tangible progress in many areas, including enhanced cooperation among the Services, the identification of training and testing range requirements, the development of range complex management plans, range information management systems and automated inventories, encroachment assessments, outreach to a wide variety of stakeholders, and the establishment of new buffer areas and compatible use zones.

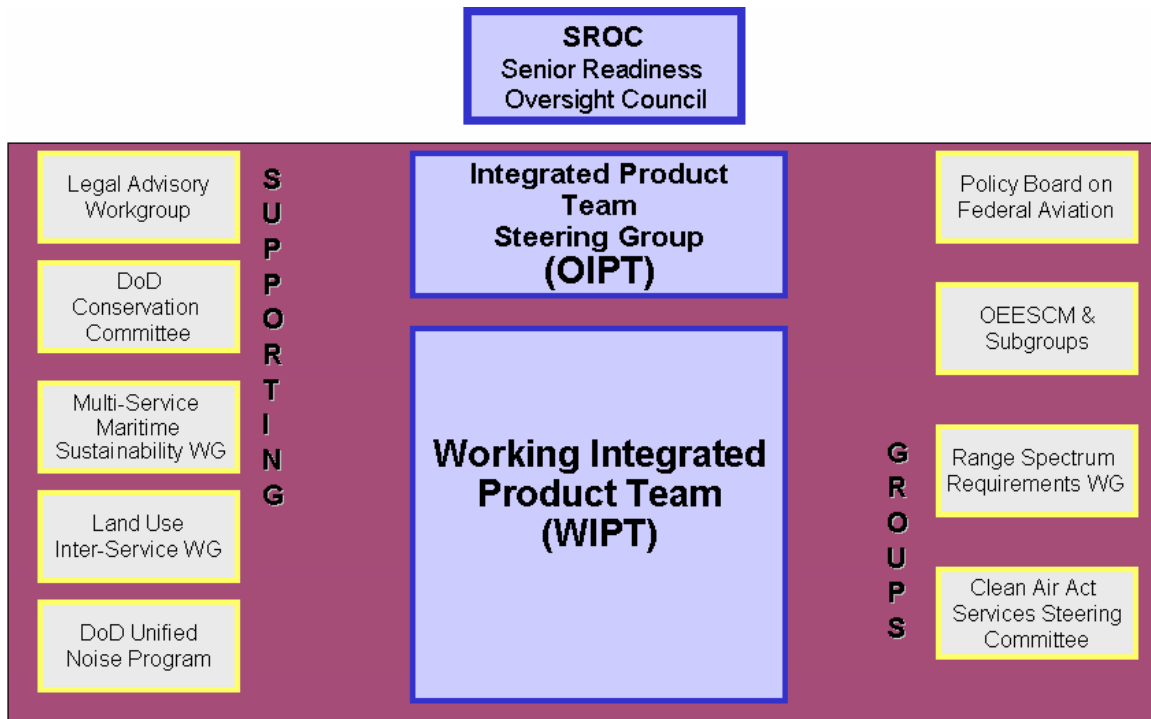
### **1.2.1.3. Organizational Roles and Responsibilities**

Under Title 10 of the United States Code, the Military Services are responsible for training and equipping forces, and the construction, repair, and maintenance of installations, including ranges.

DoDD 3200.15 establishes policy and assigns Title 10 responsibilities for the sustainment of test and training ranges and operating areas. The Directive assigns the most prominent responsibilities for range sustainment to the Under Secretary of Defense for Personnel and Readiness; the Under Secretary of Defense for Acquisition, Technology, and Logistics; Director of Operational Test and Evaluation; the Military Services; and Defense Agencies. The Directive also assigns responsibilities to the Chairman of the Joint Chiefs of Staff, the Under Secretary of Defense for Policy, the Assistant Secretary of Defense for Public Affairs and the Assistant Secretary of Defense for Legislative Affairs.

Under DoDD 3200.15, OSD organizations provide general management and oversight. The Services provide implementing policy and guidance, plan programs, and budget for range sustainment resources; prepare management plans; implement standards and assess readiness impacts; assign responsibility for range management at the component Headquarters and other organizational levels; conduct outreach; and, where legally required, report on environmental liabilities.

The Department has taken additional steps to ensure sound management, implementation, and coordination of sustainable range responsibilities. The Senior Readiness Oversight Council (SROC) reviews range sustainment policies and issues. DoD created an Overarching Integrated Product Team (OIPT), which is led by the Office of the Under Secretary of Defense for Personnel and Readiness and reports to the SROC, to act as the DoD coordinating body for developing strategies to preserve the military's ability to train. A Working IPT (WIPT), co-chaired by the Office of the Deputy Under Secretary of Defense for Readiness, the Office of the Deputy Under Secretary of Defense for Installations and Environment, and the Office of the Director of Operational Test and Evaluation, meets regularly and reports to the OIPT. Both the OIPT and the WIPT work collaboratively with other DoD organizations on issues related to sustainable ranges (see Figure 1-1)

**Figure 1-1. DoD Sustainable Ranges Organization**

#### 1.2.1.4. Implications for This Report

The Department's general management approach for range sustainment is reflected in its reporting under Section 366. The Department's management framework reflects Title 10's divisions of responsibility between OSD and DoD-wide organizations on one hand, and the Military Services on the other.

The Department's measured approach to improving range management reflects Section 366's allotment of 5 years to produce, update, and improve this report. The Department has taken additional steps to develop policy and sustain new organizations, such as the Working IPT, to help ensure continuous improvement.

The organization of this report reflects the diversity among training and testing range complexes and the organizational principles, roles, and responsibilities discussed in this section. Chapters 2, 3, 4, and 5 discuss a limited number of topics that DoD is addressing on a Department-wide basis: range information enterprise; goals, actions, and milestones; funding; and overseas ranges and operating areas. Chapters 6, 7, 8, and 9 are reports from each of the Military Services that address Service-specific issues related to Section 366's reporting requirements.

#### 1.2.1.5. Relationship to the February 2004 Section 366 Report

The Department submitted its first Section 366 Report to the Congress in February 2004. This report represents an update to the prior report. Some topics addressed in the 2004 report have not changed in important ways since the time that report was submitted. This report does not address these topics. Accordingly, the 2004 report and this report together form the Department's current reporting on Section 366 requirements.

### 1.2.2. Training Transformation

“Our goal is to focus on enhancing and measuring joint performance and capabilities. Our ability to train and educate must focus on the ultimate customer – the Combatant Commander and provide an adaptability that can quickly turn to new or emerging requirements.”<sup>3</sup>

The DoD’s *Strategic Plan for Transforming DoD Training*, the associated Training Transformation Implementation Plan, and the establishment of the Joint National Training Capability (JNTC) all stress the need to enhance the “joint” focus of military training. The DoD has expanded the definition of “jointness” to include interagency, intergovernmental, multinational, and coalition partners because of the important role that other U.S. agencies, foreign governments, multinational organizations and coalition partners play in contemporary military operations. Our goal is to ensure that training prepares military forces for actual operations, where combatant commanders will deploy them in a well founded and exercised, joint relationship based on their capabilities as required in the specific Area of Responsibility (AOR) in which they will operate.

The Joint National Training Capability (JNTC) is heavily dependent on the availability of training “space” resources. These resources include land, airspace, and open waters, as well as making the information on the availability of resources, accessible across the Services. Joint utilization of today’s information systems, efficient management of funding, realistic goals, and minimizing encroachment issues facing our military’s training resources will facilitate DoD’s successful transformation. This report provides an update on how the above actions are currently being addressed, jointly as well as by the individual Services.

### 1.2.3. Sustainable Ranges Initiative

The Department’s Sustainable Ranges Initiative is fully aligned with Section 366 requirements. The initiative’s overall goal is to “[manage and operate Ranges and OPAREAs] to support their long-term viability and utility to meet the national defense mission.”<sup>4</sup> This initiative includes policy, organization, leadership, programming, outreach, legislative clarification and a suite of internal changes to foster range sustainment. DoD established the Sustainable Ranges Working Integrated Product Team (WIPT) to address range sustainability issues on a continuous basis.

New policy directives promote a long-term, sustainable approach to range management. The 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 usage. 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. Where possible, DoD is working with other federal and state agencies to develop administrative and regulatory solutions to encroachment pressures.

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<sup>3</sup> Testimony of Dr. Paul W. Mayberry, Deputy Under Secretary of Defense (Readiness), before the Subcommittee on Readiness and the Subcommittee on Terrorism, Unconventional Threats and Capabilities, House Armed Services Committee, United States House of Representatives, regarding Joint National Training Capability, March 18, 2004

<sup>4</sup> DoD Directive 3200.15, dated 10 January 2003, section 4.1

A recent example is the second Regional Range Sustainment Workshop, sponsored by the Office of the Secretary of Defense (OSD) and the Services. It was built around a theme of "Partnering for Sustainability - Working Readiness Issues in the Southeast". The conference brought together regional DoD and installation representatives along with several representatives from groups or agencies outside DoD to discuss items of mutual concern. In addition, each of the Military Services has an active sustainable ranges program.<sup>5</sup> These are described in detail throughout this report.

The Department recognizes that range sustainability requires consistent efforts over a long time period. Accordingly, the DoD's approaches are measured. The DoD seeks to make incremental progress toward greater range sustainability by building on the substantial efforts that have been undertaken to date.

### 1.3. Overview

In light of an ever-changing battlefield and evolving warfighting techniques, readiness of the Armed Forces is one of DoD's most important and most challenging tasks. The **Department of Defense Dictionary of Military Terms** defines readiness as:

"The ability of US military forces to fight and meet the demands of the national military strategy. Readiness is the synthesis of two distinct but interrelated levels.  
 a. unit readiness—The ability to provide capabilities required by the combatant commanders to execute their assigned missions. This is derived from the ability of each unit to deliver the outputs for which it was designed.  
 b. joint readiness—The combatant commander's ability to integrate and synchronize ready combat and support forces to execute his or her assigned missions."

Establishing and maintaining the high levels of readiness that our nation demands of our armed forces requires complex, realistic training. In this context, the DoD's Sustainable Ranges initiatives must be viewed within the framework of its larger Training Transformation efforts. Training Transformation includes three overarching goals<sup>6</sup>:

**Joint Knowledge Development and Distribution Capability to prepare forces individually.** This capability must be worldwide, deployable, and able to address the life-long learning needs of the total force – both active and reserve components;

**Joint National Training Capability to prepare forces collectively.** We must build a robust live, virtual, and constructive training and mission rehearsal environment that, in fact, will provide an appropriate joint context to conduct training at the tactical, as well as operational levels of war;

**Joint Assessment and Enabling Capability.** We need to focus on measurement and enabling success. What is the return on our investment, have we truly been transformational, and the ultimate question – what difference does it make from a joint performance perspective?

<sup>5</sup> Other encroachment-related initiatives are being undertaken. For example, the Range Commander's Council sponsors groups on sustainability and environment that address encroachment issues.

<sup>6</sup> DoD Training Transformation Implementation Plan, June 9, 2004, Office of the Under Secretary of Defense for Personnel and Readiness, Director, Readiness and Training Policy and Programs

The centerpiece of Training Transformation is the Joint National Training Capability or JNTC. Through the JNTC and its allocated resources, joint context and training capabilities are being created and integrated with Service training programs. The joint context will create an agile, Live (ranges and other training space), Virtual (simulators), and Constructive (simulations) environment, or LVC that will ensure an appropriate environment and level of participation is available to training programs to support their selected joint training objectives. “Live” training remains the domain of choice for graduate-level, collective training exercises, followed in order by virtual participation (trainees in high fidelity simulators integrated with the live environment and scenario) and constructive participation (simulation providing valid representation of critical participants and functions that enable joint operations to support command and staff elements). Distributed participation is provided for all domains, enabled by a dedicated JNTC network across the country and expanding to accommodate global needs. While the network leverages other DoD networks as well as commercial services, it is designed to be assimilated into the oncoming Global Information Grid.

Essential to the JNTC is the continued availability of training space: ground, air, and sea. As technology allows the JNTC to capture participants and their contributions to the joint environment without necessarily co-locating them, it is essential that there be useable training space wherever our forces are stationed. Technology allows us to maintain “tactical adjacency”, even though forces are distributed across the country. And as our forces become more expeditionary, so are their training support mechanisms as provided by JNTC, providing global connectivity and capability within the next few years.

JNTC is relative to this report’s topics of Range Information Enterprise, Funding, Goals and Milestones, and Overseas. The DoD must provide the most realistic training possible to our armed forces. The core requirement of this goal is to provide readily accessible ranges in which to train for Service specific as well as joint operations that are sustainable through domestic and global growth and change. To most efficiently achieve the overarching Training Transformation goals, a more integrated DoD is rapidly moving toward:

- Developing information systems to improve training range management and to increase cross-service, cross-functional sharing of information;
- Developing a common construct for consistent reporting and discussions of range sustainability funding among the Services;
- Developing a common framework of goals and milestones enabling the Sustainable Range Programs leadership and management to make meaningful comparisons and measurements of past performance and progress towards set objectives;
- Analyzing and planning for evolving relationships, environmental constraints, and global repositioning with respect to range sustainability.

Completing these steps will set the foundation for working toward more joint operations across the DoD.

#### **1.4. Context**

This year’s Section 366 update is part of a larger initiative toward better training and equipping our troops for conflicts in the 21<sup>st</sup> Century. In the midst of Training Transformation efforts,

however, several aspects of today's military training strategy will remain. Challenges that will continue to steer DoD policy and action include the need to manage operational readiness, encroachment, training range sustainability and training range information, including the training range inventory.

#### 1.4.1. Operational Readiness

Many factors contribute to the readiness of our forces, such as the outstanding quality of our personnel, exceptional leadership, modern equipment, sufficient ordnance and spare parts, adequate installation and industrial base infrastructure, strong quality of life programs, and effective education and training.

None of these factors is more important than realistic training and testing conducted at dedicated range complexes, ocean operating areas, and in special use airspace (SUA). Realistic training develops individual skills and unit capabilities; helps forces prepare to defeat enemy tactics and systems; helps forces assimilate lessons learned from actual military experience, experimentation and previous training exercises; facilitates continuous improvement of doctrine, organization, tactics, and equipment; and builds confidence and morale. Rigorous and realistic training also helps DoD meet its obligation to the American people to ensure our troops go into harm's way with the highest possible assurance of success and survival. Rigorous and realistic testing ensures that our forces have reliable, safe, and effective systems. At their best, our training and testing range complexes provide realism, variety, flexibility, specialized training equipment and instrumentation, and safety for the military and the public.

Realistic training maximizes our ability to train as we fight. The benefits of this approach are well documented. The 2001 report by the Defense Science Board Task Force on Training Superiority and Training Surprise offers a typical view. The report concluded that as a result of realistic training at DoD's Combat Training Centers (CTCs), "Trainees are far better prepared for combat than forces trained by other methods."<sup>7</sup>

#### 1.4.2. Encroachment

Both in the United States and overseas, encroachment increasingly challenges DoD's ability to provide training resources that are sufficient for meeting established military training standards. DoD faces growing communities near many of its installations and ranges, and growing competition for the air, land, and water that are essential for military training. These challenges are increasing with the combined advent of longer-range weaponry and the need for our forces to train over larger areas to simulate realistic combat operations.

DoD Directive 3200.15, 10 January 2003 provides the following definitions:

**Range and Operating Area (OPAREA):** Specifically bounded geographic areas that may encompass a landmass, body of water (above or below the surface), and/or airspace used to conduct operations, training, research and development, and test and evaluation of military hardware, personnel, tactics, munitions, explosives, or electronic warfare systems. Those areas shall be under strict control of the Armed Forces or may be shared by multiple agencies.

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<sup>7</sup> Report of the Defense Science Board Task Force on Training Superiority and Training Surprise. Washington, DC: January 2001, p. 15.

**Range Encroachment:** External influences threatening or constraining range and OPAREA activities required for force readiness and weapons Research, Development, Test, and Evaluation (RDT&E). It includes, but is not limited to, endangered species and critical habitat, unexploded ordnance and munitions, electronic frequency spectrum, maritime, airspace restrictions, air quality, airborne noise, and urban growth.

**Sustainable Ranges:** Ranges that are managed and operated to support their long-term viability and utility to meet the national defense mission.

Range encroachment and sustainable ranges present long-term challenges that must be faced today, in line with Training Transformation goals. Requirements for maintaining and training the most superior military force in the world include realistic, live fire, joint exercises on a realistic scale. As the population increases, growth in housing and infrastructure in once remote areas surrounding DoD training facilities is creating pressure to limit some training exercises. Concerns about noise, air, and water issues; safety (with respect to live weapon proximity, for example); and required access to land and airspace all generate constraints on DoD training.<sup>8</sup> Restrictions can increase as growth continues in the U.S. and abroad. The way ahead through Training Transformation requires more joint training and more realistic training leading, ultimately, to greater participation in larger exercises. Encroachment is now, and will continue to be, a factor in those efforts and must be monitored as to its effects on operational readiness.

#### 1.4.3. Training Range Sustainability

Combat missions are being conducted today in many different theatres of war and environments. The deserts, mountains, forests, and open plains of the U.S. and overseas landscapes, therefore, provide a vital training environment in order to best prepare and protect the lives of our military personnel. Training ranges must remain available and free of additional restrictions that take away from realistic training because realistic training saves lives.

Our training ranges must offer diverse scenarios for offensive and defensive operations. When attempting to assess the effectiveness of a range, there are four main criteria that need to be taken into consideration:

- **Proximity:** The range needs to be located within a reasonable distance from its users for the type of training that needs to be accomplished. Time needed to travel to a range translates into increased costs and possibly reduced time for training. While it is essential for some forces to deploy over long distances for participation in large exercises on an occasional basis, it is inefficient for forces to travel great distances to accomplish common recurring training activities.
- **Volume:** The air, land, sea, or undersea space needs to be sufficient for the training to be accomplished and to provide margins of safety when employing live weapons. Technology is continually pushing the size of our weapon systems' footprints, making this an increasing challenge, particularly for live weapons training.

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<sup>8</sup> For example, a single armed military aircraft must remain above a designated altitude, below a designated speed, fly through special use corridors, over restricted land, and ultimately remain in restricted airspace until the weapons have been released.



- **Time:** The space required must be available for sufficient periods of time to allow the users to meet their training requirements without placing excessive burdens on trainees or schedulers. Today's tactics necessitate training not only during daylight, but during the dark of night as well.
- **Attributes:** To be effective, range complexes must possess a variety of characteristics, such as the type of terrain; the ability to support supersonic operations; the ability to use live ordnance; frequency spectrum resources available; the type of targets; scoring and feedback and electronic warfare systems. The variety of training ranges must match the variety of combat operations and environments that our forces will face.

All four of these criteria can be greatly affected by encroachment. Range sustainment depends on weaving these criteria into policy development, community outreach, regional and state coordination, compatible land use partnering and planning, natural resource management and training, and education among DoD and civilian agencies. This report will indicate how the integration of Range Sustainment and Training Transformation (the establishment of the Joint National Training Capability) is taking shape. The process includes several new developments across the services as well as long term funding schedules with established goals in order to best monitor, evaluate, and overcome transformation and sustainment challenges.

#### **1.4.4. Training Range Inventory**

The updated range complex inventory required by Section 366 is provided in Appendix B.

### **1.5. Scope**

The remainder of this report provides greater detail on the topics briefly covered in this introduction. Chapter 2 addresses efforts underway within DoD to use information technology to further range management, including range sustainability. Chapter 3 addresses goals and milestones for DoD's sustainable range initiatives, and Chapter 4 discusses key issues associated with funding range sustainability. Chapter 5 discusses overseas training capabilities and concerns. Chapter 6, 7, 8, and 9 contain reports from each of the armed services on sustainable range issues. Chapter 10 concludes with observations and recommendations.

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## 2. RANGE INFORMATION ENTERPRISE

This chapter describes the Department of Defense's current and future efforts to move towards a more integrated range information enterprise that improves training range management, operation, and sustainment while increasing cross-service and cross-functional sharing of information. The range enterprise includes the complete set of business areas, processes, users, data, and information systems supporting the management, operation, and sustainment of range missions across the Department. Range information systems are defined as those systems that operate within or across training range-related business areas and may include a variety of systems, from hardcopy files to enterprise-level applications accessed by thousands of users.

In creating a range management, operation, and sustainment information enterprise, the Department faces a number of challenges. The most significant of these are the ever-changing requirements that necessitate the collection and analysis of new types of data, either by evolving current systems or creating new systems. Another significant challenge within any information enterprise is managing the impact of changing technology within the system lifecycle. Specifically, advances in geospatial technologies have provided new methods for data organization, visualization, and analysis that can serve as a common resource supporting multiple business processes and user groups across the range information enterprise. Technological advances, like geospatial technologies, have the potential to significantly improve the Department's ability to collect, manage, and share data more efficiently and more rapidly within a secure environment. The Department capitalizes on these advances by reengineering or developing new systems to replace legacy systems.

The Department is working towards a more integrated range information enterprise that will support cross-Service training and information system planning. This chapter describes the Department's vision for a range information enterprise in Section 2.1. Section 2.2 discusses specific examples of cross-service coordination efforts. Section 2.3 provides an overview of range information systems used within the Department, and Section 2.4 provides information on current OSD initiatives. Section 2.5 gives descriptions of success stories associated with these systems. Section 2.6 looks forward to the future of the Department's range information enterprise efforts.

In its review of the February 2004 Section 366 report, the Government Accountability Office recommended that DoD "develop an integrated training range database that identifies available training resources, specific capacities and capabilities, and training constraints caused by limitations on the use of training ranges, which could be continuously updated and shared among the services at all command levels, regardless of service ownership."<sup>9</sup> DoD responded that it is taking a deliberate approach that builds upon existing systems and carefully manages the costs and risks inherent in information system integration and development. The Department is committed to document progress in this evolutionary effort in future Section 366 reports.

This chapter reflects DoD's recent efforts in this area, namely, to establish a baseline of Service and DoD-wide information systems related to test and training range management. Our efforts in the future will focus on analyzing these systems further to build on the successful joint service cooperative efforts that are already underway and are described herein.

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<sup>9</sup> MILITARY TRAINING: DOD Report on Training Ranges Does Not Fully Address Congressional Reporting Requirements, GAO Report GAIO-04-608, June 2004, p. 18.

## 2.1. Department Vision

The evolution of the Department's *Strategic Plan for Transformation of DoD Training* and the Joint National Training Capability's (JNTC) vision to create a network of joint training enablers demands the development of policies, processes, and technologies to "...immerse the war fighter in realistic operational environments." Accomplishing the full spectrum of this vision requires planned transformation initiatives that promote:

- Cross Service sharing of training resources
- System interoperability and information sharing
- Creation of highly dynamic systems whose functional features can easily be extended

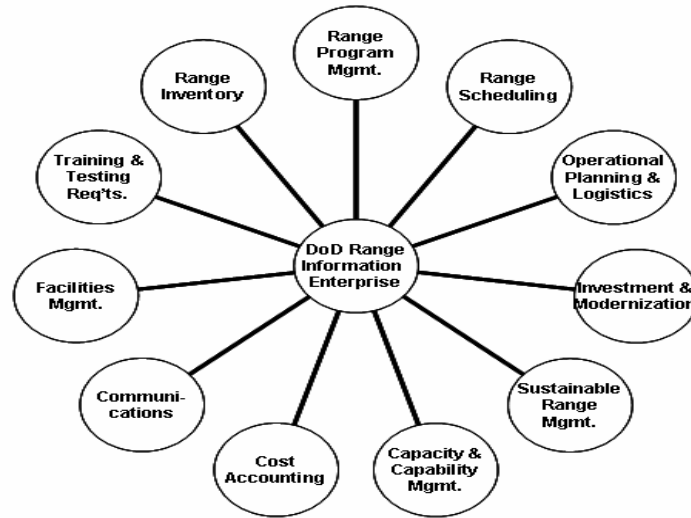
The Department is working toward achieving this vision by facilitating change in business processes and information systems development across the training range enterprise. This effort is aimed at ensuring the Department's ability to conduct realistic training at dedicated range complexes, ocean operating areas, and in special use airspace (SUA). Range transformation supports both emerging and JNTC training requirements and seeks to assure future training requirements are met. Training requirements driving transformation will define the needs for range modernization, including the development of range information systems to support future training abilities.

The Department recognizes the need to successfully capture and report data and information associated with range business processes in an integrated manner. The range enterprise domain is comprised of a number of multifaceted functional business areas, each of which has multiple, intricate business processes. These functional areas include:

- Range Inventory, Capacity, and Capability Management
- Sustainable Range Planning and Management
- Encroachment, Training Constraints, and Mitigation of Training Impacts
- Training and Testing Requirements Implementation
- Range Scheduling
- Environmental Planning
- Land Use and Buffer Zone Management
- Range Investment
- Operations Planning and Logistics
- Facilities Management
- Education and Training
- Range Program Management
- Range Cost Accounting

Users at the range level, the Service headquarters level, and OSD level of the Department require information associated with each of these areas. Further, users outside the Department, including other federal agencies, non-government organizations, and the public, have needs for range information.

**Figure 2-1 Information Enterprise Functions**  
**FUNCTIONS IN A DOD RANGE INFORMATION ENTERPRISE**



## 2.2. Cross Service Cooperation

The Services have taken concrete steps to increase cooperation on range management information systems. The following section describes two examples of this cooperation that has helped meet the Service range requirements.

### 2.2.1. Army and USMC Cooperative Effort for Ground Ranges

The Army and USMC share their approaches to ground range systems and have successfully joined forces to share training resources, common approaches and systems between their organizations. The following are 3 major examples of this cooperative effort.

#### 2.2.1.1. Geographic Information Systems (GIS)

Range control operations are inherently spatial in nature. Range operations and military training can be relayed and displayed visually through GIS. Range operations utilize the power of GIS to enable Army and Marine Corps range control staffs to maintain accurate situational awareness and maintain a safe and realistic training environment. The identification of operating in this geospatial environment has enabled the Army and Marine Corps to benefit and excel from GIS tools and applications to support range operations.

Working jointly has facilitated both services to share support for the common training mission. Any new development by the Army or Marine Corps for range tools developed within the Range GIS framework, including Range Managers Tool Kit (RMTK) and Range Facilities Management Support System (RFMSS) described below, is reviewed by both services through cross service Working Groups, which provide a mechanism for both services to discuss cross development to support the installations.

As a result of this partnership between the Army and Marine Corps, the services have jointly developed their geospatial data to a common standard through the Integrated Training Area

Management (ITAM) Regional Support Centers (RSCs). The standardized geospatial data that RMTK and other GIS applications, like RFMSS, use has been developed for both services by the RSCs.

As the Army and Marine Corps range community continue to grow and enable range control staff to utilize geospatial information to maintain better situational awareness, the Services have understood the importance of maintaining a highly trained staff. GIS training is becoming a critical component to range control operations. The Army and Marine Corps have jointly developed a foundational training course (GIS for Range Control Staff) that provides the building blocks necessary for range operators to understand how to better employ geospatial technologies on installations.

The Army and Marine Corps continue to rely heavily on GIS to sustain training lands and the suite of tools generated by GIS applications.

#### **2.2.1.2. Range Facilities Management Support System (RFMSS)**

The Range Facilities Management Support System (RFMSS) is the HQDA-designated reporting system for training range assets, utilization, and inventory for the Army. The system is developed jointly with and used by the Marine Corps. Under the technical development of the Army Program Executive Office, Enterprise Information System, RFMSS was created to track training assets and the utilization of these assets, assist with training range-management operations, and automate the training range scheduling process at both Army and Marine Corps training ranges. RFMSS also facilitates fire desk operations, logistics planning, and reporting. This system allows authorized Army and Marine Corps personnel to plan, submit schedule requests, and facilitate range and training area operations.

RFMSS has a built in querying capability that allows authorized Army personnel to view scheduling of the ranges. Authorized RFMSS users can view the schedule for any given training range on any day of the week. RFMSS also provides increased safety for personnel on the training ranges through Surface Danger Zone (SDZ) mapping. RFMSS has a Geographical Information System component that shows the users SDZs on the training range based on the types of weapons used by Army personnel when training. The Army also uses RFMSS to record and report munitions expenditures at the training range level.

As a quality control practice, the Army adds functionality to the RFMSS in incremental stages. This gradual increase in capability is controlled by the Configuration Management Working Group (CMWG) The CMWG provides quality control to ensure the development of RFMSS does not exceed the ability to train new and current users. System users receive updates for the system through modules. These modules are released based on incremental time schedules developed and executed by the CMWG. This incremental time release of modules will increase RFMSS's functionality through a gradual updating process. Quarterly sustainment training is conducted for system users to ensure they are trained on the latest software version updates.

#### **2.2.1.3. Range Managers Tool Kit (RMTK)**

A critical component to the training mission is ensuring range safety. A key factor in range safety management during training exercises is the development of surface danger zones (SDZs). Range safety officers are currently trained to draw SDZs on tracing paper over a scale military map using pencils, rulers, and protractors, a tedious, error-prone process.

In an effort to improve accuracy, safety, and training realism on ranges, the Army and Marine Corps have jointly developed a set of GIS-based tools to support range safety management. The RMTK is an automated tool to dynamically draw SDZs, enabling trainers to efficiently visualize the safety footprints associated with training scenarios. This capability enables both the Army and Marine Corps to use their ranges more effectively. The RMTK training and support program is a critical component that ensures proper application of the tools. The training program has included the development of a course for range control staff that provides fundamental knowledge of GIS principles, as well as hands-on instruction on using the RMTK tools. The Army and Marine Corps have been jointly developing new tools to provide more advanced analysis, such as a line of sight and viewshed tool, the ability to create a deviated SDZ, and a conflict determination function. Future planned functionality includes a laser module that reduces laser hazard zones and integrated noise models to identify potential training noise issues.

Both Services are distributing these tools through their respective Web sites (Army: <http://srp.army.mil>; and Marine Corps: <http://rtam.tecom.usmc.mil>.) The success of RMTK is based on the cooperative efforts between the organizations that developed, fielded, and support this system.

### **2.2.2. Air Force and Navy Cooperative Efforts in Aviation Range Safety**

Another example of cross-Service cooperation is the partnership between the Air Force and Navy in the development and application of an aviation range safety software application, SAFE-RANGE. The application supports operational risk management for air-to-ground ordnance delivery on ranges. The partnership has allowed consistent application of a common tool and database to develop weapon safety footprint areas (WSFAs); and support GIS-based analysis of air-to-ground ordnance delivery. The cooperation between the Air Force and Navy and use of a single application has facilitated cross-Service use and planning of ranges.

## **2.3. Range Information Systems**

The Department has implemented many successful information systems that support training range business operations at every level of the Department. The following subsections provide a broad overview of information systems supporting the training range mission, including examples of Service-wide integration of systems and business processes, and cooperative efforts to develop extensible systems that can be integrated into a variety of settings.

### **2.3.1. Army**

The Army has developed a Service-wide approach to training range management, operation, and sustainment. As described earlier in section 2.2, the Army has successfully partnered with the Marine Corps to foster a cooperative effort to share range management training resources and tools. The following is a description of additional efforts by the Army in this area.

### **2.3.2. Sustainable Range Program (SRP) Information Portal**

As part of the SRP, the Army has created a website to provide access to training range-related regulations, policies, and tools. The SRP site will integrate training range-related systems throughout the Army, providing textual information and programmatic documentation related to the SRP.

The SRP site also serves as a public outreach tool accessible via the World Wide Web. This part of the portal grants access to the public providing information on the Army operations and sustainment efforts, as well as training range policies. The system supports several levels of security that restricts users from accessing information or systems for which they would have no need or those systems containing sensitive data.

The Army plans to increase the functionality offered by the SRP site. The SRP site will provide a suite of tools, known as the Range Managers Tool Kit, needed at both the headquarters and installation levels.

### **2.3.3. Navy**

The Navy is focused on ensuring that training ranges provide sufficient land, airspace, sea space, and frequency spectrum to complete Fleet Readiness Training Plan (FRTTP) training before Navy forces deploy from their home bases and sustain readiness throughout their operational availability. Navy training ranges and Operating Areas (OPAREAs) play a critical role in supporting Interdeployment Readiness Cycle (IDRC) training for operational forces. Strategic planning for Navy range complexes includes analysis of future training operations derived from new Naval platforms and weapons, as well as improvements to training range infrastructure to support the JNTC.

The Navy's solution to sustainable range management is the Tactical Training Theater Assessment and Planning Program (TAP). The program is designed to ensure that the Navy maintains access to its existing ranges and OPAREAs and can expand the capabilities of training range/OPAREA infrastructures to continue to support the training requirements of evolving missions, tactics, and technologies. TAP focuses on integrated planning and management to ensure training assets meet critical future mission support capabilities, and provides a systematic investment strategy for Navy training ranges/OPAREAs to achieve sustained Fleet readiness. To support the goals and objectives of the TAP program, the Navy is taking an enterprise approach to managing its portfolio of information systems to meet the information needs associated with the training range management at training range complex, regional, and headquarters' levels. The following sections describe some of the systems supporting Navy range sustainment, management, and operations.

#### **2.3.3.1. Navy Range Management System (NRMS)**

The Navy recently completed an envisioning phase for the development of an enterprise, web-enabled Navy Range Management System (NRMS). This initial effort involved a review of current range information management systems, an analysis of users, the development of a baseline user requirements specification, and formulation of a strategic plan. The result of this phase was a conceptual framework for the development of NRMS. Effective, efficient, and sustainable management of the Navy training range complexes is the principal goal of NRMS. The vision for NRMS is to improve existing training range management procedures and systems by:

- Using a common set of information services;
- Applying technology to assist in consistent training range management processes;
- Removing obstacles to integrating training range services with other Navy IT efforts;
- Integrating segregated data sources to remove overlaps and inefficiencies;



- Improving support for training range investment and readiness reporting processes.

The long-term strategy is to manage their portfolio of systems by consolidating legacy applications and data as part of the NRMS initiative. To achieve the vision for NRMS, the Navy is evaluating multiple solution sets and paths to meet their goals.

### **2.3.3.2. Tactical Training Theater Assessment and Planning Program (TAP) Repository**

As part of TAP, the Navy is collecting and analyzing large amounts of data on its ranges and OPAREAs. The Navy is in the process of developing and fielding the TAP Repository to meet the need for a comprehensive web-based information management system to support training range operations, environmental planning, and sustainable range management. Capabilities of the TAP Repository include (1) document storage and data management, (2) ad-hoc query tools, (3) data validation, update, and archival processes, (4) links to authoritative databases using web services, and (5) integration with other Navy information systems, such as the Environmental Information Management System (EIMS).

The TAP Repository integration into EIMS is an example of how the Navy is implementing part of its vision for the NRMS. The integration allows the training range complex data to be shared with a larger set of environmental and operational planners and leverages existing tools and databases to support access to authoritative information for decision-making and planning purposes.

The initial phase of TAP Repository development focuses on supporting the training range sustainability processes of analyzing training range complex operations, prioritizing environmental planning efforts, and developing a training range investment strategy. Range complex operations environmental planning involves linking:

- Current operations data with the qualitative and quantitative descriptions of operations;
- Projected range complex roles and missions from the strategic vision;
- Current environmental documentation, mitigation measures, and prescribed management practices.

The investment planning functionality of the TAP Repository intends to support the Program Objective Memorandum (POM) process on a bi-annual basis to coincide with updating the strategic plan. This effort will involve linking the Required Capabilities Document (RCD), range capabilities assessment (RCA), and strategic vision to facilitate the development of a capabilities gap analysis that leads to project recommendations and an investment strategy.

### **2.3.3.3. Environmental Information Management System (EIMS)**

EIMS consists of several GIS-based tools to assist the Navy Fleets in conducting and planning maritime exercises. The three main tools are the Protective Measures Assessment Protocol (PMAP) application, Environmental Support for Operational Planning (ESOP), and Geospatial Data Network (GeoNET). PMAP is a GIS-based tool that assists units in planning training operations at-sea. ESOP provides desktop GIS capabilities and workflow tools that facilitate environmental analysis, supports collaboration among military and civilian planning communities, and, through GeoNet, provides military planners with access to authoritative geospatial databases. GeoNET provides the architecture and data services that connect to both internal Navy sources and to external authoritative sources through the use of web services.

#### **2.3.3.4. Target and Range Information Management System (TRIMS)**

TRIMS is a web-based data collection and reporting tool for the Naval Air Forces Atlantic and Pacific training ranges and targets. Information stored in TRIMS includes airspace usage, sortie counts, range usage, and ordnance/torpedo/target expenditures. The application provides batch import capabilities from common spreadsheet formats. TRIMS is designed and constructed using a two-tier model containing a presentation layer exposed by a Web server and a data services layer responsible for application data storage and retrieval. Future considerations for TRIMS may involve transitioning to a more open architecture to support more flexibility for integration with other environments.

#### **2.3.3.5. Test Resource Management System (TRMS)**

The Test Resource Management System (TRMS) is a range scheduling and cost recovery system in use at the Atlantic Test Range, China Lake Range, and Point Mugu Sea Range. TRMS technology is being considered for reuse as part of the development of NRMS. Although designed primarily for test and evaluation ranges, TRMS fully supports the planning and scheduling of training operations as well. The system includes resource and event planning, cost estimation, scheduling, and post-event utilization reporting functions. It supports costing and billing of all the events, facilities, and resources that are scheduled. The TRMS architecture supports interface customization to support rapid configuration of the content and style of screens to support training range-specific needs. The current TRMS implementation includes both client-server and web-based components; however, TRMS is in the midst of a major system re-factoring effort that will result in a system supported by n-tier architecture to enhance the system's long-term extensibility.

#### **2.3.3.6. SAFE-RANGE**

The SAFE-RANGE software, developed by the Air Force, is a decision support tool that supports operational risk management associated with air-to-ground ordnance delivery on ranges. The Navy, as a partner with the Air Force and a licensed user of the system, applies SAFE-RANGE to its air-to-ground ranges. The application consists of two primary modules: the Footprint Impact Tool (FIT) that provides training range managers with a tool to develop weapon safety footprint areas (WSFAs); and the Range Interface and Mapping (RIM) tool that allows users to overlay WSFAs on GIS-based training range maps to assess training range capabilities and potential risks associated with air-to ground ordnance delivery. The SAFE-RANGE program supports WSFA analysis at all DoD training ranges and facilitates the range planning process for joint use of training ranges. SAFE-RANGE is further described in the Section 2.3.4.2, as part of the discussion of Air Force training range information systems.

Related to SAFE-RANGE, the Navy maintains the Navy and Marine Corps Range Information System (NMRIS). NMRIS is a web-based relational database application focused on air-to-ground ranges that provides GIS-based maps of the ranges and dynamic query tools for targets, authorized ordnance, and instrumentation. NMRIS is used to support Air Installation Compatible Use Zone (AICUZ) and Range Air Installation Compatible Use Zone (RAICUZ) development. Currently, NMRIS is being considered for integration with the TAP Repository and EIMS efforts. The goal of the integration would be to provide a single repository for authoritative range complex information by merging multiple databases.

### **2.3.4. Marine Corps**

The Marine Corps continues to be fully committed to transforming its installations and ranges to support the needs of Marine Corps forces, weapon systems, doctrine, and tactics both now and in the future. To meet these needs, the Marine Corps has implemented an institutional-level, centrally-managed Range Management System (RMS) that provides a complete integrated range inventory, a web-based range scheduling and management system, range safety references and tools, and access to investment and funding sources. The RMS enhances the ability of the Marine Corps to support on-going and future training requirements.

The Marine Corps is also working jointly with the Army on several information systems initiatives and decision support tools that support cross-service utilization of both Marine Corps and Army training ranges. Specifically, the Marine Corps and Army are using a common range management scheduling system (RFMSS), and a co-developed set of GIS-based range tools (Range Managers Toolkit [RMTK]). These efforts allow Marine Corps and Army commanders to identify, schedule, and utilize available cross-service training resources.

#### **2.3.4.1. Range Management System (RMS)**

The Executive Agent for range and training area management, the Range and Training Area Management Division (RTAM), has fielded a web-enabled, enterprise RMS. The RMS provides commanders, operating units, range managers, and all cross-service users with a complete information solution to support range management, sustainment, and operations. Capabilities of the RMS include the ability to schedule Marine Corps and Army ranges and training areas, assess and manage encroachment, support range investment, and relate range and training area capabilities to training and readiness requirements.

A key component of the RMS is a comprehensive, readily available training range inventory, or training range database that is continuously updated and shared among training range users, managers, and planners at all levels of command. Future RMS capabilities will include support for linking Marine Corps Training and Readiness (T&R) requirements with specific training ranges and USMC and DoD facility category codes, an effort that is currently ongoing. RTAM is continuing to develop RMS to realize its full capabilities for all levels of users in the Marine Corps. The goal of these improvements is to provide the information and capabilities needed to develop comprehensive training range sustainment plans to sustain, upgrade, and modernize our training ranges.

#### **2.3.4.2. Range Facility Management Support System (RFMSS)**

RFMSS, a joint Marine Corps and Army developed enhanced training range scheduling and management tool, serves as the central component of the RMS. RFMSS is a web-based system that supports range management, range scheduling, and data collection and reporting. RFMSS is being fielded across all Marine Corps and Army training ranges. Currently, 9 of the 10 USMC installations have fielded and are utilizing RFMSS. MCAS Yuma will field RFMSS in early FY2005. RFMSS provides robust reporting and training range management modules, an integrated GIS module, and a real-time airspace management module that are supported by an enterprise relational database management system.

The application of RFMSS across all Marine Corps and Army ranges facilitates cross scheduling and utilization of training ranges and training areas. RFMSS users include trainers, installation and training range managers, and Headquarter planners. RFMSS supports the needs of each of these users to perform the range management functions through capabilities to schedule and track

training, evaluate and document training resources, and plan improvement and capital investment programs for individual training ranges.

#### **2.3.4.3. Encroachment Assessment**

The Marine Corps has identified encroachment as an important issue in range management because of its potential to degrade the ability of the operational units to conduct realistic and effective training on ranges and training areas. The Marine Corps' approach is to apply methods to identify, assess, and quantify encroachment impacts in order to actively address present and future encroachment issues. TECOM (RTAM) and Deputy Commandant for Installations and Logistics (DC I&L) have two ongoing encroachment assessment initiatives that are planned for integration with the RMS. The first initiative is part of the development of Range Complex Management Plans (RCMPs). This effort assesses encroachment by comparing the SROC encroachment issues with potential impacts on training in order to identify, analyze, and document the encroachment pressure on Marine Corps range. The second initiative is the Training and Range Encroachment Information System (TREIS). TREIS is a relational database system that links training and readiness requirements, range and training area capabilities, and encroachment impacts. The vision for integrating these initiatives is to apply the TREIS task-based approach to analyze the encroachment impacts, identified through the RCMP, to assess the capabilities of the range and training areas to support training and readiness requirements. RTAM plans to incorporate the encroachment assessment tools within the RMS to support the range investment and planning processes.

#### **2.3.5. Air Force**

As our nation's population grows, so does the expansion of cities and people into previously uninhabited land. This expansion presents a significant challenge to all the Services and their testing and training requirements. In particular, the Air Force has experienced several encroachment issues affecting their training and testing ranges. Some encroachment examples include limited range availability, reduced range access at certain times during the day, and "work arounds" which reduce training realism. Thus, the Air Force has taken a proactive approach to these encroachment challenges by adopting more efficient training and testing range management operational procedures. As part of these operational procedures, the Air Force has developed and implemented several Service level systems. These systems help the Air Force to dynamically generate reports and modules that meet the many needs of Air Force personnel and the growing challenges faced in the Air Force of the 21st century. A few of the key enabling technologies and systems are summarized below.

##### **2.3.5.1. Center Scheduling Enterprise (CSE)**

The Center Scheduling Enterprise (CSE) was developed to enhance the ability of the Air Force Materiel Command (AFMC) to schedule its ranges and meet mission requirements. CSE provides AFMC with a dynamic, robust system that can be implemented at any installation with a minimal effort. Eglin Air Force Base developed a modular system architecture that allows for ease of customization for the CSE. For example, Edwards Air Force Base requires a real time module to facilitate testing and training requirements implementation. CSE's architecture allows developers to build the module and "plug" it into CSE with minimal effort and no impact on the existing CSE architecture. CSE includes several modules, such as a validation module, maps module, and a munitions module that must always be tailored for a new location. Each of these modules enables the system to build an efficient training range schedule, deconflict range scheduling, and produce operations orders of the day. AFMC currently plans to implement CSE

at other installations, across the Service, that wish to take advantage of the capabilities of the software.

### **2.3.5.2. SAFE-RANGE**

Training range safety is a top priority for the Air Force. SAFE-RANGE is the system developed and used to ensure that the Air Force meets this priority. SAFE-RANGE provides the Air Force with an air-to-ground weapon risk management system designed to support the Air Force's range safety, planning, joint training, and environmental management functions as mandated by AFI13-212. The system's user community includes over 300 Air Force, Navy, and foreign test and training planners using Air Force ranges. The system includes a modular desktop application deployed at each installation and a supporting website that hosts patches, updates, and data for download.

The desktop application includes the Footprint Impact Tool (FIT), to model the geographic extent of Weapons Safety Footprint Areas (WSFA's), and the Range Interface & Mapping (RIM) system to integrate the models into a GIS that includes base map, transportation, environmental, and remotely sensed imagery data. Using the FIT, WSFAs are created using statistical modeling simulations that incorporate weapon type, aircraft, delivery parameter, terrain, and target data. The models generate geospatial datasets of impact zones that delineate the extents and probabilities of weapons undershooting, overshooting, and ricocheting.

WSFAs generated by the FIT are then integrated with other sources of spatial data using RIM. WSFAs are then used to determine areas of potential conflict with Areas of Critical Concern (ACCs), which include neighboring landholders, environmental assets, and transportation routes. Air Force uses ACCs, WSFA's, and the target locations to coordinate and modify training attack headings and to plan training range improvements. In addition, existing test plans can be reversed engineered to provide suggested improvements based on the likelihood of potential hazard to identified ACCs.

ACCs, WSFAs, and GIS data are developed through direct contact between the installation training range managers, system administrators, and weapons systems engineers on an as needed basis. The RIM can also be updated with onscreen digitizing by users with the correct permissions. These data products are posted to the support website for dissemination to approved users. In addition the website is used to coordinate the approval process for data under review by the installations.

The Air Force also provides feedback for new features and modules through the SAFE-RANGE website, directly to onsite support personnel at Langley AFB and at an annual user conference. Plans are in place to migrate the desktop portion of the system onto the web, integrate Laser Safety Footprint (LSF) data, Sidfire/Gunship (SF/G) data, and noise analysis programs to support Range Air Installations Compatible Use Zones (RAICUZ).

### **2.3.5.3. Resource Capability Model (RCM)**

Another challenge facing the Air Force is increasing encroachment and resource denial of natural infrastructure assets (e.g., airspace, water, surface land, and frequency) on training ranges. The Air Force has started to quantify encroachment through the application of the Resource Capability Model (RCM). The RCM calculates resource availability versus resource denial to determine a Resource Rating (RR), or score card of an installation's resources. The Air Force Air Combat Command (ACC) developed the Resource Capability Model Database (RCMD) to allow

for high-level analysis of the RCM results. The RCMD is a user-friendly front-end ACCESS application. RCMD replicates the RCM Model through a form for each metric assessed. Once the forms completed, high-level color-coded reports are generated to summarize the status of each installation and metric.

## **2.4. Department and OSD Initiatives**

In addition to the efforts underway within the Armed Services, there are additional programs at the Department and OSD level that relate to the range information enterprise domains. This section contains an overview of several of these initiatives.

### **2.4.1. Business Management Modernization Program (BMMP)**

The BMMP is a DoD-wide effort focused on transforming and integrating DoD business operations and financial management into a joint DoD business enterprise. The goals of BMMP are to provide timely, accurate, and reliable information for business management, and enable improved business operations. The program was established in July 2001, by the Secretary of Defense, under the sponsorship of the Office of the Under Secretary of Defense (Comptroller). The Business Modernization and Systems Integration (BMSI) Office is the BMMP program management office and is responsible for developing and maintaining the Business Enterprise Architecture (BEA), a high-level blueprint to guide the DoD's transformation.

The current domains or business process areas included in the BMMP are:

- Accounting and Finance
- Acquisition
- Human Resources Management
- Installations & Environment
- Logistics
- Strategic Planning & Budgeting

The BMMP provides important resources and policy that can help guide improvements to business processes and the information systems in the range sustainment, management, and operations domains.

### **2.4.2. Defense Installations Spatial Data Infrastructure (DISDI)**

The DoD has recently established DISDI, within OSD (I&E) Business Transformation (BT) office, to coordinate geospatial investments and support the implementation of spatial data standards across the installation and environment domains. The DISDI is focused on satisfying the needs at multiple levels of users, including Federal, DoD, Armed Service, and installation/range user groups. The DISDI efforts will include supporting the application of federal geospatial data and metadata standards, as well as federal enterprise architecture and interoperability guidelines to meet installation visualization, mapping, and geospatial analysis requirements. It is envisioned that the DISDI architecture will address both personnel and business processes for the purpose of ensuring sustained availability and access to current, authoritative defense installation geospatial information.

### **2.4.3. Common Range Scheduling Tool (CRST)**

The DoD's transformation to a network centric warfare test and training environment requires that the Armed Services plan, schedule, execute, manage, and coordinate test and training operations across a network of test and training ranges and modeling and simulation (M&S) capabilities. Range users, managers, and schedulers need information about multiple ranges, facilities, and associated resources in terms of scheduling and availability. The CRST demonstrates methods and technologies for providing secure, web-based display of multiple range schedules through links to existing legacy range scheduling systems across the Armed Services and testing and training communities. The CRST currently interfaces with 12 Army, Navy, Marine Corps, and Air Force range and modeling and simulation sites, providing near-real time display of scheduling and resource information.

The CRST is hosted at the Naval Air Warfare Center-Weapons Division, Point Mugu, California, and is being developed under joint sponsorship by the Services T&E and Training communities. As the Services continue to evolve their range scheduling systems to meet new training requirements and incorporate new technologies, the lessons learned as part of CRST development can be applied to improve cross Service range scheduling capabilities and processes while continuing to ensure Service-specific needs are met. Future enhancements to CRST include developing an interface with the JNTC Capabilities Repository to link site information to Joint training and testing requirements.

### **2.4.4. Testing in a Joint Environment Roadmap**

In November 2004, the Deputy Secretary of Defense approved the Department of Defense Testing in a Joint Environment Roadmap. The Roadmap provides for use of a test infrastructure which will effectively integrate live, virtual, and constructive representations of weapons systems, threats and test environments by means of an enhanced networking infrastructure capability. The Roadmap addresses the combined use of exercises for training and test events whenever possible. Execution of the roadmap will provide networking to permit full integration of a live system at one range with other live systems, and/or the virtual or constructive representation of such systems, at other ranges or locations. This will lead to more efficient utilization of existing live forces and range assets because it will allow systems and forces participating in a test event and/or training exercise to be augmented with selected assets at other ranges and facilities. As a result, the Department will be better able to cope with the effects of encroachment by utilizing available range space at other locations for testing and training.”

### **2.4.5. Central Test and Evaluation Investment Program (CTEIP)**

DoD continues to leverage the CTEIP and Test and Evaluation (T&E)/Science and Technology (S&T) programs to develop spectrally efficient technologies that offset the effects of encroachment of critical range spectrum resources.

The CTEIP-developed Advanced Range Telemetry radio system is being deployed across numerous test programs and ranges, including F-22, JSF, F-18G and within the Missile Defense Agency. The Integrated Frequency Deconfliction System has substantially increased the number of users who can simultaneously access the limited amount of radio frequency spectrum at our western range complex, thereby increasing test operating tempo. The architecture for a highly-spectrum efficient telemetry network was developed and establishes the basis for the development of a system that will assure DoD ranges have access to the spectrum required for the next 30 years. DoD adopted the results of extensive CTEIP-funded technical analyses as the basis for a

U.S. proposal to the International Telecommunications Union to allocate an additional 650 MHz of spectrum for aeronautical telemetry spectrum at the 2007 World Radio Communication Conference.

## **2.5. Enterprise Success Stories**

The systems in use across the Department offer insights into system development successes that support the Department's overall vision for the creation of a training range information enterprise. Further, these successes suggest best practices that should be adopted as part of creating a training range information enterprise to increase the likelihood of successful system development and decreased cost of ownership during the system's lifecycle. This section provides an overview of some of these success stories, including:

- Cross service training and system implementation;
- Enterprise level system planning;
- Standards-based, modular system development;
- Joint application development;

Each of these best practices is described in more detail below.

### **2.5.1. Cross Service Cooperation**

Success in realizing the JNTC vision and transforming DoD training depends on cross service cooperation. As discussed in section 2.2, Army and Marine Corps joint efforts, as well as Navy and Air Force cooperation, has allowed for increased functionality and greater efficiency during training.

### **2.5.2. Enterprise Level Planning**

During the past year, the Navy began enterprise level planning efforts for range information systems across the Service. The Navy invested in the initial phases for envisioning a Navy Range Management System (NRMS), resulting in a roadmap for developing an architecture that considers the business processes of range management. NRMS would be an enterprise approach to range information management that flows from the Navy's requirements for ranges and ensures standards compliance. NRMS focuses on providing a cost-effective solution to sustainable management of the Navy's training range assets.

Through TAP, the Navy is applying an enterprise-wide assessment and planning process that, for example, analyzes current range information systems capabilities against training requirements. The TAP Program considers the current range capabilities and assets in the context of training requirements and investments. This effort is linked to the Navy's Required Capabilities Document (RCD) that articulates training range requirements, including documentation of information systems needed to schedule, sustain, and transform ranges. As part of the RCMP analysis, the Navy is assessing whether current training range information systems at each OPAREA/Range complex meet the thresholds defined in the RCD. The output of this process is a capabilities assessment which documents the current systems' ability to meet current and future requirements and provides a set of investment recommendations. Along with NRMS, TAP demonstrates a successful approach for analyzing operational requirements for each Navy range/OPAREA complex as part of a Service-wide planning effort.



### **2.5.3. Standards-Based, Modular Architecture**

The Air Force invests in extensible systems development for training range management. An example of these extensible systems is the Center Scheduling Enterprise (CSE). The CSE was developed using a modular architecture that gives the system great flexibility and adaptability when moved from installation to installation. Each module represents a recognized set of processes needed to function at that installation. The modules meet the business process requirements according to the training range managements needs. The Air Force's systems development is focused on interoperability of systems between installations.

Also, the Air Force developed the CSE and others systems according to a set of standards that allows for web enabled uses. The World Wide Web has emerged as a source to implement scheduling request and informational portals to help meet training requirements. The Air Force uses the web as a tool to help make the scheduling process widely available anywhere in the world. This has proven to be valuable to the Air Force because of the diverse groups of users, domestic and foreign, that visit their ranges to train.

### **2.5.4. Southern California Offshore Range Asset Management System (SCRAMS)**

SCRAMS is a robust asset management system with scheduling, tracking, and reporting tools for supporting the operations, management and sustainment of the Southern California Offshore Range (SCORE). SCORE conducts more than 1,600 exercises per year supporting more than 5,500 exercise participants. SCRAMS ensures the efficient and effective management of these operations and facilitates the supporting business functions, such as property management, investment, cost accounting, security, and personnel management. SCRAMS uses a relational database and automated system of user interfaces for collecting and disseminating meaningful data for the control of assets, the scheduling of activities, and tracking of costs. In addition, SCRAMS provides historical training range data for reporting and analysis and tools to reduce labor costs through automation and efficiencies. SCRAMS supports over 300 users. In addition to its range management functions, SCRAMS has many other facets, including a public web site that serves as an outreach tool, which publishes information on the status of range areas for local non-military users, such as commercial and recreational fisherman.

### **2.5.5. Eglin Enterprise Spatial Database (EESD)**

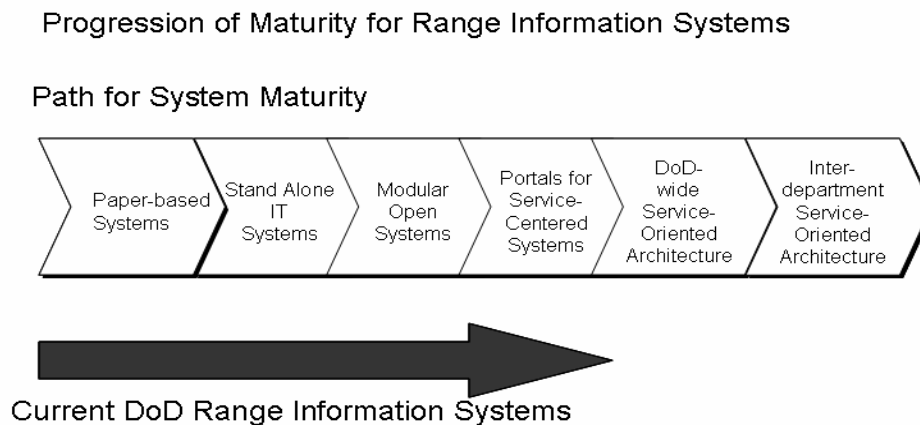
The management of extensive air ranges requires the means to standardize, manipulate, and visualize large amounts of spatial data. To this end, the 46 Test Wing Plans Offices, the Eglin Air Force Base Civil Engineering Squadron (CE) and the Environmental Management Flight (CEV) Departments have developed the Eglin Enterprise Spatial Database (EESD) to host, manage, and distribute infrastructure, mission, environmental, and facility geospatial data. The EESD is SDSFIE compliant and maintains META data that complies with standards approved by the Federal Geographic Data Committee (FGDC). The system consists of several spatially enabled Oracle databases, connections and data use agreements with legacy data systems, and business rules to maintain version control, security, and application connectivity to the data holdings. This guidance is documented in the Center-level GeoBase Strategic Plan and GIS Operating Instruction. Several groups maintain ownership and editing privileges for data related to their missions. Representatives from the owners, application developers and other stakeholders meet on a weekly basis to review and update business rules and database policy. The system acts as a single source for these rules, which creates an environment more conducive to consistent reporting, greater ease of application development, data integrity oversight, and data security.

### 2.5.6. Systems Development Working Group Teams

Perhaps one of the most rewarding practices undertaken by the Services is the development of working group teams comprised of subject matter experts to support systems development. These teams provide the Services with the first order planning, essential to the development and implementation of a successful system. The Army, Navy, Air Force, and USMC each formed a working group comprised of the diverse user community that uses these systems for range management. In some cases, like the USMC and the Army, this working group functioned as a joint effort for systems planning, specifically the RFMSS. These working groups continue to direct the development of systems used in the Services, as well as address the diverse needs of their user community. They also provide greater inter-installation knowledge and communication of the abilities and needs of systems.

## 2.6. Looking Forward

**Figure 2-2. Information System Progression**



The Department and Services are committed to providing the realistic training needed to support operational readiness by continuing to improve the information systems supporting its training range management, operations, and sustainment. The Department sees many opportunities within the evolving enterprise planning and information technology landscape to create a more unified environment for sharing information across this diverse user community and for sharing technology investments among the Services. Examples of these opportunities include participation in the Department's enterprise planning efforts, the use of geospatial technology and the robust standards for spatial data created by the Department, and the creation of service oriented architecture that supports the needs of multiple user groups across the range enterprise. The Department will continue to improve range information systems to support the Department's *Strategic Plan for Transformation of DoD Training* and the JNTC's vision while ensuring that investments in information technology support the Departments overall business strategy and modernization.

### 3. GOALS, ACTIONS, AND MILESTONES

Under the leadership of the Office of the Secretary of Defense (OSD), each of the Military Services has initiated a comprehensive range planning and management process as an integral part of the Department of Defense's (DoD) Sustainable Ranges Initiative. It is a long-term process to sustain training and testing capability while actively engaging in environmental stewardship and mitigating encroachment concerns.

The Working Integrated Product Team (WIPT) has developed a set of DoD-wide goals, actions and milestones to track and achieve planned actions. A common framework is being developed to facilitate consistent and relevant measurements on the progress towards set objectives over extended periods of time. Goals are defined as enduring objectives; actions are defined as activities toward attaining set goals; and milestones are defined as a timeline or completion of key activities. This common framework of goals and milestones will enable OSD and the Services to make meaningful comparisons and measurements of past performance and progress towards near and long-term objectives.

For developing the DoD-wide framework, the WIPT turned to programmatic guidance and DoD Directives (e.g., 3200.15 on Sustainment of Ranges and Operating Areas) to identify common goals and milestones across the Services.<sup>10</sup> In so doing, the goals are aligned with funding requirements needed for program execution. The ensuing section on Funding describes in detail program elements and activities that require sustained funding. Ultimately, the Department's goal is to integrate the Sustainable Range Initiative's objectives and associated funding requirements into one comprehensive planning process.

The Sustainable Range program goals, actions, and milestones are organized under four main programmatic categories: 1) Modernization and Investment; 2) Operations & maintenance; 3) Environmental; and 4) Encroachment. The categories and the definitions are based on the DoD programmatic guidance. For each category, a set of actions and milestones has been identified for fulfillment during 2005-2011 fiscal years.

The resulting framework is a dynamic tool that will be continuously reviewed, updated, and monitored. OSD will work closely with the DoD components to ensure that the goals and milestones are relevant, timely and effective toward achieving the overarching Sustainable Range Initiative objectives.

#### 3.1. Framework for Goals, Actions, and Milestones

##### 3.1.1. Modernization and Investment

**Goal: Modernize range facilities to sustain range operations in accordance with OSD and Service training transformation strategies by resourcing advanced instrumentation and other infrastructure.**

The goals and milestones under the Modernization and Investment category are aimed at developing comprehensive, sustainable range management plans at DoD and Service levels. The focus is to identify both current and long-term plans toward fulfilling testing and training

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<sup>10</sup> "Guidance for Fiscal Years 2006-2011 Sustainable Ranges Programs," memorandum from the Under Secretary of Defense for Personnel and Readiness, June 26, 2003.

requirements. OSD and the Services will continue to integrate simulators, simulations, and range instrumentation where requirements and return-on-investment make sense. Progress toward these objectives will be described in the annual submission of the Section 366 report.

The Department will continue to explore creative and innovation solutions to training constraints imposed by encroachment. Examples include land exchange programs to acquire buffer zones (i.e., exchanging federal lands for non-Federal land of equal value). Such resourceful solutions and best practices will be identified and shared across the Services through a web-based library.

These goals for sustainable range operation require research and capital investments in range and range infrastructure. For instance, funding is required for acquiring new facilities; instrumentation and communications equipment for both Joint National Training Capability (JNTC) and Service-specific requirements; and targets and target arrays for both live and simulated training.

**Actions & Milestones:**

- Conduct a requirements analysis, and develop the functional and technical requirements for the integrated live, virtual, and constructive (LVC) environment
  - 2005: OSD, USJFCOM, and Services establish global JNTC infrastructure requirements
  - 2006 and Beyond: OSD, USJFCOM, and Services update annually global JNTC infrastructure requirements
- Establish infrastructure for, and interoperability between integrated live, virtual, and constructive training systems in support of defined joint force training requirements
  - 2005: OSD, US Joint Forces Command (JFCOM), and Services establish JNTC technical standards to ensure future interoperability between JNTC systems
  - 2006 and Beyond: OSD, USJFCOM, and Services, expand globally, JNTC infrastructure (range instrumentation, virtual simulators/stimulators, constructive simulation sites, interconnected where and when appropriate). Establish expeditionary JNTC capability, and achieve operability
- Develop comprehensive, operationally focused range sustainability plans for range complexes at both Service and OSD levels
  - 2005: Services continue to develop and annually update Service range complex plans
  - 2006 and Beyond: Services develop, complete and periodically review range complex plans
- Identify and document current and future range requirements for testing and training
  - 2005: Services identify and document management processes for determining range requirements and input into Section 366 report
  - 2006 and Beyond: DoD describes management processes for determining range requirements in annual Section 366 reports

- Use best practices to facilitate range sustainability
  - 2005: OSD and Services develop requirements for a web-based library of best practices
  - 2006 and Beyond: Deploy web-based library

### 3.1.2. 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.**

Range sustainment requires standardized, continuous operational planning and measures toward mitigating encroachment. Both U.S. and overseas training ranges will come under increasing encroachment pressures. Recognizing and planning for these pressures is critical to the long-term viability of our ranges.

OSD and the Services are leading range sustainability efforts by proactively addressing encroachment issues, and coordinating planning and management by the individual Services. The WIPT continues to serve an effective forum for this objective. Regular and frequent inter- and intra-Service coordination has been conducive to identifying current and emerging issues, and generating sustainable range plans and ideas for the future.

Goals and milestones for sustainable range operations and maintenance range from measures to ensure that plans for new ranges consider all aspects of the range life cycle, to plans that implement sustainability program through the Planning, Programming, Budgeting and Execution (PPBE) process.

To support these goals, OSD and the Services will ensure that funding is in place for the day-to-day operation and maintenance of range assets and infrastructure, real property maintenance (for restoring and modernizing range facilities), and range clearance programs (e.g., removal of unexploded ordnance).

#### **Actions & Milestones:**

- Promote inter- and intra-Service coordination of range sustainment management issues
  - 2005: Conduct at least 6 WIPT meetings and report to Senior Readiness Oversight Council (SROC)
  - 2006 and Beyond: Conduct at least 6 WIPT meetings; report annually SROC
- Ensure that plans for new ranges consider all aspects of range lifecycle
  - 2005: Services ensure that plans for new ranges consider the entire lifecycle
  - 2006 and Beyond: Services ensure that plans for new ranges consider the entire lifecycle

- Implement range sustainability program through the PPBE process for necessary facilities, personnel, RDT&E and support services
  - 2005: Services brief WIPT on range sustainment funding
  - 2006 and Beyond: Services brief WIPT biennially on range sustainment funding requirements in Service POMs
- Establish multi-disciplined career program for range operations personnel that supports sustainable range management programs
  - 2005: DoD begins to develop requirements for career program
  - 2006 and Beyond: DoD develops plans and curriculum, and implement career program
- Institute appropriate range clearance programs
  - 2005: OSD and Services continue to develop range clearance policy
  - 2006 and Beyond: OSD and Services develop and implement range clearance policy and protocol

### **3.1.3. Environmental**

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

Environmental management must be viewed as an integral part of range management and sustainability. By incorporating environmental concerns at the outset of range planning processes, the DoD components will be able to more proactively manage environmental responsibilities, rather than reacting on an *ad hoc* basis, to fulfill legal requirements. DoD's Integrated Natural Resource Management Plans (INRMP) are examples of proactive planning to standardize and improve management of range mission requirements while meeting environmental responsibilities.

Specific goals and milestones include conducting environmental assessments of the potential for off-range migration and of munitions constituents at mission ranges; providing range remediation as required by results of range assessments; and conducting necessary environmental research and development on key range sustainment issues. In addition, the INRMPs and Integrated Cultural Resource Management Plans (ICRMPs) will be reviewed, updated and implemented.

Funding is needed to support range assessments (e.g., environmental baseline studies), range response actions (e.g., removal of unexploded ordinance (UXO) and potentially hazardous materials) and key natural resource management plans such as INRMPs and ICRMPs. The Department is proud of what it has accomplished thus far in environmental stewardship, and will continue to work with environmental stakeholders for a long-term sustainable partnership.

## Actions and Milestones

- Conduct environmental assessments of off-range migration of munitions constituents at ranges
  - 2005: Services continue to assess off-range migration
  - 2006 and Beyond: Services continue to assess off-range migration
- Provide range remediation if required as a result of range assessments
  - 2005: Services conduct required remediation
  - 2006 and Beyond: Services conduct required remediation
- Review, update and implement INRMPs and ICRMPs
  - 2005: Services complete more than 80 percent of required reviews and updates
  - 2006 and Beyond: Complete more than 80 percent of required annual reviews and updates
- Conduct environmental research and development on key range sustainment issues
  - 2005: Services brief the WIPT on selected RDT&E projects
  - 2006 and Beyond: Services brief WIPT annually on selected RDT&E projects

### 3.1.4. 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.**

Growing encroachment pressures must be addressed throughout the range planning process. Encroachment areas include environmental concerns (e.g., endangered species and critical habitat), cultural resources (e.g., Native American cultural sites), UXO, urban and suburban growth, airborne noise, and air/land-space restrictions. Unaddressed, these encroachment pressures severely degrade realistic military training, and consequently undermine readiness.

Because of the various and often competing, stakeholder interests in common encroachment challenges, the OSD and Service leadership have adopted active outreach initiatives. DoD will continue to reach out to state, local, cultural, and environmental organizations by organizing and hosting conferences to address and promote cooperation and mitigate encroachment pressures. It will continue to acquire buffer zones and implement measures to mitigate encroachment. The ultimate objective is clear – our troops must be able to train in realistic settings while minimizing adverse impacts to our environment and non-military neighbors.

Specific programs and activities to mitigate encroachment include developing and implementing quantification and reporting processes for encroachment impacts; acquiring additional buffer zones to support range operations; and conducting periodic updates to Air Installation Compatibility Use Zone (AICUZ) and Range Air Installation Compatibility Use Zone studies

(RAICUZ). The Services will also enter into and renew, as appropriate, cooperative land use or exchange agreements.

In addition, OSD will continue to spearhead outreach programs to stakeholders, and it will ensure DoD's participation in regional meetings with key stakeholders on range sustainment and encroachment issues. Currently successful and active outreach initiatives will serve as the basis for formulating and issuing outreach policies.

Funding must be in place to enable these crucial goals and activities toward encroachment mitigation. Examples include SRP outreach communications plan, noise programs, compatible land use/exchange programs and environmental assessment tools.

**Actions and Milestones:**

- Develop Service-wide range inventory and database using geographic information system (GIS)
  - 2005: DoD updates Section 366 inventory
  - 2006 and Beyond: DoD continues updates and internal coordination to develop GIS-based range inventories
- Develop and implement quantification and reporting processes for encroachment impacts
  - 2005: OSD and Services coordinate encroachment quantification efforts; OSD describe quantification development and report in Section 366 report
  - 2006 and Beyond: OSD and Services assess benefits or developing a common encroachment quantification method and, if feasible, implement it
- Acquire buffer zones to support range operations
  - 2005: OSD and Services continue to identify candidate locations for buffer initiatives and execute agreements subject to funding limits
  - 2006 and Beyond: Program buffer initiatives and execute
- Conduct periodic updates to Air Installation Compatibility Use Zone (AICUZ) and Range Air Installation Compatibility Use Zone (RAICUZ) studies
  - 2005: Services brief WIPT on status of programs
  - 2006 and Beyond: Services brief WIPT annually on the status of programs
- Conduct effective outreach to stakeholders
  - 2005: OSD and Services participate in at least two national or regional meetings with key stakeholders on range sustainability issues
  - 2006 and Beyond: OSD and Services participate in at least two national or regional meetings with key stakeholders on range sustainability issues
- Issue outreach policy



- 2005: WIPT reviews outreach policy to assess need for modification
- 2006 and Beyond: WIPT reviews outreach policy to assess need for modification

### **3.2. The Way Ahead**

The Sustainable Ranges Initiative will continue to develop a common business framework to plan and monitor progress toward objectives. By integrating the goals and milestones with funding requirements, the Department is moving toward establishing a comprehensive sustainable ranges program that is supported by DoD-wide programming and business processes. In so doing the Department plans to improve its ability to provide guidance and articulate expectations that are aligned with management and funding support.

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## 4. FUNDING

Section 366 of the National Defense Authorization Act for Fiscal Year 2003 requires the Department to report on its plans for addressing training constraints caused by encroachment. Specifically, it requires the Secretary of Defense to report on

“...Projected funding requirements for implementing planned actions.”<sup>11</sup>

In order to fulfill this legal requirement, the Sustainable Ranges Working Integrated Product Team (WIPT) formed a Funding Subgroup comprised of members of the Services and the Office of the Secretary of Defense (OSD). The Funding Subgroup’s primary purpose is to develop a common construct for consistent and accurate reporting and discussions of range funding among the Services.

This construct is intended to account for 100 percent of Sustainable Ranges funding. If instituted, it will be used by the WIPT to help monitor the status of Sustainable Ranges programs throughout the Planning, Programming, Budgeting, and Execution (PPBE) process. The subgroup will continue to work with the DoD Components, in particular the assistant secretaries for financial management, to provide this standardized reporting framework for SR programs.

### 4.1. Funding Framework

#### 4.1.1. Framework Construction

In attempting to develop a funding framework, several realizations quickly emerged:

- A variety of constructs have been used or are currently being used by DoD and the Services to provide guidance and construct investment strategies
- The DoD accounting system is not currently set up to capture and isolate funding associated with ranges
- Any framework that is developed will need to be flexible and capable of incorporating future funding requirements hereto unidentified

Frameworks used to promulgate planning guidance and used by the Services to build investment strategies for their Sustainable Ranges programs were examined. These included efforts previously made within the Installation and Environment (I&E) community to segment out funding associated with DoD’s environmental management of ranges. From these frameworks, four main categories were derived. The categories were chosen as logical divisions that take into account how ranges are managed and funded. Within each of the divisions, further sub-divisions were made to give clarity to logical components that have proven to be of historical interest. Definitions were put to the categories and their sub-divisions to aid in properly identifying funding.

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<sup>11</sup> Section 366, paragraph (a)(3)(C).

#### 4.1.2. Proposed Framework

Building from the various disparate frameworks, the Funding Subgroup has identified and consolidated Sustainable Ranges programs and issues under four main categories for the funding framework:

- Modernization and Investment
- Operations and Maintenance
- Environmental
- Encroachment

Outreach programs and issues will be included as appropriate in the Environmental and Encroachment categories. Any new technology programs will be incorporated into their corresponding categories. The following is the proposed funding framework for Sustainable Ranges programs. It includes detailed definitions and examples of funding elements to be included under each of the four categories. The funding categories cover both Service-specific programs, and those falling under the Joint National Training Capability (JNTC) that is funded through the Training Transformation Program Code.

**Modernization and Investment:** Research and capital investments in ranges and range infrastructure. It is comprised primarily of RDT&E, procurement, and military construction (MILCON) funds and supporting operation and maintenance (O&M) and military personnel (MILPERS) funds.

Real Property – Lands, buildings, structures, utilities systems, improvements, and appurtenances thereto. Includes equipment attached to and made part of buildings and structures (such as heating systems) but not movable equipment (such as plant equipment). The funding captured includes major and minor construction projects and land acquisition.

Instrumentation and Communications – Scoring and feedback systems that provide 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. Communication systems 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 (including more efficient use of frequency spectrum resources). Funding captured includes costs associated with initial acquisition and life cycle upgrades.

Targets and Target Arrays – 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. Funding captured is for initial acquisitions and life cycle upgrades and does not include recurring purchases of daily expendable target materials such as conexes, concrete blocks, plywood, etc. unless they are associated with the establishment or overhaul of a target complex.

**Operations and Maintenance:** The day-to-day recurring activities for operating and managing range infrastructure and assets. It is comprised entirely of O&M and MILPERS funding.

Range Clearance – 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) 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.

Centralized Range Maintenance for Digitalized Ranges - Centrally managed funding to purchase standardized maintenance support packages for training instrumentation and data collection technology that is being fielded on the Army's new generation of Digital Range Complexes.

Real Property Maintenance – The day-to-day expenses and costs associated with sustaining, restoring, and modernizing lands, buildings, structures, utilities systems, improvements, and appurtenances thereto. It includes equipment attached to and made part of buildings and structures (such as heating systems) but not movable equipment (such as instrumentation). Funds accounted for under this category are non-MILCON only.

Range Operations and Maintenance – The day-to-day activities of running a range. Includes costs associated with administrative functions, scheduling, safety and security, operations and upkeep of equipment and vehicles, operation and upkeep of targets, and other systemic or institutional work.

Management Planning –The development and maintenance of range sustainability plans which can include master range planning and day-to-day sustainability operations.

**Environmental:** The environmental management systems supporting sustained required access to ranges.

Range Assessments - Any assessment to determine the extent of environmental effects due to range activities, including any sampling, monitoring, or analysis involved in the effort.

Range Response Actions - Any and all one-time actions to address the removal of munitions constituents or other environmental contamination on ranges, or to prevent release off of a range, including the design and implementation of the response action.

Range Sustainment Actions: Environmental sustainment actions taken to preserve ranges over their life.

Natural and Cultural Resource Management Plans- Any natural or cultural resource planning costs (including Integrated Natural Resource Management Plan (INRMP) costs and Integrated Cultural Resource Management Plan (ICRMP) costs) required to address sustainment of ranges, including projects called for in signed INRMPs. This category includes all Sikes Act requirements.

Other Sustainment Actions- All other sustainment actions necessary to satisfy environmental requirements to preserve ranges over their life, includes National Environmental Policy Act (NEPA) compliance and costs associated with mitigation measures not captured in other categories.

**Encroachment:** Actions to optimize the accessibility to ranges by minimizing restrictions that do or could limit range activities. Some tools and programs in this category are designed to support and mitigate environmental programs (e.g., Navy’s Range Sustainability Environmental Program Assessments).

Outreach –The development of installation training support packages to provide Service personnel with tools to educate and implement a Sustainable Ranges Program Outreach communications plan. It includes marketing and focused group research as well as the process of dialogue, information sharing, and issue resolution to inform and educate stakeholder parties about various activities at DoD installations, ranges and OPAREAs, and to resolve mutual issues of concern. Outreach activities occur at all levels of command with various government and non-government stakeholders. Examples include community involvement with the general public, engagement of Congressional delegations and their staffs, and cooperative efforts with local, state and federal agencies. This category does not include outreach efforts that are integral to, recommended, or required by an environmental rule of law such as NEPA; such outreach efforts are included under the environmental category.

Noise Program – The DoD Community and Environmental Noise Program deals with noise generated from the operation of military weapons or weapon systems that impacts either people, animals, or structures, on or in, areas in proximity to a military installation, range, or OPAREA. Occupational noise is specifically excluded from this program.

Compatible Land Use –The development of Range Installation Compatible Land Use Zones Studies, Joint Land Use Studies associated with a range, and the establishment of buffer zones.

Assessment Tools – The development and maintenance of tools to identify, quantify or qualify, and catalogue the known or predictive impacts of encroachment on ranges. Such tools include the Air Force’s Resources Capability Model, the Marine Corps’ Environmental Vulnerability Assessment process, the Navy’s Range Sustainability Environmental Program Assessments, and the Army’s Environmental Climate Model.

## **4.2. The Way Ahead**

The proposed framework is currently just that, proposed. It remains to be seen if the current DoD accounting system can be used to pull together the myriad of appropriations, program elements, and other divisions across the Services and within DoD itself to make this a useful construct.

The Funding Subgroup will continue to identify any additional Sustainable Ranges program elements, and refine the funding framework. It is effectively structured to capture and account for 100 percent of Sustainable Ranges funding. The subgroup will engage the Service’s financial management, as well as other DoD components that support the Sustainable Ranges program objectives, to determine if the proposed funding framework can become a standardized reporting mechanism for all Sustainable Ranges programs. With a DoD-wide adoption of the funding framework, it will become a logical platform for Sustainable Range program’s PPBE process.

## 5. OVERSEAS RANGES AND OPERATING AREAS SUMMARY

***“The world has changed a great deal, and our posture must change with it for the sake of our military families, for the sake of our taxpayers, and so we can be more effective in projecting our strengths and spreading freedom and peace.” -- President George W. Bush (August 16, 2004)***

### 5.1. Perspective

As part of the larger military transformation strategy, the Department is undergoing a Global Posture Review aimed at realigning and updating a defense posture that has remained a vestige of the Cold War, largely unchanged since the end of the Korean War over 50 years ago. This undertaking, along with other underpinnings of the transformation strategy such as an increased emphasis on joint capabilities, is necessary to transform our military into a more agile, more efficient force better prepared to meet the challenges of today and into the future.

The Global Posture Review has its foundations in the 2001 Quadrennial Defense Review’s (QDR) call for reorienting the U.S. military posture. During the last three years this review has been guided by five key policy themes:

- Strengthen Allied Roles
- Flexibility to Contend with Uncertainty
- Focus Within and Across Regions
- Develop Rapidly Deployable Capabilities
- Focus on Capabilities, Not Numbers

The review comes at the time of and informs the 2005 round of the Base Realignment and Closure (BRAC) process. Together, these two tightly linked processes will have profound changes on our overseas posture. The effects will not only be in terms of facilities, but activities, relationships, legal arrangements, and our ability to surge forces. Such dramatic changes will require ongoing consultations among DoD, the State Department, Congress, and our allies due to the significant political and diplomatic implications. Our allies have been very cooperative and appreciative of U.S. efforts to seek their inputs and participation in the process.

Current plans have the potential to transfer up to 70,000 troops, plus 100,000 family members and civilians, from a number of overseas bases in Europe and Asia back to the U.S. Remaining main operating locations would be consolidated and new secondary and tertiary facilities, known as forward operating sites and cooperative security locations, respectively, would be established in appropriate locations around the world. Forward operating sites would not possess infrastructures as robust as main operating bases and would be maintained by a limited number of rotational forces. These sites may have pre-positioned equipment, host rotational forces, and be a focus for bilateral and regional training. Cooperative security locations would be “bare bones” sites maintained by contractors or host-nation personnel, with little or no permanent U.S. presence. These locations would provide contingency access and logistics, and be a focal point for regional access.

Such changes in the U.S. defense posture will need to be accompanied by changes in how and where we train and view the global status of ranges and training systems. The ability to protect

overseas assets from encroachment and ensure sustained operational and training use is a crucial consideration.

## **5.2. The Need for Overseas Ranges**

A primary function of DoD military ranges in this country is to train operational forces. The need for soldiers, sailors, and airmen to train is not a function of geography, but of the National Security Strategy. As long as the military remains a tool of the National Security Strategy, such training will be required in order to maintain an effective state of readiness.

Range is the generic term for a host of complex capabilities that constitute the classroom for live weapons training. Live, realistic training is considered essential to maintain readiness and has a direct correlation to superiority in combat.

As training moves across the complexity continuum from basic to advanced, the number of players and the demands on range resources increase. For instance, basic marksmanship training may only require a single firing lane at a relatively unsophisticated range. The requirements of a Joint Task Force Exercise incorporating multi-national forces, however, may require vast volumes of space in all four mediums (air, land, sea, and undersea), complicated telecommunications requirements supporting elements from the basic combatant to a coalition force headquarters, and execution around the clock over a number of days.

It is against this training backdrop that DoD must assess the adequacy of overseas ranges as it pertains to adjusted overseas force structure and training plans. In the meantime, areas can start to be evaluated for their range capabilities and how they might fit into the new posture.

## **5.3. Areas of Interest**

For more than three years, studies and consultations have been ongoing among the White House, DoD, State Department, Congress, and our allies. Options are being assessed worldwide, including Europe, the Middle East, Asia and the Pacific, and the Western Hemisphere and Africa. As plans develop for the training needs associated with these force posture changes, care needs to be taken to ensure they embrace a joint and multinational construct, while balancing the requirements of all the Services and our allies. The DoD will continue to develop plans for overseas training ranges as the new global posture evolves.

### **5.3.1. Europe**

The Administration's proposal for Europe includes transferring up to 40,000 troops, mainly Army, back to the Continental United States and transferring a Stryker brigade to the Army's training center at Grafenwohr, Germany. Under the proposal, U.S. existing main operating bases will be consolidated and units would periodically deploy for training to forward operating sites in Eastern Europe. Poland, Romania, and Bulgaria are among nations mentioned as potential expeditionary training locations in support of these posture shifts.



### 5.3.2. The Middle East

The proposal for the Middle East is to maintain facilities for rotational forces and contingencies. We will build on the cooperation and access provided by host nations during Operations Enduring Freedom and Iraqi Freedom.

### 5.3.3. Asia and the Pacific

The proposed realignment of forces in Asia and the Pacific entails many parts. In Japan and Korea, DoD proposes to consolidate headquarters and existing facilities maintaining critical bases to serve as hubs for power projection in future contingencies in the region and create new “nodes” for U.S. special operations forces. In the Western Pacific, the QDR gave direction to the Secretary of the Navy to increase carrier battle group presence. In addition, the Navy is to explore options to homeport an additional three to four surface combatants and additional submarines in the Pacific Theater. The QDR also directed OSD to explore the feasibility of conducting training for littoral warfare in the Western Pacific for the Marine Corps. The Secretary of the Air Force was given direction to increase contingency basing in the Pacific and Indian Oceans, as well as the Arabian Gulf. An emphasis is being placed on joint and combined training, and the potential of an Australia-U.S. combined training concept is being explored.

### 5.3.4. Western Hemisphere and Africa

In the Western Hemisphere and Africa, DoD is looking at a diverse array of smaller cooperative locations for contingency access and potential training opportunities (including as forward operating sites). Locations that have been mentioned include Morocco, Sao Tome, Principe, Gabon, Ghana, Namibia, Senegal, South Africa, and Uganda.

## 5.4. Overseas Ranges Sustainability

As we explore where forces will train based on the pending posture changes, we need to be cognizant of how to sustain our access to suitable overseas locations. In general, constraints at overseas ranges appear to present more difficult sustainment challenges than ranges within the U.S. This finding is consistent with a recent Government Accountability Office (GAO) study that points out that overseas constraints to training “have grown over the past decade and are likely to increase further.”<sup>12</sup>

### 5.4.1. Encroachment Considerations

Urbanization and the accompanying challenges it brings (safety considerations, noise, unwanted light at night, community opposition, etc.) are already having encroachment impacts on some overseas training locations. For example, in Europe, where open space is at a premium in many countries, demands for environmental protection, recreational use, and concerns over safety and disturbance have increasingly limited access and hours of training for host nations’ military as well as U.S. forces. This trend will likely continue as nations in Eastern Europe join the European Union, leading them to adopt more stringent environmental standards and expand

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<sup>12</sup> United States General Accounting Office, Report to the Chairman, Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate, “Military Training: Limitations Exist Overseas but Are Not Reflected in Readiness Reporting,” April 2002.

economic and social regulation. Restrictions on live fire training on the Air Force's Koo-Ni Range in Korea have steadily increased as the population presses ever tighter around the range's boundary. On Okinawa, local groups opposed to the U.S. presence are inhibiting attempts by the Marine Corps to meet their maneuver-training requirements on training ranges that are already too small.

Increased environmental awareness and litigation are helping shape national and international laws, often increasing challenges to the Services' ability to meet training requirements. Most recently, stranded whales and dolphins have resulted in multiple calls from various international organizations for the curtailment of the use of active sonar. As the current situation escalates, the Services must cope with ever increasing challenges to maneuver operations, live ordnance training, and night and low altitude flight.<sup>13</sup>

#### **5.4.2. Environmental, Safety and Occupational Health Considerations**

As we venture into new training areas, we need to be mindful that the laws and practices that govern environmental, safety, and occupational health practices often vary from those in the U.S. and from nation to nation. As we consider the viability of host nation facilities for our use, we must explore potential hazards presented by the past use of ranges. There may be situations in which the presence of unexploded ordnance or pollutants make continued use of a range unsafe not only for the users and operators, but for the local populace. The lesson is that a full understanding of the past use and existing condition of potential overseas ranges is required to make informed decisions about U.S. activities there. Also, all potential training at a location must be viewed in terms of not only United States environmental policies but existing host nation laws and regulations to minimize potential conflicts brought about by the inability to meet training requirements.

#### **5.4.3. Additional Sustainability Challenges**

In addition to the traditional challenges to sustainability that we experience in this country, the very nature of training overseas comes with some additional sustainability challenges. The U.S. military organizations and personnel in overseas locations have quality of life and cultural considerations that come with living and working in foreign countries. Additionally, the quality of life of a host nation's citizens affected by U.S. operational and training activities is a necessary consideration, one that directly affects our ability to sustain training there. Training flexibility afforded by access to multiple ranges with expansive capabilities and accommodating scheduling may be at odds with host country military infrastructure and practices that restrain such training flexibility. On the one hand, training restraints can increase personnel tempo by forcing deployments to other ranges and increasing time away from home installations, while possibly providing inferior training. On the other hand, attempting to force more aggressive training on indigenous ranges can alienate decision-makers and local communities. DoD must balance training and range requirements with host country policy, culture, and practices. Moreover, national policy that can affect U.S. military training is the purview of each host nation. Such policy can change with changes in power. National military policy variation in a new host nation administration may be more pronounced than those experienced in the U.S. under similar circumstances. We must keep in mind that we are dealing with sovereign nations and remain

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<sup>13</sup> Ibid.

susceptible to challenges that may be brought about by changes in host nation political, military, and social climates.

## 5.5. The Way Ahead

As globalization and worldwide economic expansion continues, the underlying causes of encroachment on military ranges will grow. Overseas range sustainment must therefore become a fundamental aspect of DoD's current and future planning. Historically, our overseas commands have done an outstanding job of making sure that our forces make the best use of the overseas training ranges that are available for their use. However, as we move forward with the Global Defense Posture Review, we must be mindful of the lessons of the past and welcome the challenges ahead as opportunities to create new and improved training environments. As we venture into new areas, we have a great opportunity to do it right from the start.

To address sustainability of our ranges, DoD implemented the Sustainable Ranges Initiative in 2001 under the direction of the Senior Readiness Oversight Council. Range sustainment efforts to date, however, have been focused mainly on the U.S. as reflected in the U.S.-centric view of a 1999 DoD publication, The Need for Ranges and Training Areas, and policies that generally overlooked issues of overseas ranges. However, the need to address overseas range sustainability is clear. Such undertakings as the 2002 GAO study addressing military training overseas, the formation of the congressionally mandated Overseas Basing Commission, the Global Defense Posture Review, and the language calling for this report itself all demonstrate the necessity for DoD to increase its efforts and take more proactive roles in dealing with overseas ranges. This Section 366 Report and its accompanying inventory capturing overseas ranges is a start in that direction.

The Sustainable Ranges Integrated Product Team is refocusing its efforts as well, expanding its scope to include overseas range sustainment. Plans under consideration include the development of a plan of action for overseas range sustainment, the potential formation of a subgroup to focus on overseas range encroachment and sustainment issues, and analysis of overseas regions and key issues to get a better understanding of existing range capabilities, shortfalls, and opportunities. The DoD will expand its inventory of ranges to better document overseas assets, and is considering including ranges operated by other nations that U.S. forces use for training purposes. Additionally, scoping is underway on the need for a new DoD policy dealing specifically with sustainability planning and management of overseas ranges.

In concert with sustainability actions, increasing the joint utility and capabilities of overseas ranges and exercises will be a priority. New and improved venues for training that support U.S. requirements, strengthen ties with host nation and coalition forces, and promote international security cooperation are essential. Expansion of the Joint National Training Capability (JNTC) to overseas exercises and ranges is a logical progression in this direction. Along with the JNTC expansion, the need to develop rapidly deployable training capabilities and the instrumentation with which to conduct and evaluate that training are vital. We must ensure that future range instrumentation supports our future global posture.

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## 6. ARMY

### 6.1. Army Campaign Plan

The Army is pursuing the most comprehensive transformation of its forces since the early years of World War II, but the Soldier remains the centerpiece of combat systems and formations. The Army Campaign Plan 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 future direction of the Army is to increase its capabilities for a wide range of missions whether the Army is at war, keeping the peace, deterring aggression, or providing humanitarian assistance around the globe. To prepare for these missions, the Army is redesigning the organization by transforming to smaller, brigade-based units that are standardized and more customizable; optimizing the capabilities of units by increasing the number of high-demand units, reducing heavy-forces units, and redefining the culture of the Army.

All the changes and adjustments the Army is implementing will make it more relevant and ready by providing more cohesive and combat ready formations, more stable and predictable lifestyle for the soldiers and their families, more agile and tailorable units, more high demand units and skills, and commonality across the entire Army. The approach to these adjustments and changes in a synergy of strategies: stabilize soldiers and their families, create modular units, and restructure 100,000 positions.

### 6.2. Army Modularity

The Army is restructuring to the Future Force by divesting itself of Cold War structure and headquarters to enhance its global war on terrorism capability. The Army is creating a “brigade based,” modular Army that is capabilities-based in order to meet the requirements of combatant commanders. Modularity will create units that are more stand-alone with a broad spectrum of capabilities. These brigade combat teams will support offensive or defensive operations.

The current number of divisions will remain at 10 in the active component. The 33 maneuver brigades in today’s active-component Army will be reset into 48 Brigade Units of Action. Even though the Army will be temporarily increased by 30,000 troops to fill the added brigades, the brigades will be smaller and include artillery and reconnaissance assets previously at the division level. Along with the maneuver brigades or “units of action”, a division will have access to support units of actions such as aviation, fires, sustainment, reconnaissance and surveillance, and security/protection. For instance, a division could employ two heavy brigades, an infantry brigade, a Stryker Brigade Combat Team, and even a Marine Expeditionary Brigade.

Current light infantry and heavy mechanized divisions, mountain divisions, and armored divisions will all reorganize into more similar and modular designs under the new plan. Division headquarters will be joint capable by design and have greater capacity for “force packaging.” The seven different types of division headquarters today will become standardized and be known as “units of employment.”

In the future, a brigade aligned with one division could be employed into another with little or no need for augmentation or reorganization. In fact, a future rotation to Iraq might include brigades

from five different locations. The intent is to create a modular “brigade-based” Army that is more responsive to regional combatant commanders’ needs.

### **6.3. Sustainable Range Program**

The Army is pursuing the most comprehensive transformation of its forces since the early years of World War II. The future direction of the Army is to increase its capabilities for a wide range of missions whether the Army is at war, keeping the peace, deterring aggression, or providing humanitarian assistance around the globe. The use of ranges and training lands will increase and new training ranges and facilities will be required as each phase of this transformation takes place. To ensure that these ranges are capable, available, and accessible to indefinitely support doctrinal requirements the Army has implemented the Sustainable Range Program (SRP).

SRP is the Army’s overall approach for improving the way in which it designs, manages, and uses its ranges and training lands to meet its Title 10 mission training responsibilities. The goal of SRP is to maximize the capability, availability, and accessibility of ranges and training lands to support doctrinal training and testing requirements, mobilization, and deployments under normal and surge conditions. The SRP manages ranges from three different perspectives:

- **Capability:** Ranges as part of training doctrine, representing training assets needed to support transformation and mission essential tasks;
- **Availability:** Ranges as facilities, representing the facility management functions of accountability, assessment, and maintenance;
- **Accessibility:** Ranges as part of the environment, representing a focused environmental management approach that supports the mission.

The SRP proponent, the Office of the Deputy Chief of Staff (ODCS) G3, defines SRP by its two core programs, the Range and Training Land Program (RTLTP) and the Integrated Training Area Management (ITAM) Program, which focus on the doctrinal capability of the Army’s ranges and training lands. The Army Deputy Chief of Staff, G-3 signed out the SRP Plan in August 2003. The SRP Outreach Program was approved in December 2003. Draft Army Regulation (AR) 350-XX, the Sustainable Range Program, will integrate the RTLTP and ITAM Programs with the overall SRP guidance and management practices outlined in the SRP Plan to improve overall design and management of ranges. The Army plans to issue AR 350-XX in FY 2005.

To ensure the accessibility and availability of Army ranges and training lands, the SRP core programs (RTLTP and ITAM) are integrated with the facilities management, environmental management, munitions management, and safety program functions supporting the doctrinal capability.

The SRP is founded on three tenets: information excellence ensures the Army has the best available data and science to support the operational, environmental, and infrastructure characteristics of its ranges and training land assets; integrated management ensures that the major management functions directly affecting ranges and land assets are integrated to support the training and testing missions; and a dedicated outreach program educates the public on the need for live-fire training and improves the Army’s understanding of public concerns related to Army training and range operations.

The objectives of the SRP are to modernize training range facilities and sustain the capability of the Army's training land assets; resource range and training land operations; maximize the accessibility of ranges and training lands; focus the capability of the environmental program to fully support force readiness; and develop and implement the SRP Outreach Program to improve public and stakeholder understanding of the Army's live training requirements.

The Army Range Sustainment Integration Council (ARSIC) is the HQDA Council of Colonels that provides an integrated management capability across the functions that support sustainable range management. The ARSIC serves as the instrument for developing and executing policies, procedures, and resources related to sustainable ranges and facilitates the integration of range operations, environmental compliance and management, facilities management, munitions management, and range safety through coordinated actions among the ARSTAF.

### **6.3.1. Range Modernization Planning Process**

The Army's Range and Training Land Program provides for the central management, programming, and policy for modernization of the Army's ranges and their day to day operations. Because developing and improving Army ranges is a continuous and challenging process that requires integrated management and comprehensive planning, range modernization projects are planned, designed, and approved in accordance with the HQDA G-3 range modernization four-year project cycle. The process, which integrates three primary considerations: mission support, environmental stewardship, and economic feasibility, is a coordinated effort that includes the installation, Major Command (MACOM), Installation Management Agency (IMA), and Headquarters, Department of the Army (HQDA) levels. Installations identify doctrinal and operational requirements that are the basis for projects, while the MACOM and HQDA ensure that projects meet Army standards, validate range modernization requirements, and confirm project costs.

Installation range modernization planning requires continuous coordination among garrison staff and tenant elements. This includes a planning team made up of the Range Officer, ITAM Coordinator, and personnel from the range organization, environmental, master planning, range safety, telecommunications, and tenant activities. This team works to develop the overall Range Complex Master Plan (RCMP), which depicts the installation's current and future range and training land assets as well as future range and training land requirements. The RCMP is the outcome of the range modernization analysis process that integrates doctrinal and operational requirements with installation and environmental constraints and requirements. The RCMP aids in defining projects and developing the Range Development Plan (RDP), which is the installation's prioritized list of range modernization projects. These documents are the basis for an installation's sustainable range management planning efforts.

#### **6.3.1.1. Range Complex Master Plans**

In order to maintain consistency and streamline development of an installation's effort to develop a Range Complex Master Plan (RCMP), HQDA G-3 sponsored a workshop in October 2004 at Fort Bliss, Texas. The goal of the workshop was two-fold: 1) to develop a RCMP for Ft. Bliss that would depict current and future assets and live training requirements generated by Army Transformation and Modularity. (Fort Bliss, home of the Air Defense Artillery School and the First Cavalry Division, is scheduled to receive one Heavy Brigade Combat Team Unit of Action (HV BCT/UA)), and 2) use this effort to create a template for developing RCMPs at other installations.

A multi-disciplined team composed of installation, MACOM, IMA, and HQDA staff conducted the workshop in an integrated manner that analyzed mission requirements and installation and environmental constraints. The result was the development of a RCMP that not only depicts Fort Bliss' current range and training land assets but provides general siting of new ranges and maneuver lands. In addition, the lessons learned from the workshop are providing the Army with the basis for developing for RCMPs at other installations.

#### **6.3.1.2. Army Range and Training Land Program Requirements Model**

In order to facilitate the range modernization analysis process, range officers utilize Army Range and Training Land Program Requirements Model (ARRM). The ARRM is an integrated, automated planning tool that provides planners, at not only the installation level, but MACOMs and HQDA G-3, with the capability to quickly and easily determine approximate, live training throughput capacities and requirements for installations. The model also tracks live training assets, such as maneuver land and ranges, based on the Army's Range Inventory. The ARRM identifies and defines the quality and quantity of ranges and maneuver lands needed to support live training as well as the resources necessary for these facilities. It also allows a comprehensive "what-if" analysis of the impact of re-stationing actions on live training infrastructure.

#### **6.3.1.3. The Requirements Review and Prioritization Board**

The HQDA G-3 Requirements Review and Prioritization Board (RRPB) technically reviews, validates, and recommends for design new mission range and training land acquisition projects in coordination with the MACOMs and the IMA. The RRPB is convened and co-chaired by HQDA G-3 Training Simulations Division (DAMO-TRS) and the Army Training Support Center, the SRP Executive Agent for DAMO-TRS. Voting members include DAMO-TRS, the SRP Executive Agent, MACOM range members, and HQ IMA representatives. Members that provide technical advice to the RRPB include the Range and Training Land Program Mandatory Center of Expertise (MCX); Program Executive Office for Simulation, Training, and Instrumentation (PEO STRI), specifically Project Management Training Devices (PM TRADE), PM Instrumentation Targets and Threat Simulators (PM ITTS), Tank Automotive and Armaments Command, Rock Island Arsenal (TACOM-RIA); and United States Army Environmental Center (USAEC).

The annual review of range modernization projects by the RRPB results in a go or no-go decision to proceed with projects proposed for inclusion in the Army Master Range Plan (AMRP), which is the master repository for the Army's validated, prioritized, and funded range modernization and training land acquisition projects. It serves as the Army's database of record for all Army approved range projects in all resourcing categories. Input to the AMRP is derived from the installation Range Development Plan (RDP) which is reviewed and consolidated by the MACOMs into their Live Fire Training Investment Strategy (LF-TIS). The LF-TIS is forwarded to the RRPB for review and approval.

#### **6.3.1.4. The Range Modernization Technical Team**

In order to ensure the success of range modernization projects, HQDA G-3 created the Range Modernization Technical Team – an interdisciplinary HQDA team that supports the range modernization project cycle. This Team, working with the installation, MACOM, and IMA Region reviews, validates, and inspects documentation and construction activities at key milestones during the project life cycle. Reviews ensure compliance with doctrinal, safety, environmental, engineering, and design requirements, with the goal of precluding resourcing projects that may fail quality assurance (QA) tests. The QA reviews are conducted throughout



the construction cycle to ensure work is completed and targetry emplacement meets design standards. The involvement of the Range Modernization Technical Team throughout the project life cycle is designed to ensure the success of each project. Planning directives issued by to RRPB after the validation of the range modernization project, triggers the Range Modernization Technical team into project planning charrettes with the installation and other agencies.

#### **6.3.1.5. Project Charrette**

A project charrette is a feedback-oriented planning session that brings all stakeholders to the planning table at the same time. The objective of the range modernization project planning charrette is to assess whether a project can be successfully executed. During the planning charrette process, the Range Modernization Technical Team confirms the project scope and costs. Additionally, the team determines whether the project supports training requirements and conforms to Army technical standards. The installation, MACOM, and IMA along with technical representatives, are key players in the charrette process. . Charrette participants determine if the site is executable by calculating a score for the site. If the planning charrette participants discover that a selected site is not executable they will identify alternative sites

The Range Modernization Technical Team reports back to the RRPB with the results of the planning charrette. with a recommendation to: 1) proceed as planned, 2) proceed with cost adjustments, or 3) cancel the project.

#### **6.3.2. Integrated Training Area Management Process**

The Army relies on land to achieve its training objectives and maintain force readiness. The Army Integrated Training Area Management program provide Army Range Officers with the capability to manage and maintain training land by integrating mission requirements derived from the Army's Range and Training Land Program with sound land management practices and environmental requirements and management practices to achieve optimum, sustainable use of training lands to execute realistic training. . The intent of the ITAM Program is to provide a uniform training land management capability across the total Army. To successfully accomplish this, ITAM includes components for inventorying and monitoring land conditions; Integrating training requirements with training land carrying capacity; educating land users to minimize adverse impacts; and rehabilitating and maintaining training land. A GIS capability provides standard mapping and spatial analysis capabilities that support the ITAM Program components.

An annual ITAM Workshop provides a forum to reinforce the Army ITAM policies and procedures and improve land management capabilities. The workshop promotes best conservation and training land management practices by facilitating the exchange of scientific research, program methods, and program successes.

The ITAM user requirements result from continuous interaction throughout the command levels. The requirements are generated at lower levels and systematically validated at higher levels to enhance ITAM oversight and execution. The ITAM Management Working Group provides the recommendation to DAMO-TRS for approval of ITAM user requirements.

The annual ITAM Work Plan is the basis for identifying installation ITAM resource requirements and for allocating funding to support installation core capabilities. The work plan describes multi-year ITAM program and resource requirements for installations, MACOM, HQDA, and supporting agencies. Installations identify and prioritize project and funding requirements that

form the basis for the ITAM project requirements in the installation Work Plan Analysis Module (WAM) and the ITAM Five-Year Plan.

Installations develop their annual work plans in the early spring of each year to reflect detailed ITAM program requirements for the next three fiscal years and in summary format for the subsequent two fiscal years. Approval for the projects and priorities is received from the Director of Plans, Training, and Mobilization (DPTM) and/or G3 prior to completing the work plan. Once approved, MACOMs validate the installations' prioritized ITAM project requirements to ensure that projects are appropriate for ITAM funding. In accordance with central funding procedures, DAMO-TRS approves specific ITAM projects and program resources to fund approved projects and ITAM core capabilities.

### **6.3.3. Environmental Support for the Sustainable Range Program**

#### **6.3.3.1. Range Assessments**

The U.S. Army Environmental Center (USAEC) and the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) are conducting a Regional Range Study (RRS) at 12 Army installations with similar training and test missions and historical range use. These installation ranges are located in a wide variety of climatic, geologic, and ecological settings and represent a cross section of the conditions found on CONUS-wide Army ranges.

The purpose of the RRS is to gather data that will allow the Army to present creditable, realistic information regarding the environmental impact of live-fire training and testing. The RRS will also provide the basis for the Army to develop a cost effective protocol for conducting site characterizations. Extensive sampling of soil, ground water, stream sediment, surface water, vegetation, benthic macroinvertebrate organisms, and rodent sperm analysis from small mammals is being conducted to determine the presence or absence of munitions constituents such as explosives, perchlorates, and metals. This will reveal the ecological effects of live fire training and testing on the ranges. The RRS includes development of cost effective field assessment protocols, execution of the field study, and the preparation of a lessons learned report that will include a means to prioritize future range assessments should they be deemed necessary. The completion of the RRS was scheduled for March 2005.

#### **6.3.3.2. Fate and Transport of Munitions Constituents**

To better understand the fate, transport, and effects of munitions constituents on ranges, the Army is conducting analytical characterizations of munitions constituents in soil and water on ranges near hard targets and the sites of incomplete or low order detonations. 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 fired and detonated down range.

Studies of the fate and transport of munitions constituents in the environment will allow all 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. Most 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 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.

Green munitions such as lead free projectiles for small caliber munitions; the 5.56mm M855 Ball; an approved Engineering Change Proposal (ECP) for the .50 M33 Caliber Ball; preliminary engineering change proposals for the 5.56 Tracer, the 7.62mm Ball and Tracer, and the 9mm; and changes to the current smoke formulation of the M18 Smoke Grenade and the M33 Smoke Pot to make them less toxic and non-carcinogenic are being developed to reduce the impact of live fire training.

### **6.3.4. Other SRP Initiatives**

#### **6.3.4.1. Army Range Inventory**

The Army conducted its Range Inventory to improve its understanding of the ranges under its control. Since that time, the U.S. Army Environmental Center (USAEC) has combined the information contained in the Army Range Inventory Database (ARID) with associated spatial data into a geospatial application allowing users to view training ranges as well as the data associated with them. This system, which adheres to the Spatial Data Standards for Facilities, Infrastructure, and Environment standard, contains information for each of the training ranges in the Army's portfolio occupying over 15 million acres of land at 479 installations and training sites located in all U.S. states, Puerto Rico, America Samoa, Korea, Germany, Italy, and Belgium.

Ranges data files are updated on a cyclical basis every two to five years at a rate of approximately 100 sites per year through field team coordination with installations. The database updates are centrally managed and contractor supported.

For each installation, a series of files provides information pertaining to the installation, its ranges, demographics, GIS data, land use restrictions, access controls, ownership, points of contact, a map, and munitions being used.

### **6.4. Range Resources**

Resourcing for the SRP is carried out in accordance with the Army's Planning, Programming, Budgeting, and Execution System (PPBES). Core resourcing for SRP is contained in key training and installation management programs. HQDA is continually involved in financial planning and execution in the current fiscal year, budgeting for the next fiscal year, and programming for the five to six following years known as the Program Objective Memorandum (POM) years. Because this is a constant, rolling cycle, the POM "lock" associated with each fiscal year translates to the Budget Estimate Submission (BES). For requirements to receive funding, submittals must take place in accordance with the POM and management timelines.

### 6.4.1. Funding Drivers

Funding for SRP planning and programming is driven by the USD Memorandum for Secretaries of the Military Departments, Subject: Guidance for FY 2006-2011 Sustainable Range Programs, June 26, 2003 which and the Fiscal Year 2004 Defense Planning Guidance (DPG). Army SRP resourcing addresses OSD's seven-point guidance for SRP which includes:

- **Infrastructure:** Modernize range facilities to sustain range operations in accordance with Office of the Secretary of Defense (OSD) and Service training transformation strategies by resourcing advanced instrumentation and other infrastructure.
- **Operations:** Resource for standardized land management structure and operations that mitigate encroachment and provide for range sustainment.
- **Maintenance:** Maximize and sustain the availability of military range and land assets by resourcing for restoration and maintenance of range infrastructure and land assets.
- **Encroachment:** Maximize the accessibility of DoD ranges by minimizing restrictions brought about by encroachment factors.
- **Environmental Responsibilities:** Focus environmental management systems to fully support required access to ranges.
- **Outreach:** 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.
- **New Technology:** Pursue the development of new technologies and capabilities that support range Sustainment goals and objectives.

## 6.5. Overseas Ranges

### 6.5.1. Overseas Current Posture

#### 6.5.1.1. U.S. Army, Europe (USAREUR)

The USAREUR consists of an Army Major Command, an Army Service Component Command, a corps headquarters with corps base forces, two divisional headquarters with division troops, four heavy brigades, an airborne brigade with two assigned battalion-sized airborne combat teams that have a motorized capability, a theater support command, an Army Training Command, and area support groups and base support battalions for installation management. The USAREUR is also supported by forward-deployed communications and intelligence organizations. Training is conducted at two major training areas, Hohenfels Combat Maneuver Training Center (CMTC) and Grafenwoehr Training Area, and several local training areas (LTA).

The CMTC at Hohenfels is part of the Seventh Army Training Command. With 39,858 acres, it is the second largest training area available to U.S. forces in Europe. The mission of the Hohenfels CMTC is to facilitate realistic force on force maneuver training for all USAREUR Combat Battalions, and to support NATO training requirements. The CMTC is the capstone event of the USAREUR training strategy for maneuver battalions, field artillery battalions, brigades, brigade slices, and division cavalry squadrons.

The Grafenwoehr Training Area is part of the Seventh Army Training Command. Live-fire training exercises are conducted to train armored task forces and companies.

There are some 19 local training areas located though out Europe and Italy that are used by USAREUR for training. These training areas provide facilities for small arms training up to some battalion level training exercises. Many of the small arms training facilities must be shared with the local police and sport clubs who use them for training and recreation. Most areas have strict times when they may be used and require prior scheduling for use. Each training area has its own unique training facilities and restrictions on training and use.

Most of the local training areas are experiencing the same encroachment issues as the major training areas. Most of the land in the local training areas is part of the Natura 2000 Network and subject to European Union Directives that regulate training ranges and areas. (See Section 5.2.1.1 USAREUR and Natura 2000).

### *International Cooperation*

The USAREUR participates in NATO's Environmental Training Working Group (ETWG), which is a multinational group of Army training experts and environmental advisors that supports the NATO Training Group's Army Sub Group (ASG). Established in 1995, the ETWG provides a forum to discuss and develop co-operative training arrangements within the NTG that are of interest to the NATO land forces and Partnership for Peace countries.

The ETWG's primary mission involves identifying and recommending suitable environmental projects in order to consolidate training within NATO through bilateral or multilateral co-operative training arrangements. As part of its mission, the ETWG is responsible for ensuring an awareness of the environment by enhancing the effectiveness of military training; improving cooperation in environmental training in the context of rationalization and specialization through bilateral or multilateral training arrangements; and improving the quality of land management in training areas, by sharing the developments of new environmental training techniques, tools, and management procedures.

The USAREUR and ETWG collaborate to seek common solutions to training land problems. Topics that are currently being addressed by ETWG include minimum NATO environmental protection requirements for training, Natura 2000, and environmental management systems (EMS). Best management practices and lessons learned are shared among both large and small NATO members.

#### **6.5.1.2. Eighth U.S. Army, Korea**

The Eighth U.S. Army provides forces to the commander in chief of United Nations Command; United States Forces, Korea; and Republic of Korea/U.S. Combined Forces Command. It undertakes combat, combat support, and combat service support operations as directed, and also supports the Combined Forces Command and Ground Component Command on the Korean peninsula

The Korea Training Center is a rural area about 20 miles northeast of Camp Casey in the northern part of South Korea. Armored units use the range to meet yearly, live gunnery training requirements. The center is manned throughout the year and various armored units rotate through training scenarios at the center. The Eighth Army has an agreement with the Republic of Korea (ROK) Army for recurring use of ROK training areas. The Second Infantry Division pays the costs of Opportunistic Opposing Force (OPFOR), observer/controllers, and rotational unit costs from command funds.

### **6.5.1.3. Japan, Special Operations Forces (SOF)**

The First Battalion, First Special Forces Group, the only Army combat battalion in Japan, is located on Torii Station on the Island of Okinawa. The battalion uses a drop zone on nearby Ie Shima Island for training purposes. Units use the waters around Okinawa for swim training and scuba training. Part of this training involves high-altitude, low-opening parachuting from heights of 25,000 feet. The battalion trains in many countries throughout the Pacific Area Of Responsibility. Performing their doctrinal mission of foreign internal defense, 10-12 man Special Forces teams train host nation forces in small unit tactics, individual specialty skills, leadership, human rights, and infiltration techniques. First Battalion also teaches foreign militaries humanitarian de-mining, showing them how to render the areas safe for local civilians. Other subjects include counter-drug operations in coordination with the U.S. Drug Enforcement Agency and Joint Interagency Task Force-West, and humanitarian assistance including disaster relief.

### **6.5.1.4. Southwest Asia (SWA), Temporary Ranges in Kuwait and Iraq to Support War**

The Udairi Training Range, Kuwait, is referred to as the National Training Center of the Middle East. Udairi Training Range is about 30 miles south of Iraq and is about 20 kilometers by 27 kilometers in size. It has been in use since 1994.

Udairi Training Range is regularly used by Coalition forces for training exercises involving both live and inert ordnance, including Close Air Support Exercises (CASEX), which are held quarterly for the purpose of practicing air operations against hostile ground targets in close proximity to friendly forces. The exercises involve friendly ground and airborne forces directing friendly fighter aircraft on attacks on simulated enemy targets. The combined arms live fire exercise (CALFEX) integrated mechanized infantry, armor, artillery, engineers, other supportive units, and close air support brings a lot of firepower on the range during a training event. Rarely is a training area and the ammunition made available at the Task Force level for execution of a live fire exercise in the U.S. Scouts conduct reconnaissance of areas, the artillery forces fire and provide smoke screens, engineers breach obstacles, combat air support plummets bombs, and mechanized units seize and hold key terrain.

## **6.5.2. Encroachment**

### **6.5.2.1. USAREUR and Natura 2000**

The DoD consensus is that encroachment on DoD ranges and training areas in Europe is a serious and growing challenge to the readiness of U.S. Armed Forces. The concern is that European Union Legislation and German law may adversely impact military training, readiness, and mission accomplishment.

European Union (EU) Directive 92/43 maintains biodiversity by conserving natural habitats and wild flora and fauna in the European Territory of the member states; and EU Directive 79/409, bird protection, forms the Natura 2000 Network. The goal of this Europe-wide ecological network is to promote the maintenance of biodiversity, thus placing restrictions on the use of areas nominated for and placed in the Network. The German Federal Government has nominated areas to be included in the Network that are US-controlled military areas. The USAREUR objected to the nomination of US-controlled military areas because of potential conflicts with training mission requirements and necessary construction.

The European Commission accepted the military reservation, but interpretation of an EU Directive ultimately falls within the jurisdiction of the European Court of Justice. To date, the Commission has not received a complaint nor initiated an infringement procedure regarding the nominated military use sites.

German Federal and State Governments, as well as the European Union have assured the U.S. of present and future unhindered fulfillment of military mission requirements.

### **6.5.3. Uncertainty of the Future**

The Army is fighting a war and restructuring to the Future Force by divesting itself of Cold War structure and headquarters to enhance its global war on terrorism capabilities. The Army is creating a “brigade based,” modular Army that is capabilities based in order to meet the requirements of combatant commanders. Army transformation will create a degree of uncertainty for the future.

The Integrated Global Posture and Basing Strategy (IGPBS) has a majority of Army forces redeployed to CONUS. This strategy would move most of the training conducted at OCONUS training areas to CONUS training areas. The IGPBS will establish a small forward-deployed permanent presence at Joint Main Operating Bases (JMOB) in Europe and Korea, have selected units on rotation to austere Joint Forward Bases (JFOB), and have some level of training at Joint Forward Operating Locations (JFOL). The transformed Army will have Brigade Combat Team Units of Action (BCT/UA) rotating – entire brigades rotating, not individual soldiers – to Europe, Korea, Southwest Asia, or where ever they are needed in the world.

Moving most of the training to CONUS will require the acquisition of land for new ranges and training facilities in some areas, changing the current configuration and use of some existing ranges, construction of new ranges and training facilities, upgrading existing ranges and training facilities, and joint use of ranges and training facilities by other services.

Under transformation, USAREUR forces would be reduced with a smaller permanent force at a Joint Main Operating Base (JMOB) and Brigade Combat Team Units of Action (BCT-UA) located at Joint Forward Bases (JFOB) – “Divesting Cold War Headquarters and Structure”. A limited level of training will take place at some of the Joint Forward Operating Locations (JFOL). The majority of the brigade training will take place within CONUS.

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## 7. NAVY

This report is the Service contribution to the Office of the Secretary of Defense in compliance with Section 366 of the Defense Authorization Act of 2003. Section 366 requires each military department to submit a standalone report that (1) assesses its current and future training requirements, (2) reports on implementation of a range inventory system, (3) evaluates the adequacy of current resources to meet training requirements, and (4) describes its plans to address training constraints. The Navy welcomes this opportunity to describe several initiatives in progress to improve management of Navy range resources that will provide more detailed information for this report in future years and to highlight the current capabilities for and limitations on training Navy forces. Ongoing initiatives include the following:

- **Establishment of a headquarters-level single Navy Range Office** with cognizance over range policy, including range-sustainment policy, management oversight, and resources for all Navy ranges. This office replaced a previously dispersed approach to these responsibilities, particularly for training ranges.
- **Development of a Navy Training Range Strategy** to guide planning and investment for Navy training requirements on ranges. This strategy will be integrated with the existing Test Resource Strategic Plan.
- **Execution of a Comprehensive Range-Sustainment Strategy** The Tactical Training Theater Assessment and Planning program (TAP) supports investment planning while increasing by orders of magnitude our knowledge of environmental issues and constraints on Navy ranges. Key elements of TAP are discussed in the following paragraph and in further detail in Section 7.3 of this report.

The Navy began to formally execute the TAP program in FY 2004. The TAP consists of the following key elements:

- **Range Complex Management Plans (RCMPs)** The ultimate product of the program, each RCMP will detail current and future range requirements, environmental considerations, and investment plans to meet range requirements.
- **Environmental Documentation** Using the procedures outlined in the National Environmental Policy Act (NEPA), or Executive Order (EO) 12114 for overseas ranges, full documentation of the environmental status of each range complex will be developed.
- **Marine Mammal Density Surveys** By compiling existing data and conducting new surveys, Navy will develop a clear picture of marine mammal activity in our operating areas that will enable better exercise planning.
- **Range Sustainability Environmental Program Assessment (RSEPA)** will develop information on groundwater systems underlying each Navy range and provide for testing in areas identified as potentially at risk for off-range migration of munitions constituents.
- **Range Clearance** The TAP provides funding to further develop range clearance programs to support sustainment of range operations.

While we are proud of our accomplishments and our plans to improve the management of Navy range resources while achieving our environmental stewardship responsibilities, encroachment on our ranges and its impact on the quality of training provided to the men and women of our Armed Forces remains a fundamental concern of Navy leadership. As outlined above, the Navy is acting aggressively to plan for and mitigate encroachment *where possible*; however, the continuing

support of the OSD, the Administration, and the Congress will be essential to maintaining our responsibility to the men and women of our Armed Forces to provide them the highest quality training possible.

## **7.1. Future and Current Training Requirements**

### **7.1.1. Operational Training that Requires Ranges and Operating Areas**

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 a high quality of training. For safety purposes, they also may provide a training space with reduced or restricted civilian traffic.

While the Navy does have some limited range and OPAREA space available overseas, the Secretary of the Navy's "At-Sea Policy" allows established guidelines for training outside of designated 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.

### **7.1.2. Command Relationships for Ranges and Range Complexes (Concepts of Operations by Theater)**

For administrative purposes, Navy ranges are grouped in geographic complexes. While the specific ranges within those complexes may have different operational chains of command, they have common administrative requirements, such as environmental support, that are unique to each region.

Validation of requirements for all training ranges in the United States and its territories falls under the purview of Commander, Fleet Forces Command (CFFC). Various Fleet and Type Commanders control the ranges as 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 has several land, water, and air ranges managed by but not limited to the Naval Air Forces Pacific (CNAP), Naval Special Warfare Command (SPECWARCOM), and the San Diego Fleet Aviation Surveillance Control Facility (FASCFAC). While these multiple commands control the day-to-day operations on their ranges, they have environmental issues common to all of them, managed by the Regional Environmental Coordinator on the staff of Navy Region Southwest.

### **7.1.3. 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 complete all Fleet Readiness Training Plan (FRTTP) training before leaving their home bases for operations. To meet that requirement, 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 our men and women have faced in actual combat. Today's higher performance aircraft and ships employ weapons of greater capability and

complexity, and with unique delivery tactics. That combination translates into a corresponding requirement for a robust Training Range/OPAREA infrastructure.

The phases of the FRTP are the following:

**(1) Unit Level:** The Basic or Unit Level Phase focuses on completion of Type Commander (TYCOM) requirements; team training unit level exercises at sea; squadron training; and unit inspections, assessments, certifications, and qualifications. Basic training involves the performance of routine operational procedures in a relatively benign environment. The goal of the Basic Phase is to ensure the unit attains the proficiency needed for more complex or integrated training events.

**(2) Integrated:** The Integrated Phase provides initial multi-unit training, bringing together the elements learned in basic training and applying them in tactical employment against simulated threats. The goal of the underway training is carrier and air wing integration and initial integration of surface, submarine, and air units in a challenging operational environment. This is usually accomplished during the Composite Training Unit Exercise (COMPTUEX). The training in this phase is generally event-driven.

**(3) Sustainment:** The Sustainment Phase provides live tactical training in a high-stress, simulated high-threat, and realistic environment with many participants in coordinated operations. Although this phase may contain some individual training events, the majority of the training is “scenario-driven,” in which the training operations respond to an unfolding scenario, usually in a joint context. The at-sea training completes all underway-training requirements and culminates in an integrated Carrier Strike Group/Expeditionary Strike Group (CSG/ESG)/Marine Expeditionary Unit Joint Task Force Exercise (JTFEX). The Navy defines range capabilities 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 (C<sup>2</sup>W).** 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 C<sup>2</sup> capabilities while protecting friendly C<sup>2</sup> capabilities against such actions (Formerly **Electronic Warfare [ELW]** and subsequently **Space & Electronic Warfare [SEW]**).

**Logistics (LOG).** The re-supply of combatant consumables to combatant forces in the theater of operations.

**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 bases from which the enemy is capable of conducting air, surface, or subsurface operations against U.S. or allied forces.

#### **7.1.4. Projections Through 2024**

For the foreseeable future, Navy training ranges will play a critical role in supporting pre-deployment training for the operational forces. The requirement will continue to be the support of all phases of the FRTP. Changes to training operations and requirements in the complexes will be due to the development of new platforms and weapons, 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).

Strategic planning for Navy complexes will include support for these future training operations, as well as improvements to infrastructure to support the Joint National Training Capability. These issues will be addressed in the forthcoming Navy Fleet Training Range Strategy and individual Range Complex Management Plans (RCMPs) under development for each Navy range complex and are discussed in Section 7.3.1. The Navy will use these plans to implement the OSD's Sustainable Range Guidance, and evaluate new requirements throughout the Planning, Programming, Budgeting, and Execution (PPBE) process. The development of these products will be reflected in future years reports under Section 366.

## **7.2. Adequacy of Current and Future Service Range Resources in the United States, and its Territories**

### **7.2.1. Methodology**

The Navy is using the Center for Naval Analysis (CNA) to develop a methodology for quantifying training range support for readiness, and to identify the role that encroachment plays in degrading necessary training. This study is an extension of an effort CNA initially conducted for the Under Secretary of Defense for Personnel and Readiness (OSD[P&R]). To develop the methodology for OSD, and after coordination with the Chief of Naval Operation's Fleet Readiness Division (OPNAV N43), CNA studied a carrier air wing training event occurring on a portion of the Fallon Range Training Complex (FRTC). Navy actively supported the initial OSD

effort, and has subsequently employed CNA to more fully develop that approach and to provide an analytical tool for determining the adequacy of our ranges.

The CNA approach consists of a skills-based range resource assessment that focuses on the Navy Warfare Areas (*see* Section 7.1.3) and the resulting effects from encroachment. The assessment of each range complex will capture lost training due to insufficient resources in a tactically meaningful way. Training events will be examined to the detail necessary to observe impacts to the specific skills being trained, and identify the causes of the impacts. The resource assessment consists of four components:

- **Resource Requirements Data.** Identifying the detailed resource requirements for training each skill, for example, the required dimensions and use of air, sea, and land space, as well as frequency and instrumentation.
- **Resource Availability Data.** Identifying the specific operational resources available at each range and range complex, for example, the size of the lateral and vertical airspace and specifics on whether live ordnance and supersonic flight are permitted. The reasons for restrictions on training area use would also be identified.
- **Operating Area Adequacy Identification.** Identifying constrained OPAREAs (and the magnitude of inadequacy) from a comparison of required resources to available resources.
- **Training Significance Assessment.** Assessing the training impact of each constraint.

### 7.3. Comprehensive Plan to Address Training Constraints

#### 7.3.1. 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 that 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/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:

- Complete description of all training areas,
- Comprehensive baseline of current range operations,
- Strategic vision on 10-year planning horizon,
- Analysis of encroachment and sustainment challenges,
- Identification of existing environmental planning requirements,

- Community involvement blueprint,
- Range investment strategy.

The RCMPs were initiated for the Cherry Point and Southern California complexes in FY-2003. The RCMPs for all training range complexes will be initiated by FY-2005, and the plans for the fleet concentration areas are underway.

**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 have recently been completed for many east coast OPAREAs to support development and/or updates of comprehensive environmental planning documentation. The MRAs were completed during FY-2003 for the Key West, Virginia Capes, Cherry Point, and Jacksonville complexes.

**Range Clearance (ORC).** The ORC component establishes a plan for routine clearance and disposal of UXO/munitions 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.

**Environmental Planning (NEPA).** Implementing the RCMP may identify environmental planning requirements. 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 that 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 to ensure that all required supporting studies and analysis of training operations under NEPA and EO 12114 are current.

**Range Sustainability and Environmental Program Assessments (RSEPA).** 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, (2) comply with applicable laws and regulations, and (3) actively engage regulators and build public confidence. The Navy developed protocols and policies for implementing the RSEPA program, and has begun Range Condition Assessments at all high-use ranges.

### **7.3.1.1. Analyze Shortfalls**

As the range analysis tool under development by CNA (discussed in Section 7.2.1) is put into use on all the complexes, the Navy will identify ranges' shortfalls with regard to providing training, now and in the future. The RCMPs will include investment strategies for each range to prioritize their resources to meet the shortfalls encountered. A Range Capabilities Document was written during the early stage of the initial RCMP development, and this new document delineates by Primary Mission Area (discussed in Section 7.2.1) what size of area and type of equipment is required to support training to the three levels of the FRTP. These two tools will provide ranges and Navy leadership the ability to identify and address training shortfalls. The first assessment using the CNA model is nearly completed but was not finished in time for inclusion in this year's 366 report.

### **7.3.2. Goals and Milestones for Planned Actions and Progress Metrics**

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. The Navy has funded the completion of several Marine Resource Assessments; funded initial efforts to develop a Navy-wide Range Management System; initiated the RSEPA process and almost completed the first assessments; and nearly completed the first two RCMPs with approximately half of the complex's plan initiated. The Navy program is well underway.

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. The Navy Fleet commands have funded the completion of several Marine Resource Assessments (MRAs), have funded initial efforts to develop a Navy-wide Range Management System, have initiated field-testing of the RSEPA process and begun executing the program, and have nearly completed the first two prototype RCMPs and will have begun them on all training complexes by FY06. The Navy program is well underway.

### **7.3.3. Current and Future Service Investment Strategies**

The Navy's training range investment strategy will be continually updated, as the Range Requirements Documents generated under the RCMP portion of TAP are prepared. 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 FRTP, and thus allow ranges to create prioritized resource allocation structures for the following:

- Land, Air, and Water
- Facilities
- Operations and Maintenance
- Environmental
- Outreach
- Instrumentation

## 7.4. Navy Range Complex Inventory

### 7.4.1. Individual Ranges Not in a Complex

Most Navy ranges are grouped into geographical complexes. Those ranges not in a complex are the Brownwood Military Operating Areas (MOAs) in Central Texas and the Major Range and Test Facility Base (MRTFB) ranges.

#### 7.4.1.1. Navy MRTFB Ranges

The Navy MRTFB consists of T&E facilities, including ranges. The MRTFB ranges supplement Navy training needs in multiple areas in concert with their primary mission of acquisition support. The MRTFB Ranges serve a primary mission of acquisition support. They supplement Navy training needs in multiple areas.

##### NAVAIR Atlantic Test Range

The Naval Air Systems Command (NAVAIR) Naval Air Warfare Center Aircraft Division Atlantic Test Range consists of the Naval Air Station (NAS) Patuxent River, RDT&E range airspaces and instrumentation, and flight and ground test facilities. The ranges consist of land, seospace, and airspace along the Chesapeake Bay and in the offshore areas extending into the Atlantic Ocean.

##### NAVAIR Point Mugu Sea Range

The NAVAIR Point Mugu Sea Range provides highly instrumented air and sea space. Once focused on air weapons testing and evaluation, Point Mugu also provides critical support for FRTP, Joint Service activities, multinational training, and experimentation exercises. As an MRTFB, Point Mugu has extensive range infrastructure and a large, highly qualified technical workforce. Investments made in interconnectivity, in addition to proximity to naval forces and other ranges, are vital to Point Mugu, which often networks with other ranges during live and virtual exercises.

##### NAVAIR China Lake Ranges

Fully instrumented and providing a wide range of targets and supersonic flight corridors, the China Lake Ranges support T&E for both air and ground testing of conventional weapons and aircraft systems. The ranges are located in R-2508 and include numerous land ranges, Military Operating Areas (MOAs), and Special Use Airspace (SUA).

##### Atlantic Undersea Test and Evaluation Center

The Atlantic Undersea Test and Evaluation Center (AUTEK) is a comprehensive shallow and deep-water weapons testing and research complex located in the Bahamas. The AUTEK facilities provide training, antisubmarine warfare assessment, and operational readiness testing for U.S. and Allied Naval forces. Access to the AUTEK range is geographically restricted by its remote nature. Its restricted access provides sanctuary from most commercial and private encroachment, providing unmatched operational security.

##### Keyport (Northwest) Ranges



Nanoose and Dabob Bay underwater instrumented ranges perform extensive test and evaluation (T&E) of Navy acquisition programs, most notably heavyweight (MK-48, ADCAP, CBASS) and lightweight (MK-54) torpedoes. Keyport ranges will enter MRTFB in October 2005.

## **7.4.2. Training Range Complexes**

### Hawaiian Islands

The Hawaiian Islands complex consists of six land and water ranges, six SUAs, five air and surface OPAREAs, and three range-related facilities, encompassing 220,051 sq nm; supports all three FRTP phases and eight Navy warfare areas; and is significant especially due to its proximity to western Pacific deployment areas. In Fiscal Year (FY) 2000, 1,048 operations were conducted using 69,577 rounds of ordnance. Hawaiian Islands supports the Third Fleet, Rim of the Pacific Exercise, Surface Group Middle Pacific and Destroyer Squadron 31, Patrol and Reconnaissance Force Pacific, Submarine Squadrons 1, 3, and 7, and foreign and non-Navy users.

### Whidbey Island

NAS Whidbey Island manages nine offshore and inland areas and ranges encompassing 136,260 sq nm. In FY-2000, the Pacific Fleet conducted 360 operations in the complex. Naval Weapons Systems Training Facility Boardman located here is a multi-target range. The Boardman MOA is currently used for refueling activities and for simulating weapons delivery tactics, as munitions delivery has not been authorized since 1996. Whidbey Island supports training for two phases of the FRTP and four Navy Warfare Areas. The complex supports the Electronic Attack Wing Pacific, Patrol and Reconnaissance Wing Ten, and two non-Navy users.

### San Francisco

This increasingly used complex consists of four SUAs and one OPAREA, encompassing 15,902 sq nm of airspace controlled by the FACSFAC NAS San Diego. A continuing challenge is coexistence with the growing civil air traffic near San Francisco. Naval SUAs here support the full spectrum of Navy training. San Francisco supports all FRTP phases, five Navy Warfare Areas, Strike Fighter Wing Pacific, and non-Navy users.

### Fallon

The Fallon Range Training Complex (FRTC) is the home of the Naval Strike and Air Warfare Center, the Navy's premier aviation training center, and has SUA enclosed within an MOA that overlays 6.5 million acres. FRTC consists of nine ranges and seventeen airspaces and OPAREAs, encompassing 12,390 sq nm. Essential to Navy readiness, FRTC is the focal point for all Navy, and some Marine Corps, graduate-level aviation strike warfare training. The complex offers a unique configuration of land, airspace, targets, and instrumentation that allows for levels of combat training not available elsewhere. In FY-2000, 67,709 operations were conducted using an average of 591,732 rounds of ordnance per year. Operations include conventional air-to-ground operations, strikes against integrated air defenses, supersonic and AAW air operations, Combat Search and Rescue (CSAR), and special operations advanced land warfare missions. Fallon supports training in all phases of FRTP and four Navy Warfare Areas. The complex supports eleven carrier strike groups, nine carrier air wings, Naval Special Warfare Groups One and Two, and non-Navy users.

### Southern California (SOCAL)

The SOCAL complex consists of seven land and water ranges, fifteen SUAs and OPAREAs, and three range-related facilities, encompassing 119,590 sq nm. The SOCAL complex supports one of the largest concentrations of naval forces in the world. With some of the Navy's most heavily used air and sea OPAREAs, SOCAL is comprised of three major components: the San Clemente Island Range Complex (SCIRC), Naval Amphibious Base (NAB) Coronado training areas, and offshore OPAREAs and airspace. The SCIRC is the cornerstone of the tactical training ranges supporting SOCAL. The SCIRC provides land, air, and sea ranges for readiness training and T&E activities. The SCIRC's distance from the mainland, varied topography, shallow water, expansive ranges, and complete Navy ownership make it ideal for military operations training and weapons T&E. The NAB Coronado is the single site, worldwide, for several Special Warfare training areas. The NAB Coronado has been the home to Navy Underwater Demolition Teams and SEAL teams since their inception in World War II. For decades, amphibious landings have been conducted off the Coronado Silver Strand Beach. In FY-2001, 3,747 operations were conducted at SOCAL using 643,929 rounds of ordnance. The complex supports all Navy Warfare Areas, FRTP phases, and levels of naval special warfare training. San Diego area-based personnel conduct most of their basic training at SOCAL. SOCAL supports the Third Fleet, including five aircraft-carrier strike groups, three surface-ship groups, three air groups, three amphibious warfare groups, three submarine groups, Naval Special Warfare Group One, and two non-Navy users.

### El Centro

The El Centro complex has one land range and one SUA, including three areas, an inland MOA, an Air Traffic Control Assigned Airspace (ATCAA), and parachute drop zones, encompassing 1,230 sq nm. Considered part of the SOCAL complex, the Naval Air Facility El Centro provides realistic training to aviation units in air combat training, carrier flight operations, and weapons delivery. The NAF El Centro is not limited by factors of variable climatic conditions and surrounding population as other facilities with similar missions are. Flight operations exceeded 167,000 in 1999, and 1,600 personnel, including special operations forces and foreign units, train here monthly. The El Centro's four targets were used in FY-2000 in 11,660 operations with 163,798 total rounds of ordnance expended. El Centro supports two Navy Warfare Areas, five aircraft-carrier strike groups, six aviation wings and squadrons, and non-Navy users.

### Boston Area

Boston has five non-instrumented warning areas and OPAREAs, encompassing 14,090 sq nm. The Boston OPAREA is used for surface-to-air gunnery, Anti-Submarine Warfare (ASW) tactics, and surface/subsurface operations. The Small Point Mining Range supports aircraft-mine-laying exercises using inert ordnance. Boston can support aircraft mine exercises (MINEX); and air-to-air, surface-to-surface, and surface-to-air gun exercises (GUNEX). Boston supports training in the Basic Phase of FRTP and five Navy Warfare Areas. Boston supports the Second Fleet, Patrol and Reconnaissance Wing 11, Submarine Group Two with two submarine squadrons, Submarine Development Squadron 12, and foreign users.

### Virginia Capes (VACAPES)

A designated air-traffic control facility, the VACAPES complex consists of ten targets and instrumented areas, six SUAs and surface OPAREAs, and four range-related facilities, encompassing 107 sq nm of land, 30,563 sq nm of airspace, and 28,923 sq nm of OPAREAs. The

VACAPES is one of the foremost complexes in which Atlantic Fleet battle groups train as part of the FRTP. In FY-2001, 10,040 Navy operations were conducted at VACAPES using 80,612 rounds of ordnance. Units based at Norfolk and Oceana conduct the majority of their Basic phase training of the FRTP at VACAPES. Used in every phase of the FRTP, the complex also supports all Navy Warfare Areas. The VACAPES supports the Second Fleet, five aircraft-carrier strike groups, five surface groups, three amphibious warfare groups, eight aviation wings, two submarine squadrons, and non-Navy users.

### Atlantic City

Atlantic City is composed of one non-instrumented warning area and one OPAREA, encompassing 5,800 sq nm. Major training operations conducted here are surface and surface-to-air exercises, including gun exercises and missile exercises (MISSILEX). The complex supports Basic and Sustainment training phases of the FRTP and two Navy Warfare Areas. No Navy forces are supported on a regular basis, but the complex does support non-Navy users.

### Narragansett

Narragansett is composed of two non-instrumented warning areas and one OPAREA, encompassing 27,330 sq nm. Major training operations conducted here can include: surface-to-air GUNEX, ASW exercises, air intercepts, and flight testing. The complex supports Basic and Integrated training phases of the FRTP and two Navy Warfare Areas. Narragansett Bay supports Patrol and Reconnaissance Wing 11 and four submarine squadrons.

### Cherry Point

The Navy's portion of the contribution to the Cherry Point range complex is the Cherry Point Operating Area (CPOA) and the W-122, encompassing 18,390 sq nm. The CPOA and W-122, under the control of FASCFAC VACAPES, provide seaspace and airspace for Navy, Marine Corps, other Service, and Allied surface, submarine, and air forces. The CPOA/W-122 supports all phases of the FRTP, but the majority of activity is Integrated and Sustainment training for carrier and expeditionary strike groups and Marine Expeditionary Units. The CPOA/W-122 support four Atlantic Fleet (LANTFLT) carrier air wings, four AIRLANT aircraft type-wings, Naval Special Warfare (NSW) Development Group, NSW Group Two, Amphibious Group Two, four amphibious squadrons, Naval Beach Group Two, five destroyer squadrons, and non-Navy users.

### Jacksonville

The Jacksonville Complex encompasses 58,940 sq nm of sea space, 42,970 sq nm of airspace, and 20 sq nm of land area. Training areas on the complex consist of land and water ranges and SUA, including six instrumented ranges and 15 warning areas, a MOA, and two OPAREAs supporting surface and subsurface exercises. The Townsend Range near Savannah, Georgia, and three overland ranges located near Jacksonville are also managed in this complex. These ranges offer excellent training, although long-term restrictions and the rapid growth of commercial air traffic adjacent to and over the ranges' associated SUA limit their utility. Airspace control centers and civil users in the area have cooperated to open inactive SUA to civil training operators with success. Following closure of NAS Cecil Field, and given the difficulty in hosting fighter/attack deployments at NAS Jacksonville, much of the ranges' use has come from carrier-launched strikes. In FY 2001, 6,636 operations were conducted on five Jacksonville ranges, using 3,277 rounds of ordnance. Used for training in all FRTP phases and seven Navy Warfare Areas, the

Jacksonville Complex supports an aircraft-carrier strike group, three cruiser-destroyer groups, five aviation wings, transiting units of both surface and aviation communities, SURFLANT and AIRLANT, and non-Navy users.

#### Key West

The NAS Key West continues to provide the East Coast's finest air-to-air training venue. It consists of one OPAREA, one range, and four well-instrumented airspaces encompassing 25,190 sq nm. Extensive warning areas extend north, south, and west of the installation, operating with some constraints due to the proximity of the Dry Tortugas/Fort Jefferson National Monument. The airspace is available and usable. In FY-2001 Key West TACTS' usage included 7,075 operations. The complex is used for various surface and subsurface operations and air-to-surface bombing exercises (BOMBEX), air-to-air GUNEX, and instrument training. Used in all FRTP phases, Key West supports three Navy Warfare Areas, a fighter wing, a strike fighter wing, and non-Navy users.

#### Gulf of Mexico (GOMEX)

The GOMEX complex includes one target/instrumented area and five non-instrumented warning areas and OPAREAs, encompassing 19,640 sq nm. The complex is used primarily for student pilot and navigator training as well as Mine Warfare training. The training operations conducted in GOMEX include airborne BOMBEX; surface-to-surface, surface-to-air, air-to-air, and air-to-surface GUNEX; ASW exercises; and MINEX. The complex supports all FRTP phases, four Navy Warfare Areas, three Mine Warfare Command units, the Naval Air Training Command, and non-Navy users. The GOMEX began supporting Carrier Strike Group and Expeditionary Strike Groups in FY 2004.

#### Meridian

The Meridian Complex airspace consists of a land range (target area) and an MOA, encompassing 4,650 sq nm, primarily used for student naval pilot training and bomb/straft ordnance deliveries. Meridian's responsibilities and pace of operations increased with the 1993 closure of NAS Chase Field. The Navy and FAA jointly manage the airspace. In FY-2001, Meridian hosted 11,660 operations that used 163,798 rounds of ordnance. The complex supports Basic phase training of the FRTP and two Navy Warfare Areas. Operations conducted include AAW, aerobatics, and air-to-ground BOMBEX. Forces supported include the Naval Air Training Command.

#### Okinawa

The Okinawa Area consists of a land range, SUA, and a range-related facility. The complex includes three target/instrumented areas, and 11 range areas, MOA, ATCAA, and parachute drop zones encompassing 19,580 sq nm. The training operations conducted in the Okinawa Area complex include: surface-to-surface, surface-to-air, air-to-surface, and air-to-air; embarkation training; amphibious training; demolition training; artillery and small arms training; infantry maneuvers; counter-guerrilla training; and airborne training. The complex supports all three training phases of the FRTP and five Navy Warfare Areas. Okinawa supports the Seventh Fleet, one amphibious warfare group, Naval Special Warfare, EOD Mobile Unit 5, and non-Navy users.

### Japan

The Japan complex consists of three target areas, nine non-instrumented areas, and one range-related facility, encompassing 12,300 sq nm. It supports training of ships and aircrews of the forward deployed Naval forces (FDNF) based in Japan. Exercises conducted include inert conventional air-to-ground, surface-to-surface, surface-to-air, and air-to-air GUNEX and AAW, submarine, and ASW exercises. The complex supports Basic, Integrated, and Sustainment training for six Navy Warfare Areas. Forces supported include the Seventh Fleet, three aviation wings, one aircraft-carrier strike group, one destroyer squadron, two amphibious warfare groups/squadrons, one submarine squadron, and non-Navy users.

### Marianas

The Marianas complex consists of one range and one warning area encompassing 8,730 sq nm. Targets include multiple ground targets on Farallon de Medinilla (FDM). Guam is home to numerous U.S. Navy commands supporting the FDNF of the Pacific Fleet. In FY-2000, Marianas' usage included 552 operations conducted by the Pacific Fleet (on FDM), and 17,603 rounds of ordnance. The training operations conducted in the Marianas complex include Naval Gunfire Support and air-to-ground exercises using conventional ordnance. The complex supports all three phases of FRTP and five Navy Warfare Areas. Marianas supports the Seventh Fleet, one aircraft-carrier strike group, one aviation wing, DESRON 15, one amphibious warfare group, one submarine squadron, and non-Navy users.

### Diego Garcia

Used by the Navy and Air Force jointly, the Diego Garcia complex consists of one land range and six warning areas encompassing 28,530 sq nm, primarily designated for use during carrier battle group exercises. It provides Basic and Integrated training for the FRTP and supports two Navy Warfare Areas, offering training operations in surface-to-surface, surface-to-air, and air-to-surface GUNEX; surface-to-surface and air-to-surface MISSILEX; Search and Rescue exercises; and aerial MINEX. The complex supports Patrol and Reconnaissance Force (deployment site) and transiting aircraft-carrier strike groups.

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## 8. MARINE CORPS

### 8.1. Introduction

The Marine Corps continues to be fully committed to transforming its installations and ranges to support the needs of Marine Corps forces, weapon systems, doctrine, and tactics both now and in the future. The Executive Agent for range and training area management, the Range and Training Area Management Division (RTAM), and the Deputy Commandant for Installations and Logistics (DC I&L), which oversees Marine Corps bases, stations, and range facilities, work in close coordination to identify available training resources, improve range capabilities, and address encroachment constraints in order to further enhance the relationship between its ranges and readiness.

The development of a Marine Corps-wide range management system that includes a complete integrated range inventory, a web-based range scheduling and management system, range safety references and tools, and access to investment and funding sources increases the ability of the Marine Corps and its range managers to support on-going and future training requirements. Additional initiatives being implemented to support range and sustainability planning include defining and assessing required range capabilities, establishing a service wide vision for training ranges, and characterizing specific encroachments to training ranges and their impacts on training and readiness.

The Marine Corps is also working jointly with the Army in developing several actively employed initiatives and programs that allow for seamless cross-service utilization of both Marine Corps and Army ranges and training areas. A co-authored range safety order, a jointly developed range management scheduling system, and a co-developed surface danger zone tool allow for both Marine Corps and Army commanders to identify, schedule, and utilize available cross-service training resources.

This Report responds to the Congressional request for information contained in Section 366 of the 2003 National Defense Authorization Act. This Report also responds to the results of the U.S. Government Accountability Office (GAO) Report of 19 April 2004. The Report contains the following information and analysis:

**Part 1.** A report on the Marine Corps' Inventory Integration and Availability to potential Marine Corps and cross-service users

**Part 2.** An assessment of current and future training range requirements utilizing:

- The Marine Corps Range Required Capabilities Document
- A Marine Corps Training Range Vision

**Part 3.** An update on the Marine Corps' Sustainability Planning

This Report provides updated information on the ongoing transformation programs, processes, and initiatives designed to preserve and enhance the training of Marines to meet the diverse challenges of combat, both now and in the future.

## **8.2. Inventory Integration and Availability**

Marine Corps bases, stations, ranges, and training areas are the “fifth element” of the Marine Air Ground Task Force (MAGTF) because of their close link to the ground, air, combat service support, and command elements of the Marine Corps operating forces. The Training and Education Command (TECOM)/RTAM’s focus is to ensure that the installations, including range and training area capabilities, are continuously available to support operations and training. Availability of range capabilities becomes critical as the Marine Corps implements significant transitions in platforms, weapons, technology, and doctrine. To do so, the Marine Corps is maintaining a comprehensive inventory of its ranges and portfolio of training resources. This inventory includes all available ranges, training areas, and portfolio resources, to include specific training range capacities, training range capabilities, and specific training constraints and impacts. As a significant component of the Marine Corps’ Range Management System, the inventory is integrated and available to all commanders and potential users.

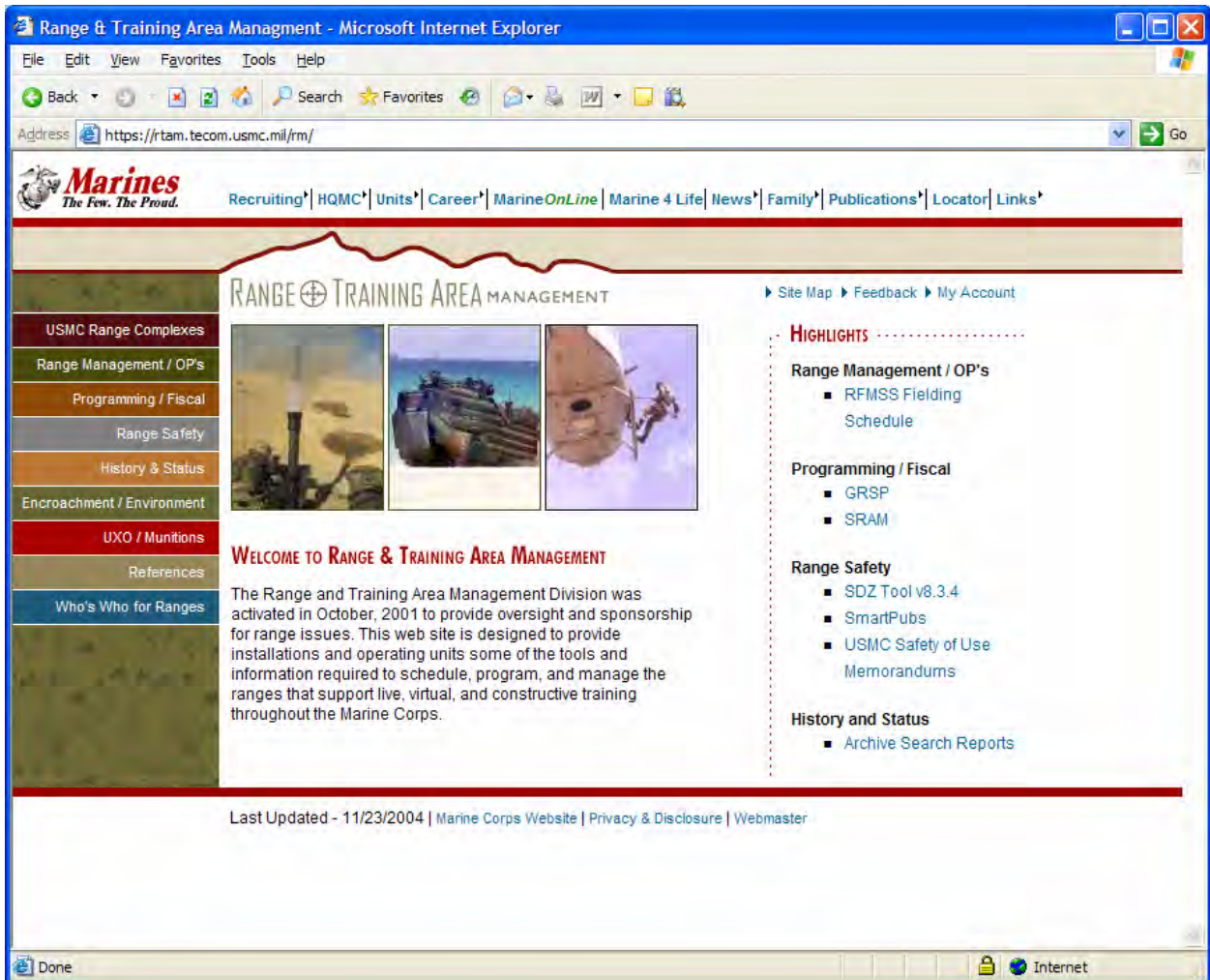
### **8.2.1. Range Management System (RMS)**

The TECOM (RTAM) is continuing to develop and field its web-enabled institutional-level centrally managed Range Management System (RMS). The RMS provides commanders, operating units, range managers, and all cross-service users with the metrics to relate range capabilities to specific training requirements utilizing both established and developing software tools and data metrics. Specifically, RMS provides its users with the resources to:

- Schedule, report, plan, and manage training on Marine Corps ranges and training areas
- Schedule, report, plan, and manage Special Use Airspace
- Access and schedule Marine Corps and Army ranges and training areas
- Define Marine Corps range inventory and training assets
- Reference institutional guidance on range operations
- Relate range and training area capabilities and limitations to standardized training and readiness requirements and defined tasks
- Assess and manage range encroachment
- Identify encroachment impacts on training and readiness
- Assess, define, and identify required range capabilities
- Identify required range capability shortfalls and identify investment priorities
- Reference institutional guidance to ensure ground and aviation SAFE-RANGE operations
- Produce range and weapon system safety danger zones (SDZ), custom range maps, natural and cultural resource locations, and range complex training restrictions
- Access references to Marine Corps (USMC) Investment Strategy, funding sources, and investment prioritization



Figure 8-1. Range Management System Webpage



The RMS will also serve as the Marine Corps integrated and readily available range inventory, or training range database. This inventory will be continuously updated and shared among range users, managers, and planners at all levels of command. The RMS will identify all available training resources, specific training capacities and capabilities, and those specific training constraints initiated by encroachment. The RMS will, for the first time, begin to marry Marine Corps Training and Readiness (T&R) requirements with specific ranges and Marine Corps and DoD facility category codes. The RMS, utilized at its full capability, provides Marine Corps managers and planners at all levels of command with the essential information to develop a comprehensive training range sustainment plan to sustain, upgrade, and modernize our ranges.

### 8.2.2. Range Facility Management Support System 2002 (RFMSS 2002)

The key element to the RMS is the introduction of the joint Marine Corps and Army developed enhanced range scheduling and management tool, RFMSS 2002. The RFMSS 2002 is a web-based system that provides installations with a complete range management tool to schedule ranges, perform range management functions, and collect necessary range data. The RFMSS 2002 is a cooperative Army and Marine Corps built, funded, tested, implemented, and utilized

range management system that is being fielded at all Marine Corps and Army installations that have ranges or training areas. Currently, nine Marine Corps installations have fielded and are utilizing RFMSS 2002. The remaining installation, Marine Corps Air Station (MCAS) Yuma, will field RFMSS 2002 in early FY 2005.

**Figure 8-2. Range Facility Management Support System Schedule**

RFMSS 2002 Fielding Plan		
FY 2003 (Completed)	FY 2004 (Completed)	FY 2005
MCB Quantico	MCB Hawaii	MCAS Miramar (Completed)
	MCRD Parris Island	MCAS Cherry Point (Completed)
	MCB Camp Butler	MCAS Yuma
	MCB Camp Lejeune	
	MCAGCC 29 Palms	
	MCB Camp Pendleton	

Unlike its predecessor, RFMSS 2002 is built around an Oracle database that includes improved reporting and range management modules, an integrated Geographic Information System (GIS) module, and a real-time airspace management module. The RFMSS 2002 also allows both Marine Corps and Army units to schedule and utilize both services' ranges and training areas. As the core element of the Marine Corps RMS, RFMSS 2002 provides trainers, installation and range managers, and Headquarter planners with a powerful tool to schedule and track training, evaluate and document training resources, and plan improvement and capital investment programs for individual ranges.

### 8.3. Current and Future Training Range Requirements

Marine Corps range planning processes are focused on transforming our training infrastructure to support forces, weapons systems, doctrine, and tactics based upon current and future training readiness and training range requirements. With the backdrop of Operation Iraqi Freedom (OIF), current focus has been on reacting to new and fluid training requirements identified by Marine forces on the ground; currently being addressed at Marine Corps Air Ground Combat Center (MCAGCC), 29 Palms. Because of the fluidity of these requirements, the fundamental issue is in identifying a baseline and future training range requirements, capabilities, and capacities that support the operational forces and an established vision for Marine Corps ranges. Two initiatives have helped in defining this issue: the Marine Corps Training Range Required Capabilities Document (RCD) and the Marine Corps' Vision for Mission Capable Ranges. The overall objective is to invest in our installations and ranges so that infrastructure keeps pace with operating force mission requirements and force modernization.

Figure 8-3. Range Facility Management Support System Access Page



### 8.3.1. RCD

The Marine Corps has recognized that training range infrastructure must support a broad range of operational requirements. Operational requirements must be supported by diverse range infrastructures with the capabilities to support a myriad of range users and operations. Early in the development process, TECOM (RTAM) recognized that there was no Operational Requirements Document (ORD) to identify and specify range capabilities to support Marine Corps training activities. Successful Program Objective Memorandum (POM) submittals are based on established program elements defined by validated ORDs. The Marine Corps needs range investments to sustain, upgrade, modernize, and transform range infrastructures. Without validated range requirements, the Marine Corps found themselves unable to defend a comprehensive range investment strategy within the POM process. To address the ORD problem, TECOM (RTAM) initiated an assessment of Marine Corps-wide range requirements through the development of the Marine Corps Training Range RCD.

The purpose of the RCD is to define the required capabilities that will allow Marine Corps training ranges to support mission essential tasking in an unconstrained environment over a 10-

year planning horizon. Additionally, the RCD describes those unconstrained required capabilities against which the Marine Corps can develop investment strategies over the same 10-year planning horizon. Headquarters Marine Corps (HQMC), TECOM, Marine Corps Combat Development Command (MCCDC), and each individual training range will then assess the capabilities of component elements of each training range complex against the required capabilities for the applicable range classes described in the RCD. Shortfalls between existing and required capabilities will form the basis for current and future range investment strategies.

The Marine Corps RCD responds to TECOM direction by capturing, for the first time within a single document, a description of the required capabilities for the entire Marine Corps infrastructure. The required capabilities within the RCD were developed as a result of extensive research utilizing platform- and warfare-peculiar Training and Readiness matrices, draft and final Operational Requirements Documents (ORD), and interviews with warfighters. These interviews focused on deployment and combat experience to help create a training range environment of the highest level of training fidelity. The RCD reflects a combination of documented previous attempts and forward vision of the required capabilities of ranges.

The RCD development mandated a methodology for classifying training ranges. The purpose of developing “classes” of ranges was to allow the development of sets of range operational elements and attributes that were universally applicable to all training ranges. The selected RCD range classes parallel (and are named the same as) the size of Marine Corps units conducting the training. The Marine Corps chose unit size nomenclature because unit size can be cross-referenced to the Marine Corps Task List (MCTL). Mission tasks require diverse range geography and capacity to support a myriad of range users and range operations. To adequately measure the capacity against the requirement, the required capabilities for Marine Corps training ranges are divided into four separate range classes:

- Entry (Qualification) Level Training Range
- Unit Level Training Range
- Marine Air Ground Task Force (MAGTF; Battalion/Marine Expeditionary Unit (MEU)) Level Training Range
- MAGTF (Regiment/Marine Expeditionary Brigade (MEB)) Level Training Range

These range classes are aligned with types of training conducted and the size of the units conducting the training.

The RCD describes, for each range class, the operational concept and suitability, existing shortcomings, and the required critical capabilities. The required critical capabilities for each range class are described in terms of thresholds, goals, and Key Performance Parameters in two major areas; specifically, attributes (operational elements, System of System [SOSs] characteristics, Information Exchange Requirements [IERS], and required interoperability), and unit size (Entry-Level, Unit Level, MAGTF [MEU], and MAGTF [MEB]).

The RCD also discusses the requirements associated with Joint training. The 2002 Training Transformation (T2) plan mandates at least 25 percent of all DoD training should be conducted in a Joint environment. The T2 mandate will require the Marine Corps to identify certain ranges for certification to host Joint training exercises. The Joint National Training Capability (JNTC) program has been tasked with providing the specific requirements associated with range certification for Joint training. As of October 2004, the specific required capabilities, interfaces, and protocols for the JNTC enterprise certification had yet to be defined. Absent these specific

definitions, the RCD identifies some general required capabilities that are inferred from the overarching T2 and JNTC directives.

**Figure 8-4. MCB Camp Lejeune: Summary of MAGTF (MEU/Bn) Required Range Capabilities**

MAGTF (Bn/MEU) Level Training Range - Camp Lejeune					
Cherry Point/Camp Lejeune RCMP					
Priority 1	Threshold/Objective Assessment	Shortfall Impact	Investment Plan	Investment Plan Threshold/Objective Assessment	Outstanding Shortfall Impacts
Range Attributes					
Operational Elements					
Airspace	Minimal Capability - Airspace only extends from surface to 17,999 feet AGL, does not allow for supersonic operations, and land area does not have significant topography Full Capability - all remaining defined capabilities	Significant	None Planned at MAGTF Level- Operations are still conducted, however limiting training realism and training standards	Same	Significant
Sea Space	Full Capability - Includes Access to CPDA	NONE	N/A	No Change Required	N/A
Land Area	Full - Supports maneuvers, fire-and-maneuver, and MOUT, available 24 hrs a day Partial - 96,000 Acre Maneuver Area (100,000 dual use training area) Minimal - MOUT Facility Minimal - Urban Live-Fire Training Area	Significant	MFL/ MCB CL MILCON P-1063 - MOUT enhancements with two additional MAC Ranges MCB CL MILCON P-1094 - Urban Training Facility MCB CL MILCON P-1099 - Indoor MOUT Shoothouse	Partial - 96,000 Acre Maneuver Area (100,000 dual use training area) Minimal - MOUT Facility Partial - Urban Live-Fire Training Area (No A-G Live-fire and limited Ground fire-and-maneuver)	Significant
System of Systems					
Scheduling	Minimal Capability - (RFMSS 2002) No USMC Range Infrastructure Description, Limited Remote Use/Access, Non-interactive with Operational Forces	Moderate	TECOM/RTAM Range Master Plan and Range Management System MCB CL SMART Range Portal Proposal for Upgrading RFMSS 2002	Full Capability with Upgrades	NONE
Communications	Partial Capability - Three RC Circuits and two ECAC Circuits. No secure communications capability	Moderate	None Planned at MAGTF Level	Same	Moderate
Weather Observing/Reporting	Full Capability - Automated Heat Index and Real-Time Inputs from MCAS New River	NONE	N/A	No Change Required	N/A
Targets	Beach - Partial; Only beach on East Coast, however no exposed obstacles or fortified defenses Ground Targets - Partial; Number and type do not satisfy ITS requirements A-G targets - Partial; Only hulks and limitations on ordnance and FW Ops Structural/Urban Targets - Minimal; No capability	Moderate	None Planned at MAGTF Level	Same	Moderate
Instrumentation	Tracking - Minimal - Radar Only inputs RC - Minimal - 2-D capability Only EC&C - Minimal - Operational Unit Owned and Operated MCS - Minimal - Only Supports S-S Scenarios Scoring - Partial - At least one range to Training Standard ObstandAR - Minimal - Priority Observers/Re-armed targets	Moderate	None Planned at MAGTF Level	Same	Moderate
OPFOR	Partial Capability - Limited OPFOR that is directly controlled by Exercise Controllers	Moderate	None Planned at MAGTF Level	Same	Moderate

### 8.3.2. Training Range Vision

The Marine Corps is acknowledged as the world's premier fighting force, the finely honed tip of the spear for rapid reaction to external threats against America's interests. The correlation between realistic training and combat readiness is absolute, yet our capability to "train as we fight" is constantly challenged by external encroachment and internal resource limitations. Increasing urbanization, environmental restrictions, and aging infrastructure limit our use of training lands. New weapons systems and combat techniques require greater resource allocation on ranges and training areas. The TECOM (RTAM)'s answer to this challenge is the Vision for Mission Capable Ranges. This vision establishes a course of action towards the achievement of a robust and sustainable training capability and infrastructure that meets all defined training requirements. The vision embraces ranges, airspace, and training areas that incorporate improved instrumentation, enhanced feedback, and target systems that support the individual Marine and the most capable MEB-Level MAGTF. It necessitates the appropriate balance between realistic, effective training and environmental stewardship. Guiding the achievement of the vision will be a Range Master Plan for the Marine Corps, grounded on the six cornerstone objectives that will fully support the modernization of ranges, airspace and training areas:

- Preserve and Enhance Live-Fire Combined Arms Training
- Recapture Littoral Training Capabilities
- Leverage Technology to support all levels of training in order to provide feedback for better training
- Mitigate Encroachment
- Facilitate Cross-Service Utilization
- Support the Joint National Training Capability (JNTC)

Achieving the vision also requires a commitment of resources for investments in ranges and training infrastructure, to include range instrumentation, target systems, and simulation technologies.

### **8.3.2.1. Preserve and Enhance Live-Fire Combined Arms Training**

Live-fire combined arms training is a core requirement and a combat proven training evolution that prepares individuals, units, and MAGTFs to effectively fight and to dominate the three-dimensional battlespace. In order to do so, the Marine Corps must optimize its limited resources by developing a sound, unified investment strategy for range funding based upon defined capability shortfalls, while simultaneously developing an effective outreach plan and making the required investments in environmental stewardship in order to maintain a balance between the environmental needs and realistic training requirements. The importance of live-fire combined arms exercises and the ranges on which to conduct those exercises will not be overlooked or undervalued.

### **8.3.2.2. Recapture Littoral Training Capabilities**

Littoral power projection is a fundamental competency for all Marine units. The ability to forcibly place a large unit (MAGTF) into a hostile environment is a skill unique to the Marine Corps. Expeditionary operations and the action of inserting Marines on a hostile shore are a national strategy that requires frequent, coordinated training with sufficient air, sea, and land space to effectively train the force. Effective mitigation of encroachment issues and environmental impacts on maneuver space for littoral training is a priority for the Marine Corps. The need to establish and articulate the requirement for unfettered, assured access to these training areas is critical. Additionally, the documentation and effective communication of the negative impacts on training imposed by current restrictions, as well as assessing the organization and configuration of the ranges, will help in better utilizing the littoral training space available.

### **8.3.2.3. Leverage Technology**

Technologies exist today that would enhance every level of training from the individual Marine to the most complex MAGTF. Investment in these technologies have historically been extremely limited because they have not been recognized as an integral, required component of our training, and we have viewed and pursued them as individual systems rather than part of a coherent training investment strategy. The Marine Corps must invest in instrumentation, feedback systems, and targets by utilizing the latest in Commercial Off the Shelf (COTS) technology. To do so, a sound, unified investment strategy based on clear requirements and identified capability shortfalls must be developed in order to upgrade and modernize our range complexes. The Marine Corps must also capitalize on improvements to its range systems by leveraging technology currently fielded by other services, which will serve to drive down RDT&E and acquisition costs.

#### **8.3.2.4. Mitigate Encroachment**

To continue to be successful in combat, Marines must have access to the training environments (land, airspace, and water) that allow them to “Train the Way They Fight.” Without a commitment to protect the natural environment, the training environment could be depleted to the point it no longer supports successful training. Mitigation of encroachment on ranges, training areas, airspace, and water at all Marine Corps training bases is a necessity. To ensure frequent, repeated use of training areas that can be sustained across the Marine Corps, HQMC (I&L) is providing the guidance and resources to assist installations with creating and periodically updating planning documents as well as community outreach initiatives. The Marine Corps must be proactively involved at all levels with federal, state, and local government agencies and non-governmental organizations to seek ecosystem consultations that provide solutions to encroachment pressures. Marines continue to work diligently toward the protection of natural and cultural resources, striving always to maintain a balance between support for the military mission while simultaneously promoting the sustainability of the environment in compliance with applicable laws and regulations.

#### **8.3.2.5. Facilitate Cross-Service Utilization**

Marine Corps training is heavily dependent upon the availability of a portfolio of training assets, to include those belonging to our sister Services. Similarly, the viability and accessibility of Marine Corps ranges to others has proven crucial to mission accomplishment. Inter-Service communication and coordination is vital to the cohesiveness of the Armed Forces. In order to accomplish this, the Marine Corps must continue to forge strong relationships with those units and commands who currently utilize or who may wish to utilize Marine Corps ranges. The fielding of the web-based range management system (RFMSS 2002), already underway in partnership with the Army, is greatly facilitating training planning and cross-service utilization. This relationship is further enhanced by the issuance of a joint-service, Army and Marine Corps, safety regulation and a surface danger zone tool that can be implemented and utilized on any of the two services ranges.

#### **8.3.2.6. Support the JNTC**

The JNTC concept is a global network of live, virtual, and constructive components that provides a seamless training environment to support a broad spectrum of Joint training requirements. The JNTC strategy is based on:

- Transforming the training environment
- Defining and providing Joint context for requirements-based Joint training
- Building on existing Joint exercises and selected Service training events
- Establishing and linking selected Service ranges and centers as Joint National Training Centers
- Transforming the Joint Warfighting Center (JFWC) into the Joint National Training Command

The Marine Corps must prepare to attain certification of ranges and accreditation of exercises to strengthen the Joint National Training Capability and our role as a participant. Critical to the success of the JNTC is the Marine Corps’ zeal in embracing and proactively leading the development and implementation of the concept. The MCCDC and TECOM are taking the

Marine Corps lead in working with Joint Forces Command (JFCOM) to assure the successful implementation.

### **8.3.3. RCD and Vision Correlation**

The unique relationship between the Vision for Mission-Capable Ranges and the RCD is identified in the development of the Marine Corps' Investment Strategy. The Investment Strategy is a balanced plan to provide for the sustainment, upgrade, and modernization of Marine Corps ranges in order to achieve the range capabilities required by the vision. The vision establishes roles and missions for the ranges in terms of training levels, capabilities, and objectives. These roles and missions in turn establish a set of required range capabilities defined by the RCD. A capabilities analysis will identify shortfalls between the current and required capabilities, suggesting potential investment areas. Investments are prioritized based on the impact of identified shortfalls/encroachments and the relative priority of affected roles and missions.

### **8.3.4. Range Capacity**

Range capacity is a continuing issue to be discussed within the Marine Corps. The Marine Corps RCD defines the horizontal, area, and temporal footprint for the land area required to support the training operations of a Battalion-sized training unit; the nominal sized unit by which training is reported and conducted. The land area is a shared resource that can support multiple battalions. The number of battalions that can be supported by the training footprint has been difficult to determine. The TECOM (RTAM) has currently initiated an assessment that will develop the methodology to estimate the capacity, or number of Marine Corps Battalions, that can be supported by a single battalion-sized MAGTF training footprint. This assessment will identify the capacity for each training range and installation within the Marine Corps and supply key information to the decision processes for future range transformation. The capacity assessment is expected to be completed in FY05.

## **8.4. Sustainability Planning**

The TECOM (RTAM) and the Facilities and Services Division, Deputy Commandant for Installations and Logistics (DC I&L [LF]) are the primary advocates for sustainability management within the Marine Corps. The TECOM's primary application is towards developing an integrated range management system and sustaining, upgrading, and modernizing range capabilities. The DC I&L (LF) focus is to provide policy, planning, guidance, and direction for environmental compliance, natural and cultural resources, compatible land use and community planning, and encroachment for all Marine Corps installations. Both TECOM (RTAM) and DC I&L (LF) work jointly to ensure long-term sustainment for all Marine Corps ranges and training areas. Resources, either through funding, guidance, or acquisition, are available and programmed either through DC I&L (LF) or TECOM/RTAM to support each installation and their ranges.

### **8.4.1. Modernization and Investment**

Training, operations, and installations have always competed for scarce resources. As stated before, the Marine Corps' objective is to invest in installations and ranges so that infrastructure keeps pace with operating force mission requirements and force modernization. A Marine Corps' training range investment strategy is the essential component of achieving that goal. The investment strategy for ranges and training areas has three main pillars: Sustainment, Upgrade,



and Modernization and Transformation. Each is an important component of range and training area readiness for the foreseeable future.

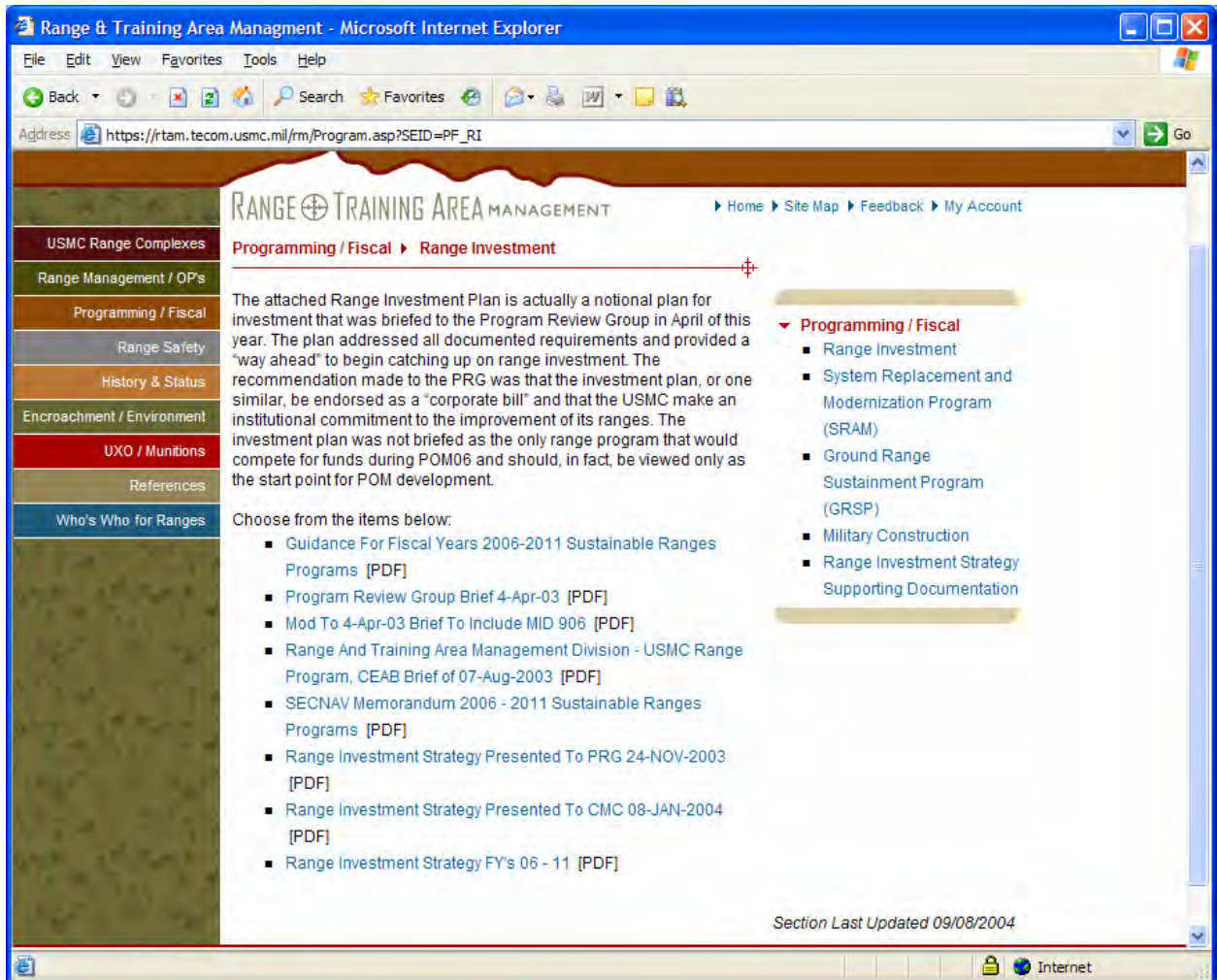
#### **8.4.1.1. Sustain**

Range sustainment initiatives are those projects that are required to stem erosion in the capability of Marine Corps ranges to support current standards-based training requirements. Sustainment investments will ensure that the force can accomplish “Today’s Training Today.” Examples of range sustainment projects include improvements to or replacement of existing training devices, targets, and range control equipment that cannot be accomplished within existing Operation and Maintenance (O&M) budgets.

#### **8.4.1.2. Upgrade**

Range upgrade investments aim to enhance the ranges’ capabilities to support current training requirements. The intent of this category of investment is to support current training standards more effectively tomorrow than we do today, or “Today’s Training Better Tomorrow.” Range upgrades can be accomplished through investment in state-of-the-art range technologies, including targets, threat emitters, shoot-back devices, and other range enhancements. The Remote Engagement Target System (RETS) is an example of a range investment upgrade requirement.

Figure 8-5. TECOM (RTAM) Range Investment Access Page



#### 8.4.1.3. Modernize

Range modernization will be necessary to support both emerging training requirements and the JNTC. The objective is to improve the capabilities of the ranges and training areas to accomplish “Tomorrow’s Training Tomorrow.” Training requirements that will drive range modernization will be developed in the framework of Expeditionary Maneuver Warfare (EMW), related operational concepts, new weapon systems, and new equipment. It is necessary that installation infrastructure, ranges, and training areas are planned, constructed, and acquired to provide training resources for tomorrow’s training.

#### 8.4.2. Operations and Maintenance

The DC I&L (LF) is continually providing oversight to Marine Corps installations and ranges for all real property services and land management, to include potential land expansion and the sustainment of existing ranges and training areas. Recent establishment of Marine Corps-specific service facility codes for ranges and training areas has enhanced the ability of installation commanders and DC I&L (LF) to assess facility conditions, estimate resource requirements, and

allocate necessary resources through the Marine Corps' Commanding Officers Readiness Reporting System (CORRS). Utilizing the information from CORRS outputs, the identified range capability shortfalls, and a range's vision, will facilitate the establishment of resource allocation priorities for range facilities sustainment, restoration, and modernization within the Marine Corps that are directly inputted into the operations and maintenance (O&M) appropriation budgetary process by DC I&L (LF).

The TECOM (RTAM) has also sponsored detailed RCMPs for each of the Marine Corps' primary range complexes. The primary purpose of the RCMPs is to:

- Provide detailed descriptions of training operations within the range complex
- Develop a strategic vision for range operations that coincides with the Vision for Mission-Capable Ranges
- Identify and analyze encroachment and sustainment challenges
- Outline and describe potential sustainable management principles and practices
- Analyze current and future range required capabilities utilizing the RCD
- Outline prioritized investments based upon capabilities shortfalls to sustain, upgrade, and modernize the ranges

Encroachment analysis, range capabilities, and investment data collected and analyzed in the RCMPs will be direct inputs into the RMS. The RCMPs are currently being conducted at MCB Camp Lejeune and MCAS Cherry Point, MCAGCC 29 Palms, and MCB Hawaii. An additional RCMP is in the early stages of planning for MCAS Yuma.

### **8.4.3. Encroachment**

#### **8.4.3.1. Assessment**

Encroachment continues to be a critical issue affecting training in the Marine Corps. We continue to be at the forefront of efforts to address and resolve encroachment demands with the constant implication that the ability of the operational units to conduct realistic and effective training is degraded by encroachment on our ranges and training areas. The Marine Corps' primary focus is to continually identify, assess, and quantify encroachment impacts in order to actively address present and future encroachment issues. This process is actively being pursued by TECOM (RTAM) and DC I&L through two separate initiatives to be included in the RMS: the RCMP encroachment analysis; and the Training and Range Encroachment Information System (TREIS). The RCMP analysis assesses encroachment by comparing the SROC encroachment issues with potential impacts on training in order to identify, analyze, and document the encroachment pressure on Marine Corps ranges.

The TREIS will then use the identified encroachment issues and associated impacts to assess the ability of the ranges and training areas to support specific operational readiness requirements. Outputs from both programs are to be included as essential elements of RMS and will help prioritize current and future investments.

**Figure 8.6. MCB Camp Lejeune: Summary of Encroachment Analysis**

		CAMP LEJEUNE ENCROACHMENT SUMMARY										
		Minimal Impact (Min)			Moderate Impact (Mod)			Severe Impact (Svr)				
RANGE/ SUA/ OLF		Endangered Species Critical Habitat	Cultural Resources	UXO/ Munitions	Frequency Encroachment	Maritime Sustainability	Aviation Restrictions	Air Quality	Clean Water	Wetlands	Airborne Noise	Urban Growth
Firing Ranges		Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
Fire and Maneuver Ranges		Min	Min	Min	Svr - Tactical employment of the ANMRC-142 radio system. Svr - MCASCP may use protected site status for frequency band. Mod - Interoperability between the ANMRC-170 radio system and the Pioneer UAV. Svr - Limited SINGARS loadsets limits FH	Min	Min	Min	Min	Min	Svr - Noise encroachment creates range avoidance areas, impacts training schedules, training events, tactics development, and live fire proficiency, affects personnel tempo, increases O&M TAD costs.	Svr - Urban areas in close proximity to key live-fire ranges.
East Ranges	Mod - Some training activities are restricted or prohibited in protected habitat on range land, in water areas, and the beach.	Min	Min	Min	Svr - Tactical employment of the ANMRC-142 radio system. Svr - MCASCP may use protected site status for frequency band. Mod - Interoperability between the ANMRC-170 radio system and the Pioneer UAV. Svr - Limited SINGARS loadsets limits FH	Mod - Such clearing activity interferes with the normal conduct of training events.	Mod - Overflight prohibition of the main base and the urban areas forces the helicopters into restricted tactical employment scenarios	Min	Mod - Vehicular traffic restricted in vicinity of streams to reduce erosion and sedimentation on stream beds.	Mod - Foot traffic only in wetlands. AAVs and LCACs must use established corridors in marshes.	Min	Svr - Limited beachhead training area limits realistic battalion training
West Ranges	Mod - Some training activities are restricted or prohibited in protected habitat on range land and in the New River water areas.	Min	Min	Min	Svr - Tactical employment of the ANMRC-142 radio system. Svr - MCASCP may use protected site status for frequency band. Mod - Interoperability between the ANMRC-170 radio system and the Pioneer UAV. Svr - Limited SINGARS loadsets limits FH	Min	Svr - Most FAC training must go to BT 3 and BT-11. Svr - Confined air operations are prohibited.	Min	Min	Mod - Foot traffic only in wetlands. AAVs and LCACs must use established corridors in marshes.	Min	Min

**8.4.3.2. Outreach**

Headquarters Marine Corps is the primary strategic lead on outreach at the national, regional, and state levels. Navy regions concentrate on regional and state issues. Installations focus on local, county, and some state programs. Of course, there is overlap across these tiers, and local issues have a way of rising to national prominence with the potential to set precedents.

The Marine Corps’ core philosophy on outreach includes early involvement by installation commanders in community planning committees and efforts that help influence planning and development actions. The key is for the installation and community leaders to identify, discuss, and resolve current and emerging issues that impact not only ranges but the surrounding communities. The intent is to have the Marine Corps and other community leaders establish trust, build credibility, and form a partnership to resolve issues and jointly share excess capabilities where available.

Utilizing this trust, the Marine Corps is actively engaging in programs directed at compatible land use of public and private property near its installations and ranges. The effect is a joint prevention of incompatible development of lands adjacent to training ranges. Current programs aggressively utilized by each primary training base and installation, implemented and approved by DC I&L (LF), include RAICUZs, AICUZs, and Joint Land Use Studies.

#### 8.4.4. Environmental Responsibilities

The Marine Corps has a proactive, sustainable environmental compliance and protection program that is compatible with current and future training requirements. The DC I&L (LF) provides overall policy, guidance, and necessary funding to all installation level Marine Corps programs in the areas of environmental compliance, pollution prevention, ordnance/constituent cleanup, and natural and cultural resource management. The DC I&L (LF) is also the lead Marine Corps agency for compliance with national level environmental statutes. With the resources and guidance provided by DC I&L (LF), each installation is continuing to establish and update their active environmental and resource documentation and compliance programs. These programs include, but are not limited to:

- Integrated Natural Resource Management Plans (INRMPs)
- Integrated Cultural Resource Management Plans (ICRMPs)
- NEPA Documentation—Environmental and Biological Assessments (EAs/BAs), Environmental Impact Statements (EISs)

**Figure 8-7. TECOM (RTAM) Encroachment/Environment Access Page**

The screenshot displays the 'Encroachment / Environment' page of the Range & Training Area Management (RTAM) system. The page is viewed in Microsoft Internet Explorer. The main content area features a photograph of two birds in flight. To the right of the image, a text block states: 'The Defense Test and Training Steering Group, with input from all the services, has defined eight areas of encroachment issues that impact the training and readiness of our forces. Each area's weight as an impediment to training is going to vary according to service, mission, and the training area effected. The cumulative effect of these encroachment issues on any given range or training area may render training unrealistic at best and unavailable at worst. TECOM has partnered with I&L in forming an Encroachment Working Group to monitor encroachment issues and assist in formulating policies that both meet our environmental stewardship responsibilities and our training requirements.'

Below the text, a bulleted list of topics is provided:

- Range Readiness Preservation Initiative (RRPI)
- Buffer Zones
- AICUZ / RAICUZ
- Land Use Planning
- Environmental Exemption
- Outreach
- Articles of Interest

The page footer indicates 'Section Last Updated 06/08/2004' and 'Last Updated - 11/23/2004 | Marine Corps Website | Privacy & Disclosure | Webmaster'.

## **8.5. Conclusion**

The Marine Corps has made significant progress in the past year in cataloging, assessing, managing, resourcing, and transforming its critical ranges and training areas. The further development and upgrade of the Range Management System (RMS) provides managers and users with a fully integrated, institutional-level source of range and management information, to include a comprehensive inventory of ranges and capabilities, which support range and sustainability planning, as well as available required training resources. The joint development and fielding by the Army and Marine Corps of RFMSS 2002, as well as the co-authored Range Safety regulations, not only provides the means for scheduling and collecting necessary range management data, but will allow for fluid cross-service utilization of both services' ranges and training areas. Resource and investment planning is now supported and justified through the correlation between the defined range required capabilities found in the Marine Corps Range Required Capabilities Document (RCD) and an institutionalized strategic plan for ranges outlined in the Marine Corps' Vision for Mission Capable Ranges. Sustainability planning is still a primary focus at all levels of command as the Marine Corps pushes to quantify training constraints and to sustain, upgrade, and modernize its ranges and training areas to meet current and future training and range requirements.

The Marine Corps remains focused on its key objective of investing in its training infrastructure to preserve and enhance the training of Marines to meet the diverse challenges they will face in current and future combat.

## 9. AIR FORCE

In November 2003, the Deputy Chief of Staff, Air and Space Operations Directorate of Operations and Training (HQ USAF/XOO), submitted the Air Force's *Response to Request for Information on Testing and Training Ranges*<sup>14</sup> to the Office of the Under Secretary of Defense (Personnel and Readiness) [USD (P&R)]. The information in that Air Force report was summarized in DoD document titled *Report to Congress: Implementation of the DoD Training Range Comprehensive Plan, Ensuring Training Ranges Support Training Requirements* that was submitted to the Congress in response to the requirements of section 366 of the *Defense Authorization Act for Fiscal Year 2003* (Public Law 107-314).

Section 366 requires that for fiscal years 2005 through 2008, the Secretary of Defense must submit to the Congress an updated annual report describing the progress made in implementing the DoD's comprehensive plan to address operational constraints resulting in adverse testing and training impacts caused by limitations on the use of, or access to, land water, air, and spectrum. This report, prepared by HQ USAF/XOO-ARA, updates the information in the Air Force's 2003 report and provides a more detailed accounting of:

- Range capabilities and capacities, for ranges in the United States and overseas;
- Encroachment issues;
- Actions being taken to address identified constraints to range operations;
- These enhancements will be incorporated into subsequent reports.

### 9.1. Overview of Range Sustainability Programs in the Air Force

The concept of "sustainability" is not new for the Air Force. For decades, the Air Force has promoted programs and initiatives that reduce or eliminate mission encroachment. The Air Force has invested heavily in enhancing operational capability, while improving the built and natural infrastructure to sustain mission capability. Through these investments, the Air Force has created additional value in existing systems and existing infrastructure to the point where equity has been earned in the network of systems that support Air Force operations.

Using a knowledge-based approach built on past successes, the Air Force is setting new benchmarks and using existing, tested tools and concepts to accomplish new objectives. New tools have also been developed to help in the evolution of the Air Force's approach. Additionally, the Air Force has recognized that due to new and emerging technologies there are a new set of operational, facility, and environmental factors to consider and is actively building the solution set for these challenges. The Air Force investment strategy also considers the economic landscape of the decisions being made. An effective strategy depends on an effective assessment of requirements and resource capabilities. Additionally, a knowledge-based approach converts the information into a means of assessing, anticipating, and preventing encroachment.

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<sup>14</sup> The language of Section 366 of the National Defense Authorization Act of 2003 refers strictly to training ranges. In some cases the requirements of section 366 require a specific answer about training requirements and this report answers them accordingly; however, the Air Force conducts both testing and training at the same ranges. The location of an operation is dependent on the characteristics of the mission and of the range- not a designation of "training" or "testing."

## 9.2. Training Requirements

Since its establishment as an independent military department in 1947, the United States Air Force has been the world's preeminent air power. While there are many elements that contribute to this dominance — the best aircraft, the best technology and weapons, the best logistical support, and the best people — the primary cause of this dominance is the superior training of Air Force personnel. Realistic training has a direct correlation to superiority in air combat. The objective of realistic training of aircrews is to expose the warfighter to controlled training conditions that simulate combat as closely as possible, so that the experience of actual combat is not wholly unfamiliar. The effectiveness of the U.S. military's doctrine of realistic training is demonstrated by the dominance of the Air Force in every conflict in which it has been involved.

All air assets, whether flown by Air Force, Army, Navy, or Marine Corps personnel, need properly configured and equipped ranges and airspace to practice a spectrum of skills, from the most basic to the most complex. The features of the training environment required for aircrew training vary with the characteristics of each training mission. The following summarizes current aircrew training requirements, discusses several influences expected to change existing training requirements, and provides an overview of the Air Force program structure that brings together advances in aircraft, weapons systems, air power doctrine, and the range infrastructure required to support those advances.

### 9.2.1. Current Training Requirements

The Air Force training programs for aircrews uses a building-block approach. Aircrews move through six distinct types of training:

- *Undergraduate flying training* — the first phase of aircrew training instructs aircrews in all aspects of basic flying proficiency.
- *Initial qualification training* — the second phase of training, provides instruction in the basic aircrew duties in an assigned position for a specific mission design series (MDS) (i.e., aircraft type) for the aircraft to which the aircrew is assigned.
- *Mission qualification training* — the third phase of training brings the aircrew through the point of being considered qualified to perform a command or unit mission.
- *Continuation training* — the fourth level of training provides aircrews with the recurrent training necessary to maintain proficiency at the assigned qualification level.
- *Special mission training* — the fifth level of training provides aircrews any special skills that are required to meet specialized mission requirements.
- *Upgrade training* — the sixth level of training prepares the aircrew for advanced responsibilities, such as flight leader, instructor, or mission commander.

The types of training beyond basic levels differ in terms of complexity, goals, and number of participants, all of which influence the requirements for the ranges and training areas where the practical aspects of aircrew training are learned. Aircrew training is also viewed within the context of the operational concepts the training supports: readiness, deployment, employment, sustainment, redeployment, and reconstitution. While the focus of aircrew flying training is heavily weighted towards employment, since that is a critical element to overall force readiness, other areas also have a definite and documented impact to the training requirements documented in the Ready Aircrew Program (RAP). This information focuses on mission qualification,



continuing, and special mission training, involving employment, since these are the training stages that demand the most access to ranges.

### 9.2.1.1. The Ready Aircrew Program

The basis for aircrew continuation training is the RAP. The RAP is the source for specific information on the training requirements related to each MDS including the number of sorties per training cycle, mission types flown, weapons employed, and other elements necessary for an aircrew to remain mission qualified. For each MDS aircraft, there are specific training requirements detailed in Series 11 Air Force publications. These Air Force publications can be accessed from the World Wide Web at <http://afpubs.hq.af.mil/>.

For each MDS aircraft, an annual message from Headquarters, Air Combat Command, Directorate of Training (HQ ACC/DOT) sets specific minimum training requirements for each MDS (referred to as the “annual RAP message”). This message lists the specific requirements for different categories of aircrews. First, the training requirements are divided based on the aircrews’ experience level. This first division has two categories, experienced and inexperienced. Experienced pilots are those that have accumulated a specific combination of total flying hours and total hours in aircraft type. By example, according to the 2001 RAND Corporation study<sup>15</sup>, fighter pilots are generally considered experienced if:

- The pilot has 500 flying hours in their unit’s primary aircraft type, or
- The pilot has 1000 total flying hours, with 300 of those hours being in their unit’s primary aircraft type, or
- The pilot has 600 total flying hours in fighters, with 200 of those hours being in their unit’s primary aircraft type, or
- The pilot has reached the experience level in another fighter MDS, and has 100 hours in their unit’s primary aircraft type.

The second division is by the role the pilot has in their unit’s organization. Pilots in staff positions are generally required only to maintain the status “basic mission capable (BMC),” whereas line pilots (i.e., pilots whose primary duty is flying) are required to maintain a higher level of proficiency, “combat mission ready (CMR).” In some instances, the annual RAP message also divides training requirements by flying unit, usually to reflect different missions assigned to the various units. The net impact of these different categories is very different training requirements dependent on flying experience and personnel assignments. Table 9-1 summarized the MDS for which the RAP has established training requirements.

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<sup>15</sup> Relating Ranges and Airspace to Air Combat Command Missions and Training. RAND Corporation, 2001.

**Table 9-1. Ready Aircrew Program Documents**

<b>Publication Number</b>	<b>Title</b>	<b>Publication Number</b>	<b>Title</b>
AFI11-2A-OA-10V1	A/OA-10--Aircrew Training	AFI11-2F-15EV1	F-15E--Aircrew Training
AFI11-2A-OA-10V2	A/OA-10--Aircrew Evaluation Criteria	AFI11-2F-15EV2	F-15E--Aircrew Evaluation Criteria
AFI11-2AC-130V1	AC-130 Aircrew Training	AFI11-2F-15V1	F-15--Aircrew Training
AFI11-2AC-130V2	AC-130 Aircrew Evaluation Criteria	AFI11-2F-15V2	F-15--Aircrew Evaluation Criteria
AFI11-2B-1V1	B-1 Aircrew Training	AFI11-2F-16V1	F-16--Aircrew Training
AFI11-2B-1V2	B-1--Aircrew Evaluation Criteria	AFI11-2F-16V2	F-16--Aircrew Evaluation Criteria
AFI11-2B-2V1	B-2 Aircrew Training	AFI11-2F-A-22V2	F/A-22--Aircrew Evaluation Criteria
AFI11-2B-2V2	B-2 Aircrew Evaluation Criteria	AFI11-2F-QF-4V2	F/QF-4--Aircrew Evaluation Criteria
AFI11-2B-52V1	B-52 Aircrew Training	AFI11-2HH-60V1	HH-60--Aircrew Training
AFI11-2B-52V2	B-52--Aircrew Evaluation Criteria	AFI11-2HH-60V2	HH-60--Aircrew Evaluation Criteria
AFI11-2F-117V1	F-117 Aircrew Training	AFI11-2MH-53V1	MH-53 Aircrew Training
AFI11-2F-117V2	F-117--Aircrew Evaluation Criteria	AFI11-2MH-53V2	MH 53 Aircrew Evaluation Criteria

### 9.2.2. Future Training Requirements

Whenever there is a change in air power doctrine or introduction of a new weapons system, the design, location, and infrastructure supporting training ranges and related airspace must be updated and new training must be developed. In general, this relationship occurs in two steps: first, there is the change in doctrine or systems; and second, there are changes in the supporting training infrastructure.

As changes in equipment and doctrine are made they are translated into specific tasks that aircrews must master. This process occurs during development of the Mission Area Plans (MAP) for each of the core competencies of the Air Force: Air and Space Superiority; Information Superiority; Global Attack; Precision Engagement; Rapid Global Mobility; and Agile Combat Support. The MAP identifies key training events in a manner that allows comparison against both the existing infrastructure and force-basing plan. From such an analysis, it is possible to identify any limitations in the existing infrastructure that would place a constraint on the ability of a unit to meet its new training objectives.

Some of the changes in doctrine and equipment the Air Force foresees as affecting the associated testing and training infrastructure are discussed in the Combat Air Forces Mission Support Plan (CAF-MSP.) The first change discussed is the introduction of new or upgraded aircraft with dramatically different capabilities or operational requirements. The F/A-22 and Joint Strike Fighter (JSF) are the next generation in fighter aircraft, and have unique capabilities that result in new infrastructure needs such as Integrated Air Defense Systems (IADS) simulation. Similarly, the Unmanned Aerospace Vehicle (UAV) and Unmanned Combat Aerospace Vehicle (UCAV) will undoubtedly drive changes in the parameters associated military flying training. The

infrastructure changes required to support these systems are still being documented; however, modernization initiatives are in place to improve supporting infrastructure.

In addition to requirements driven by the introduction of new aircraft, introduction of new or improved weapons can also result in changes in the supporting testing and training infrastructure. Among the recently developed weapons are the Joint Direct Attack Munition (JDAM) and the Joint Stand-off Weapon (JSOW). As a general matter new weapons are becoming ever more precise, and have an increased standoff distance and have very large Weapons Safety Footprints that cannot normally be contained on Primary Training Ranges (PTR). Such changes result in significantly different requirements related to the design and configuration of the ranges where aircrews will practice with these weapons deliveries. Introduction of even more advanced weapons, such as directed energy weapons and airborne lasers, will change the physical layout of ranges and affect other aspects of testing and training range operations, such as design of target arrays, configuration of attack profiles, and the ability to operate over additional lands owned by other stakeholders.

Finally, the increasing importance of Integrated Air, Space, and Information Operations (ASIO) will drive changes in testing and training requirements. As these technologies advance, the need for a full integration of ASIO with current air operations training increases. As this integrated testing and training matures, the complexity and fidelity of the range and airspace requirements will expand. Future training will include the horizontal integration of Intelligence, Surveillance, and Reconnaissance (ISR) assets in both task-level and unit-level training and Large Force Exercise (LFE) training, using the capabilities of the Global Strike Task Force (GSTF), with orchestration by the Air Operations Center (AOC) weapon system at the operational level of warfare. Integrated training also serves as an important proving ground, in which the Combined and Joint Force Air Component Commander and the AOC war fighters can become comfortable with emerging GSTF capabilities.

### 9.3. Range Inventory

This Air Force testing and training range inventory is comprised of four parts. The first part of this inventory lists all air-to-ground ranges within the United States. The second part lists the overseas ranges that are operated by the Air Force. The third part of the Air Force testing and training range inventory is comprised of detailed information pertaining to the special use airspace (SUA) used by the Air Force. The fourth part of the Air Force testing and training range inventory is comprised of detailed information pertaining to the Military Training Routes (MTR) used by the Air Force. Each of these parts comprises one of the appendices to this chapter, as shown in Table 9-2. The Air Force-specific appendices can be found in Appendix C of this report.

**Table 9-2. MTR Appendices**

<b>Appendix Topic, located in Appendix C</b>
Air-to-ground ranges within the United States
Overseas ranges that are operated by the Air Force
Special use airspace within the United States
Military training routes within the United States

### **9.3.1. Ranges within the United States**

The ranges within the United States included in the Air Force Inventory have a combined total acreage of 7,703,117 acres. Of this, 5,891,078 acres are either owned or directly controlled by the Air Force, and include public lands that are withdrawn from public use. Another 1,812,039 acres are owned or controlled by entities other than the Air Force, including the Departments of the Army and Navy. A list of ranges, in the United States that are owned, operated, or used by the services, along with information on the capabilities of these ranges to support training is provided in Appendix B. Air Force specific ranges and data can be found in Appendix C.

### **9.3.2. Overseas Ranges**

Six overseas ranges that are operated by the USAF are listed in the Air Force Inventory. The overseas ranges have a combined total acreage of approximately 4.5 million acres. A list of overseas ranges owned and operated by the Air Force is provided in Appendix C of this report.

The following is a description of these six ranges and their capabilities:

#### **9.3.2.1. Siegenburg Range - Bavaria, Germany**

The Siegenburg Range is located on approximately 673 acres in the state of Bavaria, Germany. The airspace is the Restricted Area EDR-137/138. 52OSS/OSK at Spindale AB is the designated Range Operating Agency. The main range users are the German AF, FB34, Memmigen AB, GE; Tornado and the USAFE, 52FW, Spandahlem AB, GE; F-16 Block 50 & A-10. The mission of the Siegenburg Range is to:

- Provide United States Air Force in Europe, North Atlantic Treaty Organizations, Central Region Air Forces an air to ground weapons range facility that is capable of supporting high and low altitude dive bombing, skip and glide bombing, and rocket deliveries;
- Support other training activities as authorized and directed by Higher Headquarters staff;
- Provide adequate training areas for other military and government agencies such as: German Army, German Army Reserves, State of Bavaria demolition teams, Aircraft test agencies, and Bavarian Police forces.

There are at present 2 targets that can be employed on the range: the main target area and the tactical target site. The main target is made of 2 concentric rings of earth. The inner ring is 150' in diameter and the outer ring is 300' in diameter. The target center is an old M-Series 5-ton vehicle with a wood and canvas pyramid positioned in it. The pyramid is 6' x 6' x 6' and acts as a visual indicator to the aircrews. This target is drum scored and can be accurately scored out to 300 feet from center. The tactical target consists of a marked box of 200' x 200' with 3 old M-Series 5 ton trucks positioned in the center. This target can only be scored by a 'hit or miss'. Most aircrews favor only the main target pylon due to its better scoring capacity. At present, there are no planned changes to mission, number/type of users, or capabilities for the immediate future.

#### **9.3.2.2. Polygone Range - Southwestern Germany & Northeastern France**

Polygone Range was created in 1979 by a Memorandum of Understanding between the Departments / Ministries of Defense of the US, Germany and France. It is operated jointly by the 3 signatory nations. The range covers approximately 4,480,000 acres in southwestern Germany

and northeastern France and is comprised of 7 fixed sites with 26 radar systems and associated equipment. Polygone is a Visual Flight Rules (VFR) range, and therefore is not controlled airspace. The range has on-site airspace and flight information service that provide airspace coordination service with German and French air traffic controllers. The mission of the Polygone Range is to provide a realistic electronic warfare (EW) training environment to develop, test and verify tactics, evaluate and validate equipment, and increase aircrew proficiency for the 3 signatory nations. The range is available to non-signatory nations on a fee-for-service basis.

Systems currently operated on the range include real-world systems, threat emitter systems, an electronic countermeasure analysis system, mobile threat emitter systems, Smokey Surface to Air Missiles (SAMS), and an aircrew feedback program. As of March 2002, Polygone has been capable of operating the LES-M laser receiver system that will verify operation of airborne laser designator systems. Chaff use is currently not allowed on the German side of the range. French chaff clearance is dependent upon the cartridge used.

The French, German, and US Air Forces are the primary users of the range (89%). The remaining 11% of the available range time is used by North Atlantic Treaty Organizations (NATO) member countries and/or NATO exercises with U.S. participation. For the US, the 52<sup>nd</sup> Fighter Wing (F-16/A-10) at Spangdahlem is the largest user, followed by the 86 Airlift Wing (C-130). The 48 Fighter Wing (F-15C/F-15E) at Royal Air Force (RAF) Lakenheath, and the 352<sup>nd</sup> Special Operations Group (MC-130) from RAF Mildenhall are frequent users. US Navy EP-3s from NAS Sigonella and U.S. Army AH-64 Apaches from Hohenfels, GE are regular users. Over 4,500 sorties are flown each year. In Calendar Year (CY) 2000, US utilization as a percent of the total was 21%. For CY2001, US utilization increased to 29%, and is currently at a rate to exceed 33%.

Plans for Polygone Range include:

- Integrate USAFE-RANGEless Interim Training System (URITS) pods with Polygone aircrew feedback system to allow post-mission URITS replay to incorporate threat systems;
- Add I- Hawk surveillance coverage to air traffic control/aircrew replay system;
- Provide Ultraviolet/Infrared (UV/IR) stimulator systems to perform in-flight operational checks of missile warning receivers;
- Instrument threat systems to allow limited Operational Test and Evaluation (OT&E) of the F-16 Homing Anti-Radiation Missile (HARM) Targeting System;
- Migrate current 2-dimensional aircrew feedback replay capability to 3-dimensional-mission replay.

### **9.3.2.3. Pil Sung Range - Republic of Korea**

The Pil Sung Range is located in a 6,180 acre area in eastern part of the Republic of Korea (ROK). It has approximately 289 square miles of associated airspace in R-110. 607 AOG/DOK at Osan AFB is the designated Range Operating Agency. The Pil Sung Range is the primary VFR tactical range in the ROK providing realistic tactical targets, EW emitters and a conventional strafe pit. The range contains more than 50 targets both real and simulated including vehicles, tanks, planes, a simulated rail-yard complex, SAM sites, and SCUD missile sites. The TVTC allows for inert ordnance up to 2000 lbs. The LOA allows for live ordnance up to 2000#. The primary users of Pil Sung Range are all USAF aircrew stationed or temporary duty

(TDY) to ROK (primary F-16, A-10) and ROKAF aircrew (F-16, F-4, A-37). Plans for the Pil Sung Range include increasing the effectiveness of EW training on range with new emitters.

#### **9.3.2.4. Koon-Ni - Republic of Korea**

The Koon-Ni Range is located on the west coast of ROK. It is comprised of 202 acres of exclusive use land, surrounded by a 198 acre restrictive easement parcel, surrounded by a 5,442 acres parcel, which provides for a safety easement. The range has approximately 289 square miles of associated airspace. The 607 AOG/DOK at Osan AFB is the designated Range Operating Agency. The Koon-Ni Range is the primary conventional range and only US exclusive use range in the ROK providing aircrew initial qualification and currency training. 5 targets are located on the main target island on the range. Only inert ordnance, including BDU-33/50, 20/30mm HAS, 2.75" rockets, is used on the range. The primary users are all USAF aircrew stationed or TDY to ROK (primary F-16, A-10) and US Army helicopters for FARP operations.

#### **9.3.2.5. Tori Shima - Japan**

Tori Shima is an uncontrolled tactical air-to-surface weapons range (USAF Class C) for delivery of practice, inert, and live ordnance. The range is located within W-176 airspace. W-176 range space is comprised of a circular area of 5 NM radius. The target is Tori Shima Island. The weapons impact boundaries include the island and the water surface contiguous to Tori Shima within a 3 NM radius. Before conducting ground operations on Tori Shima, units must coordinate with the Kadena Radiation Safety Officer.

#### **9.3.2.6. Ripsaw - Japan**

Ripsaw Range (R-130): and its associated airspace is a class A joint use Air-to-Ground training range located 10 NM north of Misawa Air Base. Transit time by air to the range is minimal and as such provides maximum usability for the base. Ripsaw Range is the only range of its kind on mainland Japan that provides direct training support for U.S. Forces. The land area is approximately a 1900-acre semi-circle, one statute mile in radius. The range is adjacent to the towns of Amagamori to the South, Kurauchi to the Southeast, and Hirahuma to the Northwest while the entire eastern edge of the land mass borders the Pacific Ocean. The proximity of Misawa Air Base and the nearby towns account for most of the restrictions on Ripsaw Range, such as range operating hours, traffic patterns, delivery restrictions and flight size.

Operational control of Ripsaw Range is exercised by 35 OG/CC and implemented by the 35OSS as the USAF Operating Agency for Ripsaw Range. Even though the range is jointly used by the USAF and the Japan Air Self Defense Force (JASDF), the 35OSS/OSCS is the only scheduling authority for Ripsaw usage.

Ripsaw Range operating hours are from 0700 to 2000 Monday through Friday. Weekend and US Federal holiday use is by exception only and requires 35OG/CC approval. Extended hours up to 2200 are available upon request and must be requested a minimum of 15 working days in advance. This lead-time is necessary to alert the local fishing and farming communities of the change.

Primary users of Ripsaw Range consist of:

- 13<sup>th</sup> and 14<sup>th</sup> Fighter Squadrons, the 3<sup>rd</sup>, 6<sup>th</sup> and 8<sup>th</sup> Squadrons of the 3<sup>rd</sup> Air Wing (JASDF);

- US Navy CVW5 and local VP Squadron P-3 aircraft, and the 36th Airlift Squadron from Yokota Air Base near Tokyo;
- 31<sup>st</sup> Special Operations Squadron at Osan Air Base in South Korea also uses the range as well as many ground-based operations and exercises from units assigned to Misawa;

Ripsaw Range has very few range encroachments. There were none during FY 2001, and this is most likely due to the outstanding working relationship between 35FW/PA and Misawa Defense Facilities Administration Office (DFAO).

### **9.3.3. Special Use Airspace**

The Air Force inventory currently accounts for 1,228,442 square nautical miles of SUA in the United States. This airspace is used for a variety of missions, including training in air-to-air combat, air-to-ground bombing and gunnery, aircraft maneuvering, and in-flight refueling. This use of SUA is coordinated with the FAA. A list of SUA used specifically by the Air Force is provided in Appendix C.

### **9.3.4. Military Training Routes**

The Air Force inventory currently accounts for 179,514 nautical miles of (MTR.) These MTR are used by Air Force planes transiting from an installation to a training area, such as a range or military operating area (MOA.) A list of MTR used by the Air Force is provided in Appendix C.

## **9.4. Environmental Planning**

### **9.4.1. Air Force Planning to Support Range Operations**

#### **9.4.1.1. Compatible Land Use**

The primary Air Force program for addressing compatible land use near DoD installations is the DOD Air Installation Compatible Use Zones (AICUZ) program. This is a successful 30-yr old program where the Air Force has successfully faced legal challenges and achieved compatible development at a large number of installations. The Air Force continues to work with the communities near installations to develop a balanced relationship in regards to aircraft noise, accidents, community economic viability, and total mission needs.

The Air Force is currently planning to update the program guidance, to include:

- Developing land use compatibility criteria for the Air Force space program, enhancing the sections defining land uses that could cause bird aircraft strike hazard (BASH) incidents;
- Increasing community involvement in the program;
- Reducing the potential impacts of tall objects near the airfield and restricting light and other visual emissions that could obscure pilot vision.

The Air Force is in the process of determining how to apply the AICUZ concepts to our range environment. The development, Range AICUZ or RAICUZ, is being developed within the Air Force. The Navy's RAICUZ program provides a proven template for an Air Force version of this

program. Development and implementation efforts of the RAICUZ program will be pursued in 2005. There is currently one test RAICUZ effort that is underway at Poinsett Range as part of the Shaw AFB AICUZ update.

The Air Force views the Joint Land Use Study (JLUS) program, managed by the OSD Office of Economic Adjustment as a multiplier for the AICUZ program. The Air Force has been a strong supporter of and a regular participant in Joint Land Use Studies since its inception in 1984. Beginning in 2000, the Air Force began requesting that Major Commands (MAJCOM) consider nominating ranges for JLUS. In the FY2000, the Poinsett Range was nominated and a study was completed. Since then Poinsett has asked for an updated study to address emerging issues. Once we have Range AICUZ studies completed for our ranges, we anticipate that JLUS for ranges will become more common.

#### **9.4.2. Air Force Operational Range Environmental Programs**

The mission of the Air Force Operational Range Environmental Program is to “Optimize environmental resources to meet range mission requirements ... today, tomorrow and in the future.” Four goals have been established to achieve the overall program mission. These goals are:

- Maintain an accurate range environmental database;
- Manage environmental resources to meet operational requirements;
- Optimize lines of strategic communication;
- Integrate environmental aspects into range planning and design.

These four goals support the over-arching Air Force Sustainable Range program by ensuring our ranges are managed to meet operational requirements.

##### **9.4.2.1. Operational Range Environmental Database**

The first goal of the Air Force Operational Range Environmental Program is to maintain an accurate database of environmental attributes of ranges to support data calls and decision-making at the Air Force headquarters level and above.

The Air Force Environmental Division is in the process of developing a database that will be used to collect and store specific environmental information from Air Force Ranges. The information contained within the database will be updated on a recurring basis, as determined appropriate.

Population of the database is targeted for completion by the 2<sup>nd</sup> quarter of 2005. This range environmental database will provide the Air Force with data to assist in informed and accurate environmental resource decisions that sustain our ranges into the future as well as support the other three range environmental program pillars.

##### **9.4.2.2. Environmental Resource Management**

The goal of the Air Force Operational Range Environmental Program is to manage environmental resources to meet operational requirements. The following are specific sub-goals that have been identified to support the primary goal:



- Utilize the Resource Capability Model (RCM) to link range requirements to resources;
- Integrate ranges into the overall environmental management system;
- Valuate range natural infrastructure;
- Assess potential off-range migration of munitions constituents.

Detailed discussions on the Resource Capability Model and Natural Resource Valuation can be found in later sections.

#### **9.4.2.3. Environmental Management System**

The Air Force Environmental Program is well established with respect to audits, planning documents, permit monitoring, measurement, emergency preparedness and response, training and documentation, as well as, environmental and quality policies. The ISO 14001-like Air Force Environmental Management System (EMS) will take the best parts of the existing Environmental Program and retool and augment them as necessary. Typically, the scope of the EMS will include all organizations and facilities within the boundary of an installation, to include tenant organizations. The EMS scope may be expanded to include Geographically Separated Units (GSU), remote unmanned radar/missile sites, and/or ranges.

#### **9.4.2.4. Operational Range Assessment and Response Program**

The Air Force is developing the Operational Range Assessment and Response Program to meet requirements set forth in DoD Directives 4715.11 and 4715.12, and to support the Air Force Range Sustainment Program by assessing for and responding to the release or potential threat of release of munitions constituents from ranges to off-range areas.

Development of the Air Force Operational Range Assessment and Response Program began in the fall of 2003. The first action taken by the Air Force was to initiate and implement a limited field study and investigation at 11 air-to-ground range complexes, composed of 32 individual ranges. These range complexes and ranges are listed in Table 9-3.

**Table 9-3. Range Complexes and Individual Ranges Where Limited Field Study and Investigations Were Conducted**

Major Command	Stand-Alone Range Name Range Complex Name	Individual Range Name
ACC	Poinsett Electronic warfare Range	Poinsett Electronic warfare Range
		Poinsett EOD OB/OD Area
	Air Force and Navy Dare County Range	DCBECR-Air Force Dare
		DCBECR-Navy Dare
	Avon Park Air Force Range	Avon Park Air Force Range
	Nevada Test and Training Range	Nevada Test and Training Range
		NTTR - Buffer
Saylor Creek Range	Saylor Creek Range	
	Saylor Creek Range - Buffer	
Juniper Butte Range	Juniper Butte Range	
AETC	Barry M. Goldwater Range	Air to Air Range
		BMGR East Buffer
		BMGR East Inactive Target Sites
		Cabeza Prieta NWR Alternate Air to Air Range
		Cabeza Prieta NWR Range
		Cabeza Prieta Wildlife Refuge Buffer
		EOD Training Range
		Manned Range 1 yr EOD Sweep
		Manned Ranges 5 yr EOD Sweep
		Tactical Ranges 1 yr EOD Sweep
		Tactical Ranges 5 yr. EOD Sweep
AFMC	Eglin Test and Training Range	Burial Pit Site-Accessible
		Burial Pit Sites-Prohibited
		Cape San Blas Range
		Eglin Land Range
		Legacy Off-Property Firing Fans for Range 1&1A
		Legacy Off-Property Firing Fans for Range 30
		Legacy Off-Property Firing Fans for Range 3A
		Legacy Off-Property Impact Area for Range 4
AFRC	Claiborne Bombing and Gunnery Range	Claiborne Range
ANG	Hardwood Range	Hardwood Range
	Warren Grove Range	Warren Grove Range

This field study and investigation consisted of evaluations of current and historical environmental information about the ranges and limited physical sampling of soils, sediments, surface water, and ground water. The study has been completed and the results are currently being evaluated. Follow-on efforts are being initiated to support program and policy development.

The second action taken by the Air Force has been to begin the development of internal instruction and implementation guidance for the Operational Range Assessment and Response Program. This program development work is being based on the results of the limited field study and investigation, guidance and direction from headquarters level inter-service working groups, and from OSD guidance. The expected completion date for the internal instruction and implementation guidance for the Operational Range Assessment and Response Program is the third quarter of CY 05.

### **9.4.3. Strategic Communication**

The Air Force has identified strategic communication as an integral part of the Operational Range Environmental Program. Currently, work is underway to define, develop, and implement a strategic communication plan that will provide an overall strategy for the Air Force to communicate with the diverse stakeholders that are involved in and impacted by range operations.

The communication plan will outline activities that are designed to keep stakeholders informed and provide them with opportunities to be involved in the program. A uniform approach to stakeholder involvement will help develop a strong brand identity for the program and communicate and promote core information messages that stakeholders can easily understand. In addition, a plan would ensure that consistent information regarding the Air Force's regulatory requirements, role in the Operational Range Environmental Program, and the public involvement process can be used to establish cohesive communication themes.

The Air Force will take the following steps as it develops the plan: conceptual planning, scope evaluation, stakeholder identification, stakeholder interviews, key message development, plan preparation, plan revision, and implementation. The progress will be documented in subsequent reports.

### **9.4.4. Integrating Environmental Aspects into Range Planning and Design**

#### **9.4.4.1. Model Target Planning Guide - Air Force Center for Environmental Excellence**

Military range properties are receiving increased regulatory and public scrutiny. Off-base migration of unexploded ordnance (UXO) and its constituents are steadily swelling public concerns. The result presents an acute explosive hazard as well as a chronic contaminants concern. Therefore, to ensure that ranges can remain a viable resource for future training needs, it is imperative that they are designed and managed in a manner that is compatible and consistent with public safety and environmental stewardship.

The Air Force Center for Environmental Excellence (AFCEE) developed the *Model Target Planning Guide* (May 2004)<sup>16</sup> to help installation and range managers minimize future impacts of UXO on human health and the environment by providing guidance in the use, siting, and design

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<sup>16</sup> Available on the World Wide Web at: <http://www.afcee.brooks.af.mil/products/ranges/Sustainment.asp>.

of new range and target areas. Specifically, this guide focuses on designing targets to be used primarily by the BDU-33 training munition. Several Air Force, Navy, and Marine aircraft currently use the BDU-33 munition in many of their training activities.

This guide is to be used by operators, designers, and managers of BDU-33 target areas. It provides areas to examine for potential environmental impacts resulting from the construction, operation, and maintenance of range sites for use by weapons platforms dropping the BDU-33 munition and possible mitigation measures to reduce impacts. While the considerations identified in this guide will not eliminate all hazards and risks associated with range area development/operation and use of the BDU-33, they will help reduce future liabilities associated with BDU-33 during training activities.

#### **9.4.4.2. Integrated Natural Resources Management Plans**

An Integrated Natural Resources Management Plan (INRMP) is the principal planning tool for managing the natural resources on military installations. Each military installation in the United States under the jurisdiction of the Secretary of Defense must prepare and implement an INRMP unless a determination is made that the absence of significant natural resources makes preparation of such a plan inappropriate.

An INRMP assists the installation commander with the conservation and rehabilitation of natural resources consistent with the use of the installation to ensure the readiness of the Armed Forces. The INRMP will define natural resources management goals and objectives that are consistent with the military mission and ensure no net loss in the capability of installation lands to support the military mission.

The INRMPs are prepared in cooperation with the U.S. Fish and Wildlife Service (USFWS) and the appropriate state fish and wildlife agency. Coordination with the National Oceanic and Atmospheric Administration (NOAA) is also required for installations that include or border marine environments. Working in cooperation with the USFWS and the appropriate state fish and wildlife agency, installations must review the INRMP at least once every five years. Periodic assessments of natural resources programs are conducted as a part of the Environmental Safety and Occupational Health Compliance Assessment and Management Program (ESOH CAMP).

All Air Force operational air-ground ranges have current INRMPs. The ranges are either included in the parent installation INRMP or have their own, range specific INRMP. However, the Barry M. Goldwater Range, AZ, INRMP is in final draft form and will be finalized upon settling litigation and contracting issues.

### **9.5. Natural Infrastructure Management and Encroachment Prevention (NIMEP)**

#### **9.5.1. Overview**

The readiness of combat forces within the DoD depends on several interdependent factors: the right people, the right weapons, and the right support infrastructure. Support infrastructure are assets, grouped by function, that are managed holistically to support people and weapons systems as they carry out military operations and training. Built infrastructure (e.g., facilities), communications infrastructure, security infrastructure, and logistics infrastructure are well-known

examples; as critical support infrastructure, DoD has sought to manage these systems to their greatest military utility.

Natural infrastructure resources (i.e., air, land, and water), however, have traditionally been managed differently – based largely on successfully meeting environmental compliance requirements set by entities outside of DoD, not necessarily on military or mission needs. Not surprisingly, DoD installation managers’ ability to provide natural infrastructure resources sufficient for military needs has become more challenging over time due in part to increased competition for these resources. In some cases, however, the provision of natural infrastructure resources for current operations has become inadequate, a situation defined as encroachment. The challenges of preventing further encroachment at installations and ranges are increasing with the combined advent of large footprint weaponry and increased competition of air, land, and water from multiple sectors of society.

To address the challenges of encroachment and ensuring long term sustainability of military training and testing requirements, the Air Force has reexamined and reframed how it manages the assets needed to operate. To address the new challenges of managing these natural resources, the Air Force has created the Natural Infrastructure Management and Encroachment Prevention (NIMEP) concept. This is a new “resource asset management” paradigm that encompasses, yet moves beyond, compliance-based environmental program management. The NIMEP principles and practices are designed to focus elements of installation and mission planning, and environmental management, on operational requirements. This will provide military commanders with decision support tools to cost-effectively acquire and manage natural infrastructure resources that are fully “capable” as defined by mission requirements.

Simply put, NIMEP principles, concepts, and tools are designed to help define natural infrastructure resource requirements (based on mission requirements), and then focus planning, programming, and execution efforts on those management actions that can address encroachment and provide fully capable natural infrastructure resources to the military commander.

Transformation to NIMEP will not compromise DoD’s excellent record of compliance with environmental regulations. Compliance with environmental regulations, rather, will become inherent in natural infrastructure management analogous to how building code compliance is inherent in facilities management, or how labor law compliance is inherent in workforce management. Transformation to NIMEP will, however, focus attention on developing and sustaining the natural infrastructure’s capability to support current and future military missions.

## **9.5.2. Tools**

Several tools and approaches have emerged to assist Air Force organizations in managing natural infrastructure resources to ensure operational capability-- RCM and Resource Valuation (RV). The following summarizes the RCM Model.

### **9.5.2.1. Resource Capability Model**

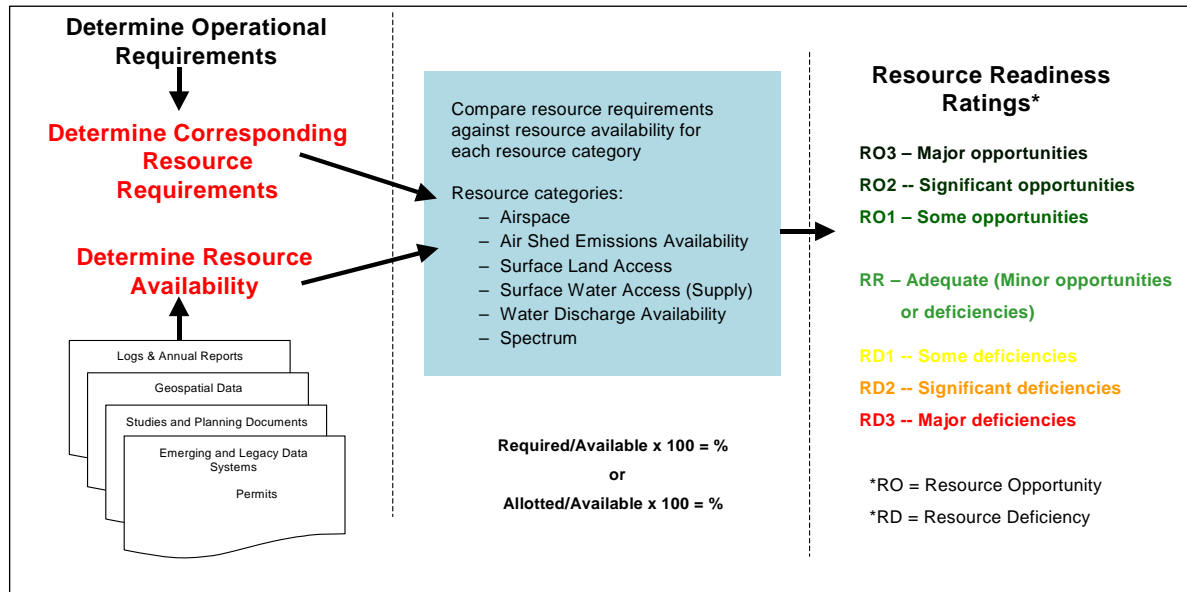
The Resource Capability Model (RCM) is a tool developed by the Air Force to quantify the adequacy of key natural infrastructure resources needed to provide mission-ready installations and ranges. The RCM identifies resource opportunities and resource deficiencies for airspace, air shed emissions availability, surface land, water supply, water discharge availability, and spectrum resources upon which the Air Force must draw to operate.

The relative readiness of the resource to support the mission is quantitatively assessed using metrics. The metrics compare the needed or required resources (based on current mission requirements) to available resources. In some cases, the available resources are compared to what is allotted, independent of what is “required.”

### Methodology

The RCM methodology, depicted in Figure 9-1, is a five-step process.

**Figure 9-1. RCM Methodology**



The first step involves determining and articulating operational requirements associated with an installation, range, or military operations complex.

- Once operational requirements are defined, the second step in the methodology is to determine corresponding air, land, water, and spectrum resource requirements at a particular installation or range. As mentioned earlier, in addition to the “required” resource, the allotted is identified [i.e. Federal Aviation Administration (FAA) designated dimensions of the training airspace]
- The third step in the RCM methodology is to determine how much resource is available.
- The fourth step in the RCM methodology compares the required resources to the available resources at an installation or range for airspace, air shed emissions availability, water supply, water discharge availability, on-site surface land, off-site surface land, and frequency spectrum.
- The results of this comparison provide a “resource readiness rating” using a set of defined breakpoints. Resource readiness ratings, shown on the right side of Figure 9-1, include Resource Opportunity (RO) ratings 1, 2, and 3; Resource Deficiency (RD) ratings 1, 2, and 3; and a Resource Ready (RR) rating where available resources and operationally required resources are similar in quantity.

### ***Application of Results***

The RCM identifies resource opportunities and resource deficiencies for airspace, air shed emissions availability, surface land, water supply, water discharge availability and spectrum (see Section 9.2.1 for additional information).

A quantified baseline of natural infrastructure resources opportunities and deficiencies provides needed information for identifying, prioritizing, funding, and implementing risk management actions (i.e., objectives and targets) as early as possible. As mentioned earlier, risk management actions include preventing further encroachments into air, land, water, and spectrum resources and/or obtaining additional natural infrastructure resources needed to support potential new missions. The RCM baseline results also help with the prioritization of risk management actions based on the severity of the deficiency and associated impacts to the current operational mission.

Once an information baseline is identified at an installation or range, the management system shifts to the identification, prioritization, funding, and implementation of risk management actions to sustain, restore, and modernize the natural infrastructure at installations and ranges in support of mission needs. This is accomplished within the context of community and ecosystem needs for these assets. Risk management actions ensure compliance, prevent encroachment, and support changing mission requirements. Risk management actions are described as objectives and targets and are designed to address a resource deficiency, or sustain or modernize a resource opportunity. Objectives and targets (e.g., creation of a conservation easement, procurement of emission reduction credits, or environmental restoration actions to increase the number of on-base developable acres) are then carried forward into the planning, programming, and budgeting process for funding and execution. This entire risk management process would be underpinned by measures of merit and funding guidelines that allow natural infrastructure managers to fund a wide variety of valid projects that meet regulatory compliance requirements, encroachment prevention requirements, and mission driven requirements.

As baseline information on the natural resource portfolio changes due, for example, to implementation of risk management actions, the management system provides a feedback loop to information repositories (e.g., geographic information systems data holdings) and other data sources so that changes can be catalogued.

## **9.6. Comprehensive Range Management and Planning**

### **9.6.1. Existing Air Force Implementation Guidance**

#### **9.6.1.1. HQ US Air Force Range Planning and Operations Policies and Procedures**

The Air Force has clearly defined requirements and responsibilities for range management, which are executed through an integrated operational and engineering approach. The primary document governing Air Force range planning, Air Force Instruction (AFI) 13-212 *Range Planning And Operations* (7 August 2001), provides the guidance to implement the policies that govern Air Force range use and the framework by which commanders can safely, effectively, and efficiently operate their ranges. These policies are designed to fulfill two diametric requirements: (1) conducting realistic testing and training and (2) minimizing potential impacts of such activities on the environment and local communities.

AFI 13-212 requires that personnel at the installation, MAJCOM, Headquarters, and Department of the Air Force levels review all major actions to establish, change use, modify, or close test or

training space (including ranges or permanent airspace). The entity that seeks to make the change is required to describe the concept or action and alternatives to that action in order to facilitate the airspace and range review process. This process requires the development of a Description of Proposed Actions and Alternatives (DOPAA), which provides the framework for assessing the environmental impact of a proposal, and describes the purpose and need for the action, the alternatives, and the rationale behind the proposed action. Furthermore, a Comprehensive Range Plan, which provides detailed guidance on short and long-term needs, addresses:

- Land
- Airspace
- Range facilities
- Targets
- Instrumentation (including scoring devices)
- Range operations
- Safety
- Environmental factors
- Geography
- Legal liability
- Rehabilitation
- Local community and government use of adjacent land (regional development agreements)
- Range clearance/ decontamination
- Target lists
- Authorized ordnance
- Weapon safety footprint analysis
- Future plans or other actions that may have an impact on the range

These issues are addressed by AFI 13-212 in three different volumes, each portraying a successful approach to addressing a different aspect of range management:

### ***Range Planning and Operations***

The Air Force Comprehensive Range Planning process requires all range personnel to address the issues associated with air-to-surface weapons operations. One objective of the program is to identify problem areas or potential conflicts between Air Force range operations and other land users. The process is designed to help Air Force range planners preserve Air Force ranges and make informed decisions regarding the hazards Air Force operations pose to land users.

### ***Range Construction and Maintenance***

The range construction and maintenance approach is designed to enable the Air Force to execute multiple tasks simultaneously. Constructing a dual range allows the Air Force to carry out



Explosive Ordnance Disposal (EOD) operations in target areas (except the area behind the strafe targets) on one side of the range while missions are in progress on the other.

### ***SAFE-RANGE Program Methodology***

This program helps range planners identify possible target locations, modify allowable attack headings to eliminate hazards, identify the best location for range improvements, or design a new target area or range. It provides range planners with basic information about training weapon safety footprints, a description of their development from weapon impact data and simulations, and an established procedure for applying them to potential land use conflicts.

#### **9.6.1.2. Investment Strategy to Resolve Existing Constraints**

The CAF-MSP defines the Air Force investment strategy for resolving existing training constraints related to ranges and airspace. The plan presents an investment strategy focused on 10 major areas: land, airspace, environmental, unexploded ordnance and range residue removal, physical plant, scoring and feedback systems, communications systems, integrated air defense systems training, targets and target arrays, and management.

One of the objectives of the evaluation of the ranges conducted to create the CAF-MSP was to determine and document existing constraints. The majority of investment areas will see marked improvement in the ability to support realistic training.

#### **9.6.2. Existing Planning Efforts Involving Community Outreach**

##### **9.6.2.1. Airspace/Range Councils**

When the Air Force uses, creates, modifies, or transfers military airspace and ranges, it must be prepared to address concerns raised at the local, regional, or national level. To address these challenges, the Air Force has established committees and regional councils designed to:

- Ensure Air Force offices involved in an airspace/range issue have a common understanding of the objectives, status, and key issues
- Provide a thorough review at all management levels
- Foster appropriate interagency involvement and cooperation during the airspace process.

These councils exist regionally and nationally to advise units, MAJCOM, and HQ Air Force on airspace and range issues, and to promote an exchange of information and lessons learned in airspace and range development. Regional councils are closely aligned to FAA regions and provide a local focus on airspace/range issues. They are open to delegates from all military services, land management agencies, and other interested or concerned parties.

##### **9.6.2.2. Regional Council Structure**

The Councils are co-chaired by one senior active duty officer and one senior Air National Guard officer. Since information sharing and cooperation are the ultimate goals of the Councils, agendas include “breakout” sessions that allow those working on specific issues time to communicate. Council meetings include three sessions:

### *DoD Session*

The purpose of the DoD session is to identify problems, issues, and shortfalls in training space or its attributes; present concepts to address shortfalls or meet new test or training requirements; and to develop a consistent approach to present to the FAA and other aviation and environmental agencies.

### *Management Session*

The management session is a forum for dialogue between DoD units and other agencies with either an aeronautical or an environmental stake in military flight operations. Representative non-DoD participants may include the FAA, National Park Service (NPS), U.S. Department of the Interior, Bureau of Land Management (USDI-BLM), U.S. Forest Service (USFS), Fish and Wildlife Service (FWS), U.S. Department of the Interior, Bureau of Indian Affairs (USDI-BIA), state aviation officials, and the Aircraft Owners and Pilots Association (AOPA). Military units commonly make a presentation on their typical flight operations, training requirements, proposed airspace concepts and actions, and other problems or issues. The session also provides an opportunity for other agencies to share any aeronautical or environmental concerns.

### *Regional Executive Session*

The purpose of the annual executive session is to provide senior-level personnel oversight of the regional airspace/range process. The executive sessions involve strategic planning and promote development of test and training resources to support present and future military needs in each region. Participants formulate a strategic course of action to meet long-term regional goals and national security objectives. The goal of the session is to preserve a highly-capable force structure within each region, which is supported by efficient and effective training infrastructure.

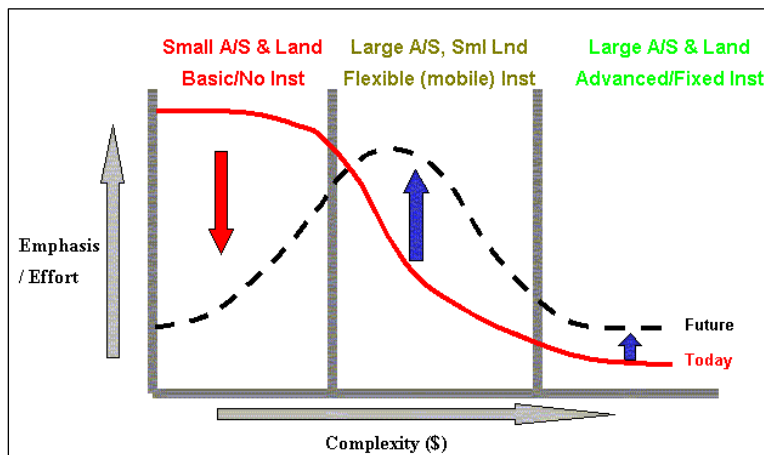
#### **9.6.2.3. National Airspace/Range Executive Council**

The National Airspace/Range Executive Council (NAEC) allows senior Air Force leaders to review pending and proposed range/airspace actions from a national perspective, provide feedback to regional councils and MAJCOM and HQ Air Force, focus on a national strategic vision for ranges/airspace, and keep members informed of national-level events and trends affecting airspace and range actions. NAEC membership includes regional council chairpersons and the senior officers charged with airspace and range responsibilities from the MAJCOM and Air Staff. The NAEC is co-chaired by the Deputy Chief of Staff, Air and Space Operations Directorate of Operations and Training (AF/XOO) and an equivalent ANG general officer.

#### **9.6.3. Future Programs**

The evolution of air, space, and information warfare and the growing list of new military missions, applications, and systems drive the need for flexible and adaptive training methods. Standardization and seamless interoperability are imperative for the future of Air Force training. The Air Force supports the USD (P&R) *Strategic Plan for Transformation of DoD Training* and the Joint National Training Capability's (JNTC) vision to create "a global network of joint training enablers; comprised of live, virtual, and constructive components that will provide a seamless joint training environment across a broad spectrum of joint training requirements."

Accomplishing the full spectrum of training and exercises requires moving from the current “stovepipe training systems and their architectures” to a “system of training systems” with an open architecture. This change will promote interoperability with Joint and Coalition forces, and demands the development of technology to “... immerse the war fighter in realistic operational environments.” A few of the key enabling technologies are summarized below.



**Figure 9-2. Next range Instrumentation Program**

The Next Range Instrumentation (NexRI) program is an Air Combat Command-lead effort to develop a standards-based business mode, which will provide open, non-proprietary solutions to interoperate Live-Virtual-Constructive (L-V-C) training systems without acquiring new systems or developing new technology for range instrumentation. NexRI has gained solid support from the JNTC office and from NATO. The NexRI will develop a set of standards

that provides a live-instrumented, combat-training capability using Standing NATO Agreement (STANAG) to allow acquisition and integration of interoperable range instrumentation (RI) from multiple sources.

Another of the future directions for training is embedded threat training. Embedded threat training is defined as the utilization of a weapon platform’s inherent capabilities to conduct readiness training while the platform is being employed in a simulated environment for which it is designed. Air Combat Command in conjunction with the Air Education and Training Command and other agencies is to begin a detailed analysis of alternatives to tetherless IADS training capabilities.

The Synthetic Theater of War (STOW) is an ongoing effort to integrate live, constructive, and virtual elements into a seamless environment. The STOW will expand training opportunities from the operational level to the tactical level and from the sensor to the shooter. The live elements will focus on integrating command and control, intelligence and live participants, the virtual elements will seek to achieve a distributed network of man-in-the-loop simulations to provide realistic tactical training, and the constructive elements will seamlessly enhance legacy simulations with high level STOW entities for JFACC battle staff training. Air Force STOW goals will focus on Air Force and Defense Advanced Research Projects Agency (DARPA) efforts to enhance air and space representations throughout all Air Force roles and missions.

## 9.7. Conclusions

As the Air Force undergoes modernization to meet new and emerging challenges methods for addressing training constraints are being reexamined. Successful methods gain wider application, while less accepted efforts are modified or abandoned. New methods for addressing training constraints are also being developed to meet new challenges. Most importantly, the Air Force

recognizes the need for ensuring that training infrastructure, be it man made or natural, meets the needs of the operators who carry out the Air Force mission.

This report updated the information in a related Air Force report for 2003 and provides a more detailed accounting of:

- Range capabilities and capacities for ranges in the United States and overseas
- Encroachment issues
- Actions being taken to address identified constraints to range operations

## 10. OBSERVATIONS

Many of the observations presented in last year's Section 366 Report remain valid today. To provide ready military forces to meet our country's national security needs, our personnel must train as they would fight, especially for combined arms and joint training. To train as we would fight requires reliable access to adequate land, air, sea space, and frequency spectrum resources. Encroachment effectively reduces the amount of these resources that the Department has to support essential military training.

The Department is grateful for the support that the Congress has provided thus far on the Readiness and Range Preservation Initiative, buffer areas, and related range management issues, and we look forward to continuing to work with the Congress on the remaining RRPI items. Yet even with these essential changes in the law, and others proposed by the Department, tomorrow's encroachment problems will be substantially worse than today's without effective management and broad cooperation. As our weapon systems grow in capability, they detect at greater distances, travel faster, cover wider areas, and process more information. These trends suggest training and testing needs for more land area, airspace, sea space, and frequency spectrum. At the same time encroachment diminishes the availability of these resources.

The Department plans to continue to work with the Congress, other federal agencies, the states, Native American tribes, local governments, host nations abroad, and non-governmental organizations to address today's encroachment problems and to ensure the long-run sustainability of the range resources that are so essential to training, testing, readiness, and our nation's security.

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**APPENDIX A: SECTION 366 OF THE NATIONAL DEFENSE  
AUTHORIZATION ACT  
FOR FISCALYEAR 2003**

Section 366 of 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.

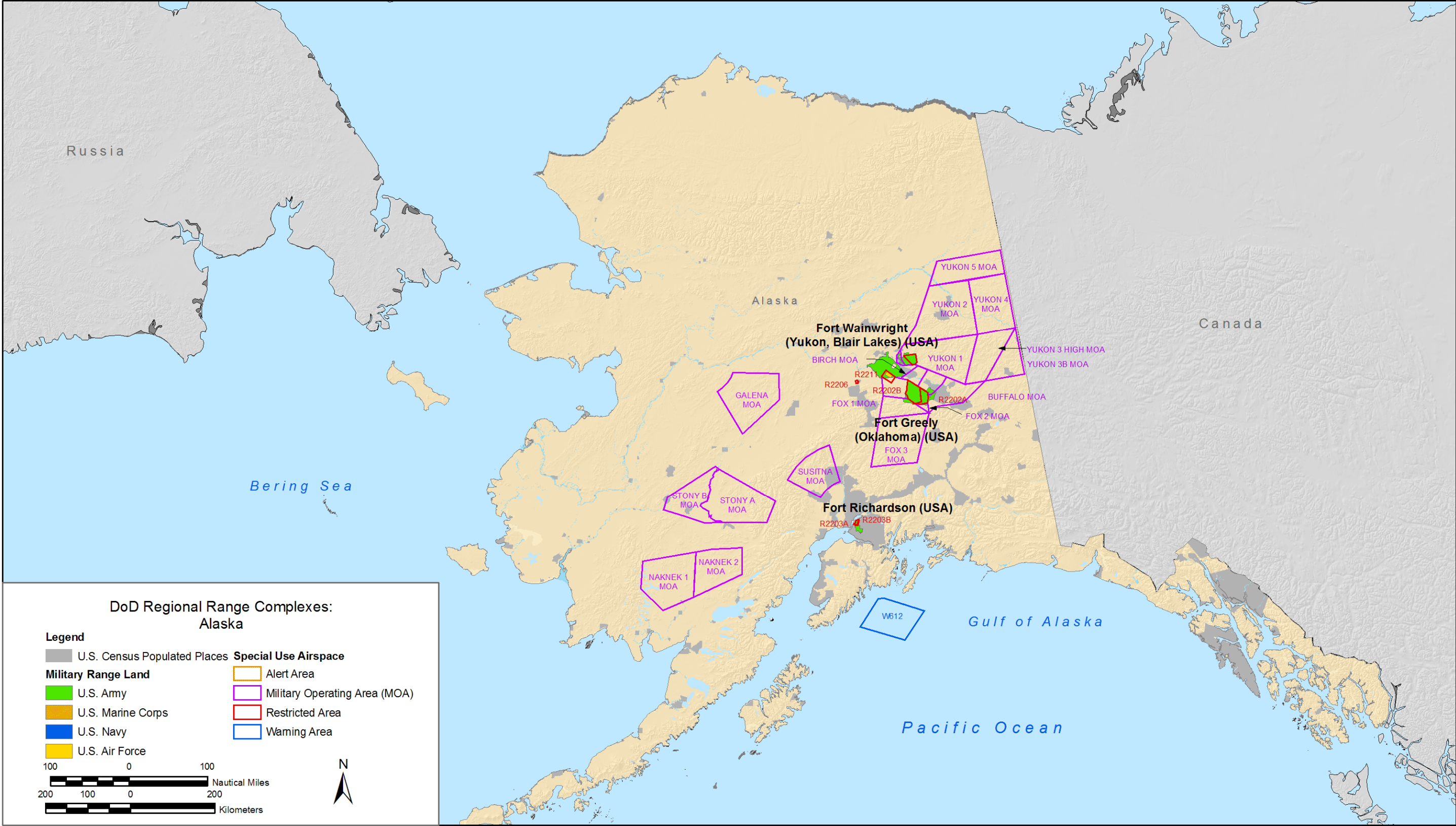
(2) The Secretary of Defense shall submit an initial inventory to Congress at the same time as the President submits the budget for fiscal year 2004 and shall submit an updated inventory to Congress at the same time as the President submits the budget for fiscal years 2005 through 2008.

(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.

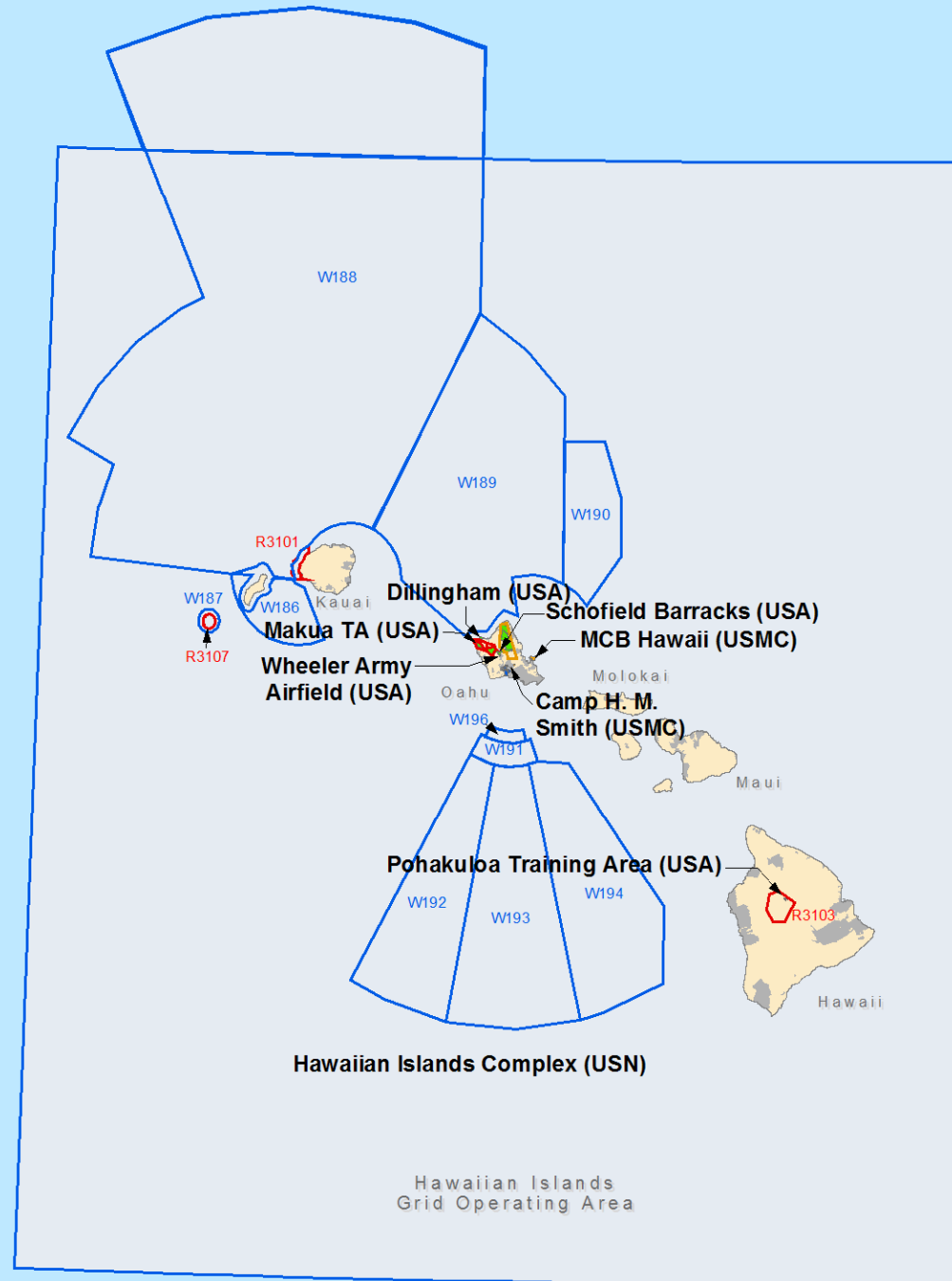
(e) **ARMED FORCES DEFINED.**—In this section, the term “Armed Forces” means the Army, Navy, Air Force, and Marine Corps.

**APPENDIX B: MAPS AND INVENTORY OF  
DEPARTMENT OF DEFENSE RANGE COMPLEXES, INDIVIDUAL  
RANGES NOT IN A COMPLEX, AND  
SPECIAL USE AIRSPACE**

DoD Regional Range Complexes: Alaska



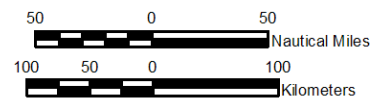
# DoD Regional Range Complexes: Hawaii



## DoD Regional Range Complexes: Hawaii

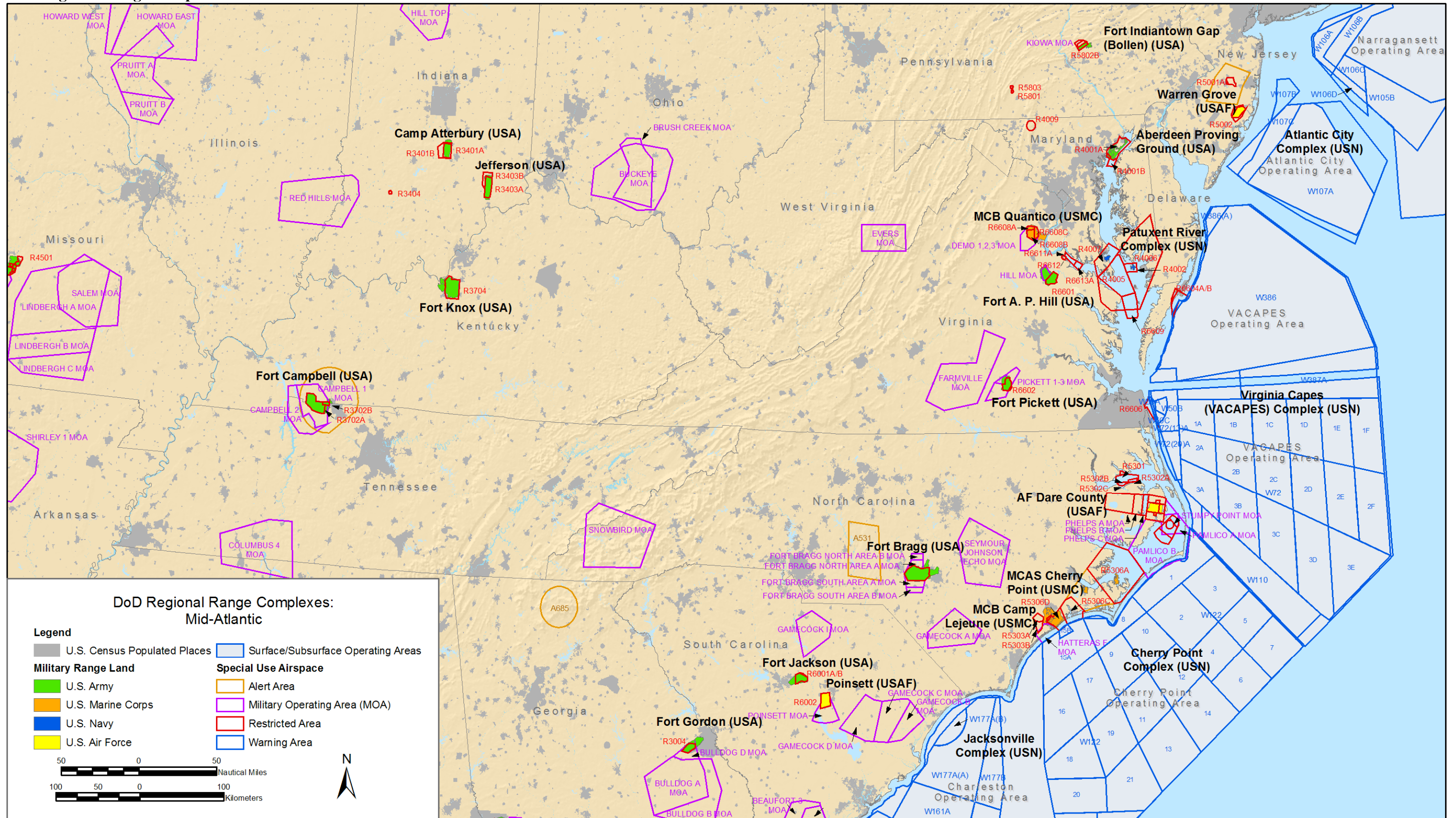
### Legend

- |                              |                                    |
|------------------------------|------------------------------------|
| U.S. Census Populated Places | Surface/Subsurface Operating Areas |
| <b>Military Range Land</b>   | <b>Special Use Airspace</b>        |
| U.S. Army                    | Alert Area                         |
| U.S. Marine Corps            | Military Operating Area (MOA)      |
| U.S. Navy                    | Restricted Area                    |
| U.S. Air Force               | Warning Area                       |

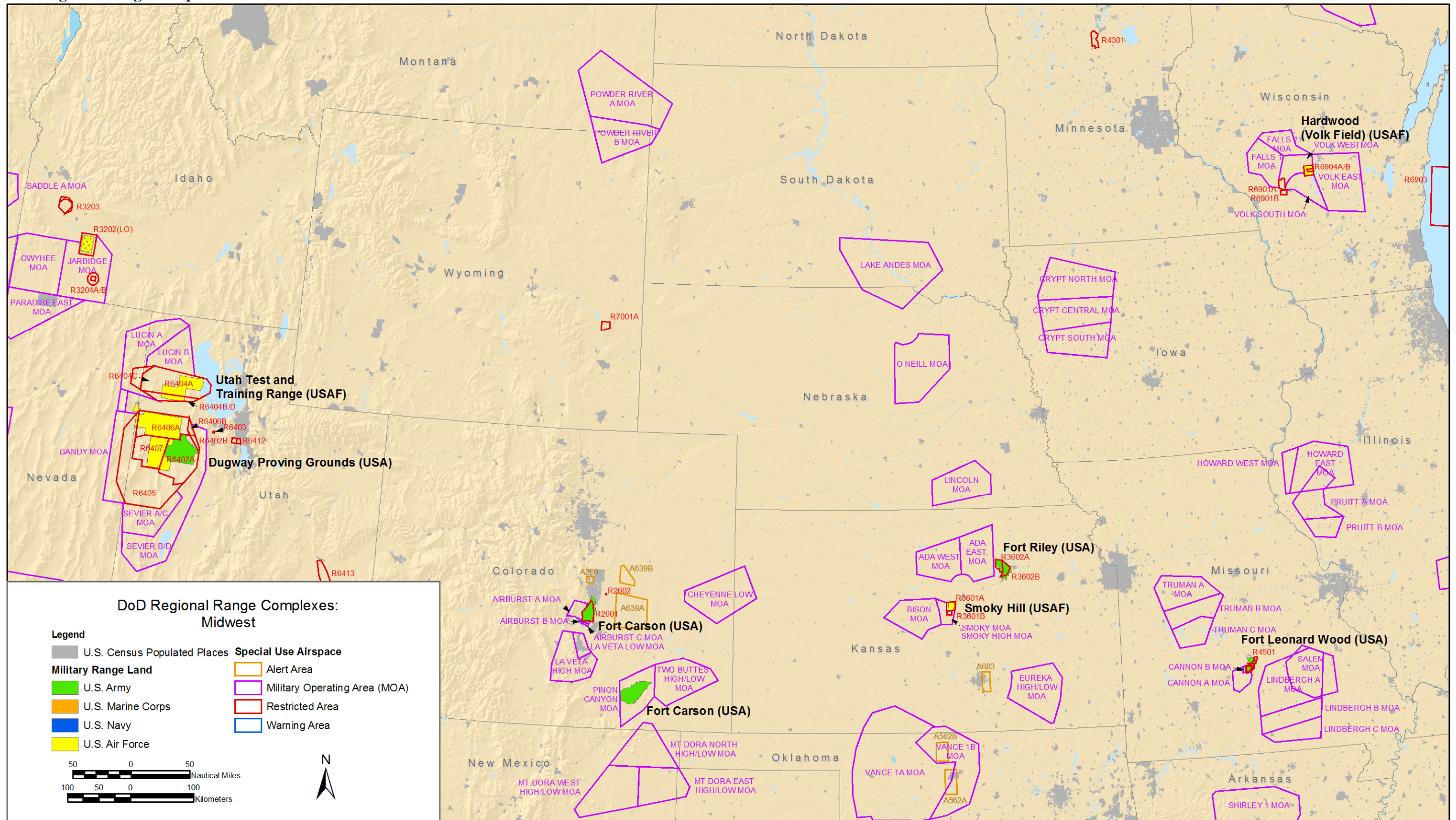


Pacific Ocean

# DoD Regional Range Complexes: Mid-Atlantic



**DoD Regional Range Complexes: Mid-West**



**DoD Regional Range Complexes: Midwest**

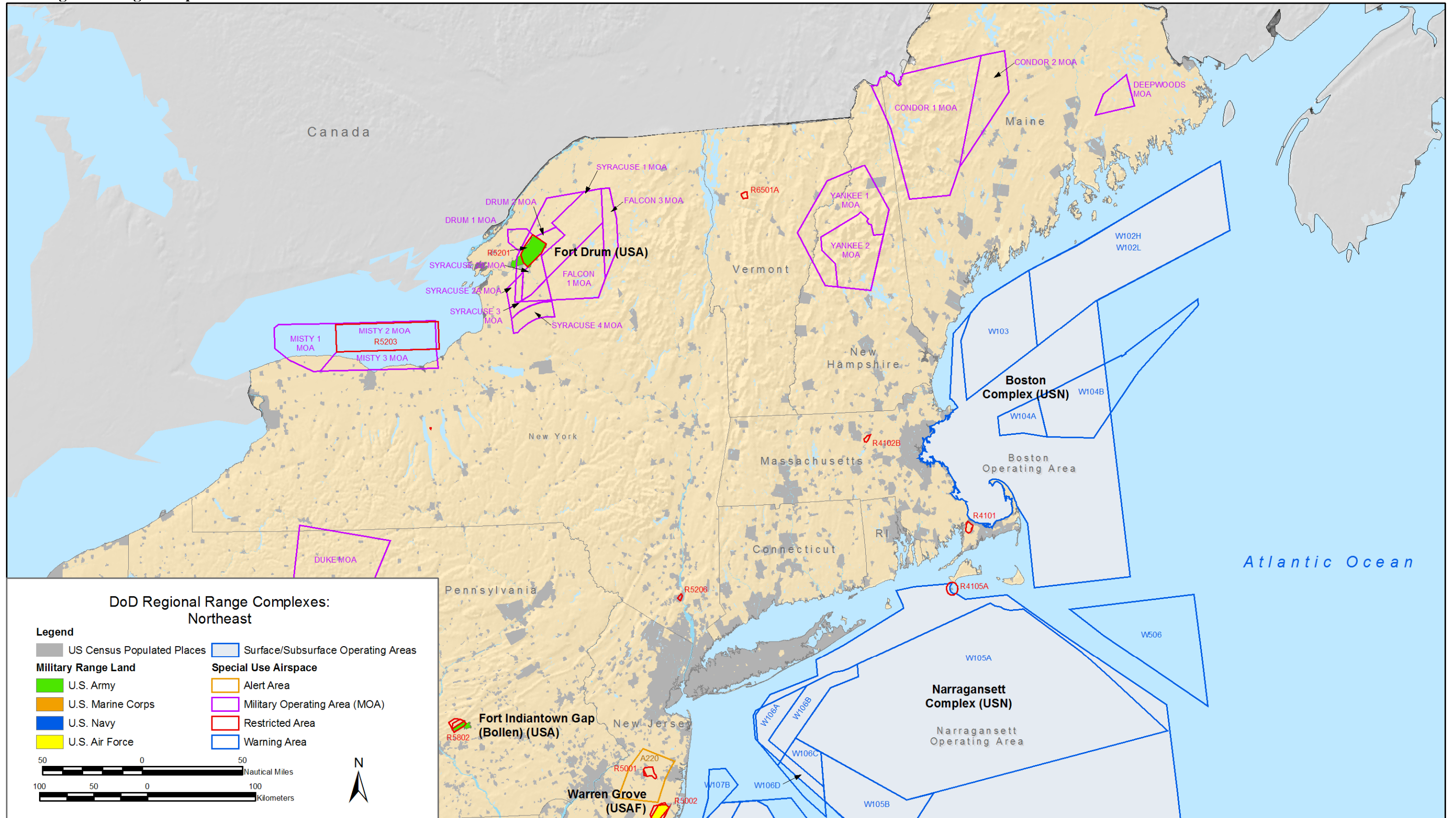
**Legend**

U.S. Census Populated Places	<b>Special Use Airspace</b>
Military Range Land	Alert Area
U.S. Army	Military Operating Area (MOA)
U.S. Marine Corps	Restricted Area
U.S. Navy	Warning Area
U.S. Air Force	

50 0 50 Nautical Miles  
100 50 0 100 Kilometers

N

**DoD Regional Range Complexes: Northeast**



**DoD Regional Range Complexes: Northeast**

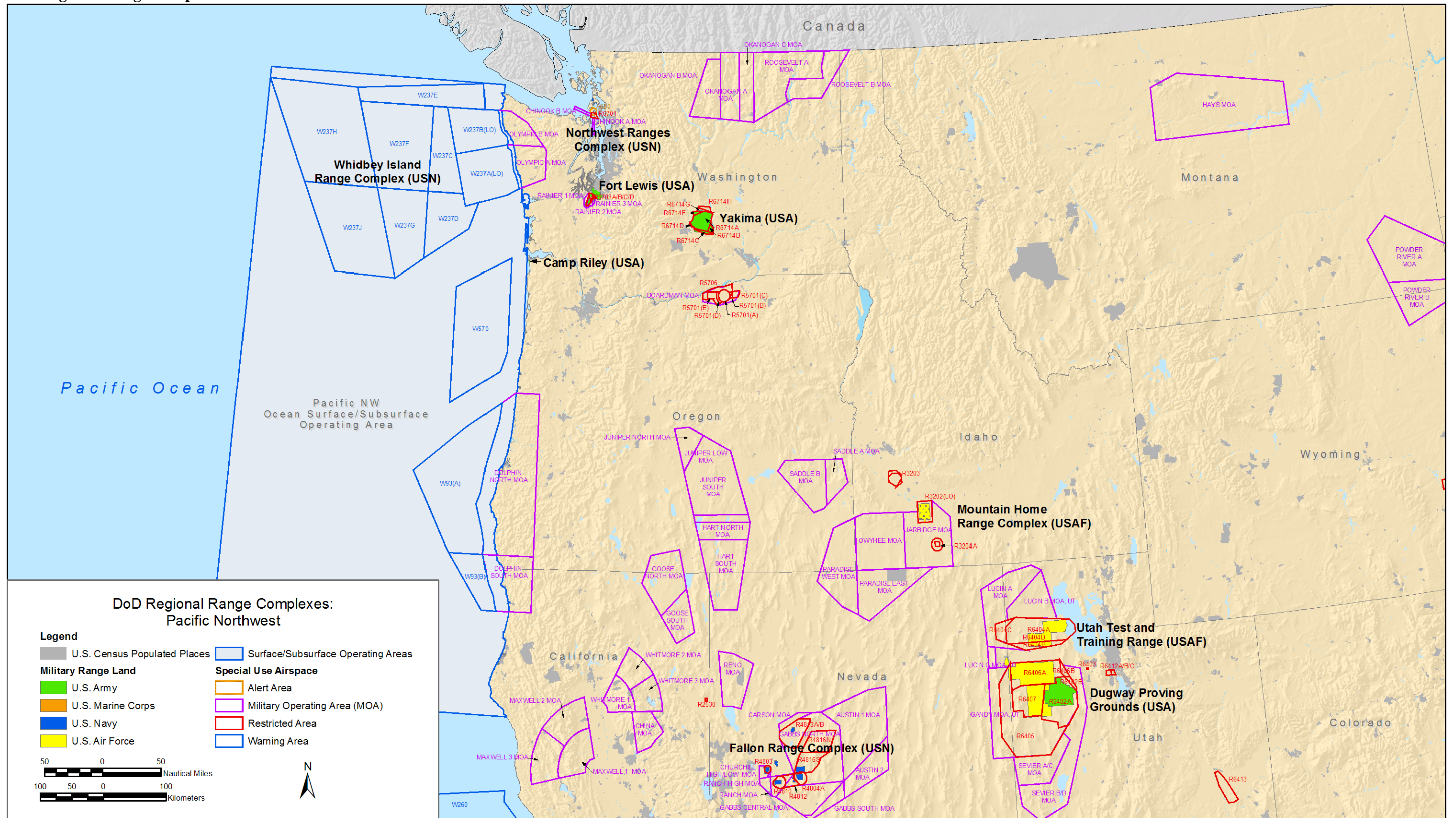
**Legend**

US Census Populated Places	Surface/Subsurface Operating Areas
<b>Military Range Land</b>	<b>Special Use Airspace</b>
U.S. Army	Alert Area
U.S. Marine Corps	Military Operating Area (MOA)
U.S. Navy	Restricted Area
U.S. Air Force	Warning Area

50 0 50 Nautical Miles  
100 50 0 100 Kilometers

N

**DoD Regional Range Complexes: Northwest**



**DoD Regional Range Complexes: Pacific Northwest**

**Legend**

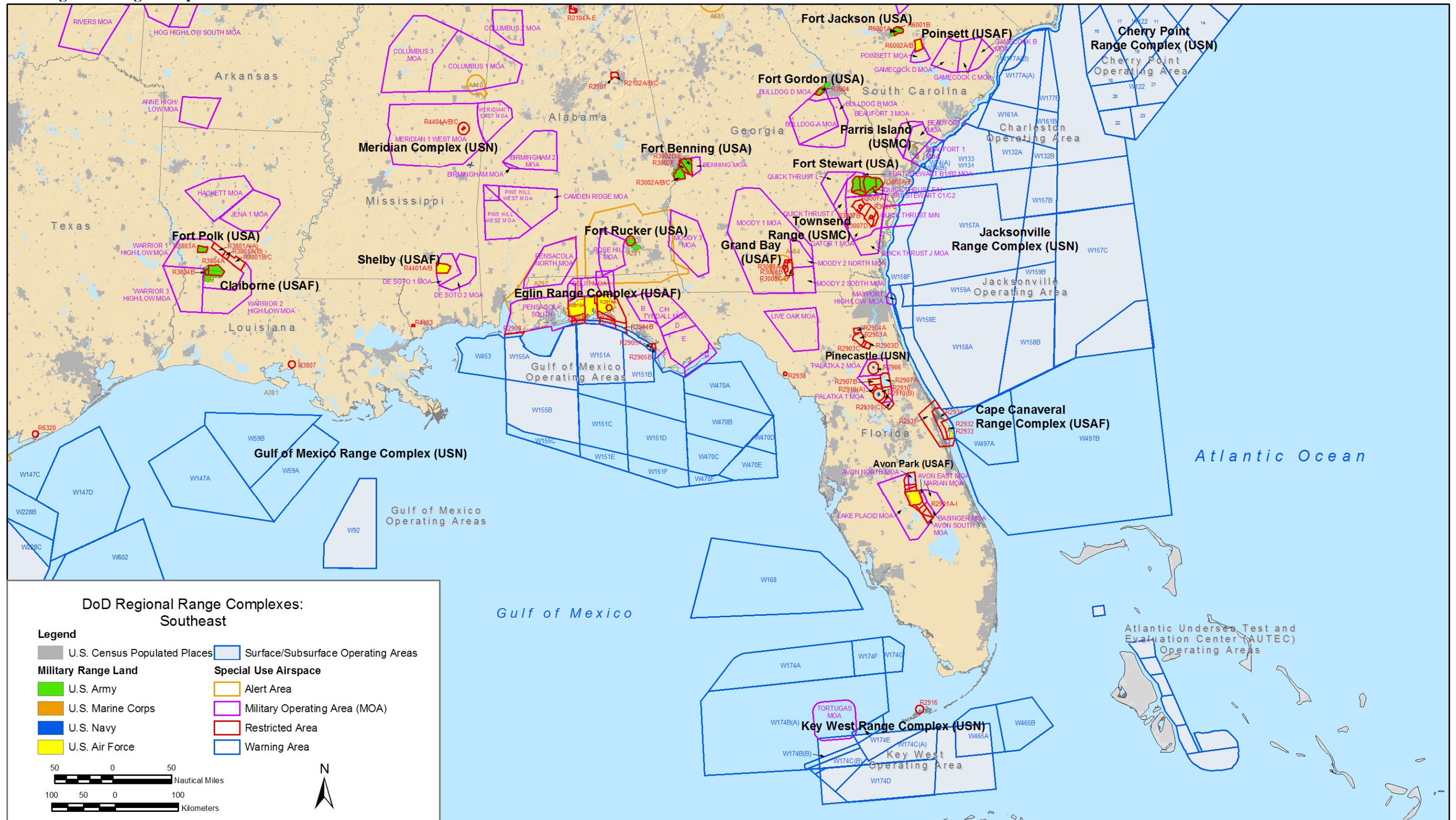
U.S. Census Populated Places	Surface/Subsurface Operating Areas
<b>Military Range Land</b>	<b>Special Use Airspace</b>
U.S. Army	Alert Area
U.S. Marine Corps	Military Operating Area (MOA)
U.S. Navy	Restricted Area
U.S. Air Force	Warning Area

50 0 50 Nautical Miles  
100 50 0 100 Kilometers

N



**DoD Regional Range Complexes: Southeast**



**DoD Regional Range Complexes: Southwest**

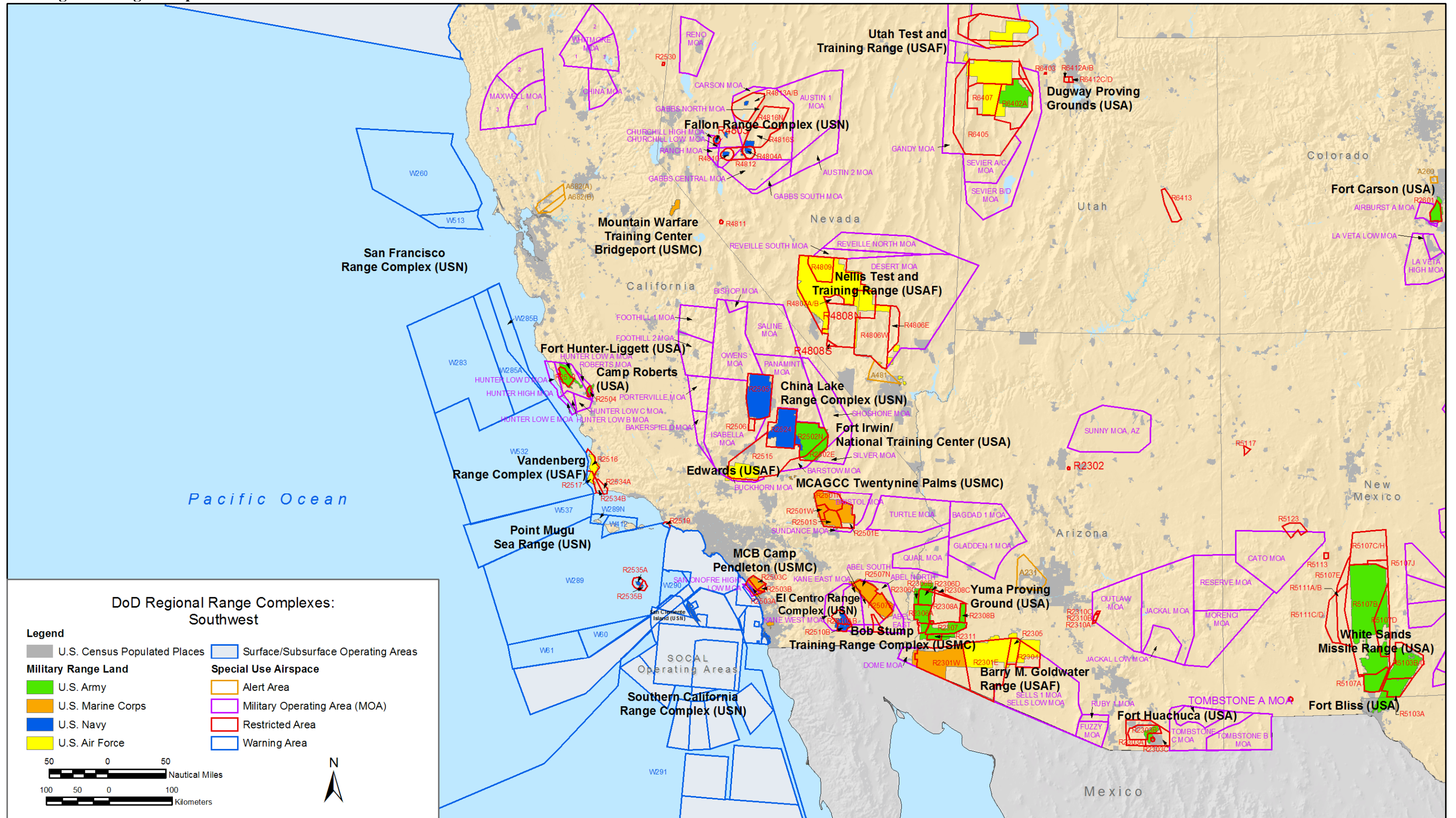


Table B-1. Training and Testing Range Complex Inventory

Training and Testing Range Complex Inventory																			
Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Major Command or Claimant Organization	Range Description <sup>*</sup>				Range Type <sup>*</sup>										
					Land Area for Ranges (acres)	Special Use 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>	Fort Richardson	US	AK	USARPAC	54,541	163	0	0			Y	Y	Y					Y	
	Fort Wainwright	US	AK	USARPAC	922,589	0	0	0				Y	Y			Y			Y
	Fort Benning	US	GA	TRADOC	168,778	422	0	0			Y	Y	Y						Y
	Fort Bliss	US	TX	TRADOC	1,096,153	1597	0	0			Y	Y	Y						Y
	Fort Bragg	US	NC	FORSCOM	143,593	1718	0	0			Y	Y	Y			Y			Y
	Fort Carson/Pinon Canyon	US	CO	FORSCOM	364,311	1153	0	0			Y	Y	Y			Y			Y
	Fort Drum	US	NY	FORSCOM	98,524	299	0	0			Y	Y	Y			Y			Y
	Dillingham MIL RES	US	HI	USARPAC	600	0	0	0			Y								Y
	Kahuka Training Area	US	HI	USARPAC	8,833	0	0	0			Y								Y
	Kawailoa Training Area	US	HI	USARPAC	23,455	0	0	0			Y								Y
	Makua MIL RES	US	HI	USARPAC	4,228	0	0	0				Y	Y						Y
	Pohakuloa Training Area	US	HI	USARPAC	109,950	0	0	0			Y	Y	Y						Y
	Schofield Barracks MIL RES	US	HI	USARPAC	11,442	0	0	0			Y	Y	Y			Y			Y
	Fort Hood	US	TX	FORSCOM	199,758	500	0	0			Y	Y	Y			Y			Y
	Fort Irwin	US	CA	FORSCOM	587,508	560	0	0			Y	Y	Y						Y
	Fort Knox	US	KY	TRADOC	101,623	113	0	0			Y	Y	Y			Y			Y
	Orchard (Gowen Field) Training Area	US	ID	ARNG	138,847	0	0	0			Y	Y	Y						Y
Fort Pickett	US	VA	ARNG	38,899	161	0	0			Y	Y	Y			Y			Y	

## Training and Testing Range Complex Inventory

Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Major Command or Claimant Organization	Range Description				Range Type										
					Land Area for Ranges (acres)	Special Use 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
	Fort Polk	US	LA	FORSCOM	138,737	5471	0	0			Y	Y	Y			Y			Y
	Camp Ripley	US	MN	ARNG	50,929	0	0	0			Y	Y	Y			Y			Y
	Camp Shelby	US	MS	ARNG	133,794	0	0	0			Y	Y	Y						Y
	Fort Sill	US	OK	TRADOC	85,002	153	0	0			Y	Y	Y						Y
	Fort Stewart	US	G	FORSCOM	274,137	556	0	0			Y	Y	Y			Y			Y
	White Sands Missile Range	US	NM	ATEC	3,546,156	7321	0	0				Y	Y						Y
	Yakima Training Center	US	WA	FORSCOM	324,313	0	0	0			Y	Y	Y						Y
	Yuma Proving Ground	US	AZ	ATEC	1,033,361	1500	0	0			Y		Y						Y
	Aberdeen Proving Ground	US	MD	AMC	64,250	133	0	0			Y		Y						Y
	Fort A.P. Hill	US	VA	MDW	74,263	928	0	0			Y	Y	Y						Y
	Camp Atterbury	US	IN	ARNG	31,889	0	0	0			Y	Y	Y						Y
	Camp Blanding	US	FL	ARNG	68,658	0	0	0			Y	Y	Y			Y			Y
	Fort Campbell	US	KY/TN	FORSCOM	93,348	931	0	0			Y	Y	Y			Y			Y
	Fort Dix	US	NJ	USARC	28,002	104	0	0			Y	Y	Y						Y
	Dugway Proving Ground	US	UT	ATEC	763,093	0	0	0			Y	Y	Y						Y
	Camp Grayling	US	MI	ARNG	147,711	8680	0	0			Y	Y	Y						Y
	Camp Gruber	US	OK	ARNG	46,887	0	0	0			Y		Y						Y
	Fort Indiantown Gap	US	PA	ARNG	14,940	0	0	0			Y	Y	Y			Y			Y
	Fort Jackson	US	SC	TRADOC	29,532	0	0	0			Y	Y	Y						Y
	Fort Leonard Wood	US	MO	TRADOC	53,502	175	0	0			Y	Y	Y						Y

## Training and Testing Range Complex Inventory

Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Major Command or Claimant Organization	Range Description*				Range Type*										
					Land Area for Ranges (acres)	Special Use 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
	Fort Lewis	US	WA	FORSCOM	77,577	0	0	0			Y	Y	Y			Y			Y
	Fort McClellan	US	AL	ARNG	41	0	0	0			Y		Y						Y
	Fort McCoy	US	WI	USARC	135,601	0	0	0			Y	Y	Y						Y
	Camp San Luis Obispo	US	CA	ARNG	4,852	0	0	0			Y	Y	Y						Y
	Fort Riley	US	KS	FORSCOM	92,660	107	0	0			Y	Y	Y						Y
	Camp Roberts	US	CA	ARNG	41,051	64	0	0			Y	Y	Y						Y
	Fort Rucker	US	AL	TRADOC	58,189	0	0	0			Y	Y	Y						Y
	Camp Beauregard	US	LA	ARNG	12,588	0	0	0			Y	Y	Y						Y
	Bog Brook/Riley Deepwoods Training Site	US	ME	ARNG	341,015	0	0	0			Y		Y			Y			Y
	Camp Bowie	US	TX	ARNG	8,697	0	0	0			Y		Y						Y
	Biak Training Center	US	OR	ARNG	27,961	0	0	0			Y		Y						Y
	Camp Crowder	US	MO	ARNG	4,098	0	0	0			Y	Y	Y						Y
	Fort Custer Training Center	US	MI	ARNG	7,487	0	0	0			Y	Y	Y			Y			Y
	Camp Dawson	US	WV	ARNG	4,383	0	0	0			Y	Y	Y						Y
	Ethan Allen Firing Range	US	VT	ARNG	10,742	0	0	0			Y	Y	Y						Y
	Camp Edwards	US	MA	ARNG	13,285	13	0	0			Y	Y	Y						Y
	Eustis/Fort Story	US	VA	TRADOC	3,999	0	0	0			Y	Y	Y						Y
	Fort Gordon	US	GA	TRADOC	49,353	0	0	0			Y	Y	Y						Y
	Camp Grafton	US	ND	TRADOC	11,380	0	0	0			Y		Y						Y
	Camp Guernsey	US	WY	ARNG	35,062	46	0	0			Y	Y	Y						Y

## Training and Testing Range Complex Inventory

Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Major Command or Claimant Organization	Range Description				Range Type											
					Land Area for Ranges (acres)	Special Use 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	
	Hunter-Liggit	US	CA	USARC	154,473	113	0	0			Y		Y							Y
	Keaukhana MIL RES	US	HI	ARNG	434	0	0	0			Y		Y							
	Fort Lee	US	VA	TRADOC	2,949	69	0	0			Y	Y	Y							Y
	Limestone Hills Training Area	US	MT	ARNG	19,120	0	0	0			Y		Y							Y
	Camp McCain	US	MS	ARNG	12,796	0	0	0			Y		Y							Y
	McCrary Training Center	US	SC	ARNG	14,506	0	0	0			Y		Y							Y
	Camp Minden	US	LA	ARNG	13,867	0	0	0			Y		Y							
	Navajo	US	AZ	ARNG	28,442	0	0	0					Y							Y
	Parks RFTA	US	CA	USARC	1,993	0	0	0			Y	Y	Y							Y
	Redstone Arsenal	US	AL	AMC	27,655	25	0	0			Y		Y							Y
	Camp Perry	US	OH	ARNG	343	0	0	0			Y	Y	Y							Y
	Camp Rilea	US	OR	ARNG	4,213	0	0	0			Y		Y							Y
	Camp Robinson	US	AR	ARNG	30,837	0	0	0			Y	Y	Y			Y				Y
	Fort Sam Houston/Camp Bullis	US	TX	MEDCOM	27,655	0	0	0			Y	Y	Y							Y
	Camp Santiago	US	PR	ARNG	12,044	0	0	0			Y	Y	Y							Y
	Wendell H. Ford Regional Training Center	US	KY	ARNG	7,174	0	0	0			Y	Y	Y							Y
	West Point MIL RES	US	NY	USMA	14,101	4	0	0			Y	Y	Y							Y
	Camp Williams	US	UT	ARNG	25,000	0	0	0			Y	Y	Y			Y				Y
	Stewart River	US	AK	ARNG	25,519	0	0	0			Y		Y							
	Camp Butner	US	NC	ARNG	4,550	0	0	0			Y	Y	Y							Y

## Training and Testing Range Complex Inventory

Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Major Command or Claimant Organization	Range Description				Range Type											
					Land Area for Ranges (acres)	Special Use 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	
	TS Caswell	US	ME	ARNG	1,094	0	0	0			Y		Y							
	Catoosa	US	TN	ARNG	1,515	0	0	0			Y	Y	Y							Y
	Camp Clark	US	MO	ARNG	997	0	0	0			Y	Y	Y							Y
	Fort Devens	US	MA	USARC	4,588	0	0	0			Y	Y	Y							Y
	MTA Camp Dodge	US	IA	ARNG	4,025	0	0	0			Y	Y	Y			Y				Y
	Florence Training Site	US	AZ	ARNG	25,559	61	0	0				Y	Y							Y
	Fort William Henry Harrison	US	MT	ARNG	6,314	0	0	0			Y		Y			Y				Y
	Camp Ashland - Greenleaf Training Site	US	NE	ARNG	4,263	0	0	0			Y		Y							Y
	Macon Training Site	US	MT	ARNG	3,062	0	0	0			Y		Y							Y
	Marseilles Training Site	US	IL	ARNG	2,630	0	0	0			Y	Y	Y							Y
	Camp Maxey	US	TX	ARNG	6,562	0	0	0			Y	Y	Y							Y
	McAlester AAP	US	OK	AMC	2,245	0	0	0			Y		Y							Y
	Milan Volunteer Training Site	US	TN	ARNG	2,391	0	0	0			Y		Y							Y
	Roswell	US	NM	ARNG	5,376	0	0	0			Y		Y							
	Smith	US	NY	ARNG	1,763	0	0	0			Y	Y	Y							Y
	Kansas Regional Training Site (Smokey Hills)	US	KS	ARNG	3,404	0	0	0			Y	Y	Y							Y
	Stones Ranch MIL RES	US	CT	ARNG	5,753	0	0	0			Y		Y							Y
	Tullahoma MIL RES	US	TN	ARNG	6,553	0	0	0			Y		Y							Y
	Camp Villere	US	LA	ARNG	658	0	0	0			Y		Y							Y
	Wappapellots	US	MO	ARNG	2,187	0	0	0			Y		Y							Y

## Training and Testing Range Complex Inventory

Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Major Command or Claimant Organization	Range Description				Range Type											
					Land Area for Ranges (acres)	Special Use 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	
	Camp Wismer	US	WS	ARNG	3,319	0	0	0			Y		Y							Y
	Anniston Army Depot	US	AL	AMC	88	0	0	0					Y							Y
	Arden Hills Army Training Site	US	MN	ARNG	1,796	0	0	0			Y									Y
	Auburn	US	ME	ARNG	203	0	0	0			Y		Y							Y
	Austin Training Property	US	NE/SD	ARNG	413	0	0	0			Y									Y
	Bangor Training Center	US	ME	ARNG	189	0	0	0			Y		Y							Y
	Barker Dam Training Site	US	TX	ARNG	572	0	0	0			Y									Y
	Belton LTA	US	MO	USARC	461	0	0	0			Y									
	Black Mountain	US	NM	ARNG	2,114	0	0	0			Y		Y							
	Blossom Point Research Facility	US	MD	AMC	1,643	0	0	0			Y		Y							Y
	Blue Grass Army Depot	US	KY	AMC	175	0	0	0			Y		Y							Y
	Buckman	US	FL	ARNG	68	0	0	0												Y
	Bucksnot Gun Club	US	MO	ARNG	10	0	0	0					Y							
	Buhl Training Site	US	ID	ARNG	162	0	0	0			Y		Y							
	Camp Adair	US	OR	ARNG	526	0	0	0			Y		Y							Y
	Camp Curtis Guild	US	MA	ARNG	623	0	0	0			Y		Y							Y
	Camp Davis	US	ND	ARNG	82	0	0	0			Y		Y							Y
	Camp Fogarty Training Site	US	RI	ARNG	17,755	0	0	0			Y	Y	Y							Y
	Camp Fretterd	US	MD	ARNG	424	0	0	0			Y									Y
	Camp Hartell	US	CT	ARNG	31	0	0	0			Y		Y							Y



## Training and Testing Range Complex Inventory

Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Major Command or Claimant Organization	Range Description*				Range Type*											
					Land Area for Ranges (acres)	Special Use 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	
	Camp Johnson	US	VT	ARNG	595	0	0	0			Y		Y							Y
	Camp Mackall	US	NC	FORSCOM	8,484	0	0	0			Y									Y
	Camp Merrill	US	GA	TRADOC	344,990	0	0	0			Y		Y							
	Camp Murray	US	WA	ARNG	113	0	0	0												Y
	Camp Rowland	US	CT	ARNG	38	0	0	0												Y
	Camp Sherman	US	NC	ARNG	430	0	0	0			Y	Y	Y							
	Camp Stanley Storage Activity	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									Y
	Camp Withycombe	US	OR	ARNG	166	0	0	0			Y									Y
	Casper Armory	US	WY	ARNG	27	0	0	0			Y		Y							
	Chaffee	US	AR	ARNG	63,519	81	0	0			Y	Y	Y							Y
	Clinton Training Site	US	PA	USARC	154	0	0	0			Y		Y							Y
	Colorado Springs Training Site	US	CO	ARNG	310	1	0	0					Y							Y
	Cpt. Euripides Rubio Jr. Center	US	PR	USARC	51	0	0	0												Y
	De Bremond Training Center	US	NM	ARNG	1,343	0	0	0			Y		Y							
	Defense Distribution Depot Susquehanna	US	PA	AMC	0	0	0	0					Y							Y
	Deseret Chemical Depot	US	UT	AMC	552	0	0	0					Y							Y
	Dona Ana Range Camp	US	NM	ARNG	64	0	0	0			Y									
	Duffield Industrial Park	US	VA	ARNG	75	0	0	0												Y

## Training and Testing Range Complex Inventory

Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Major Command or Claimant Organization	Range Description*				Range Type*											
					Land Area for Ranges (acres)	Special Use 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	
	East Haven Rifle Range	US	CT	ARNG	113	0	0	0			Y	Y								Y
	Eastern Kentucky Gun Club	US	KY	ARNG	13	0	0	0			Y		Y							
	Floyd Edsal Training Center	US	NV	ARNG	1,525	0	0	0			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
	Fort George G. Meade	US	MD	MDW	129	0	0	0			Y									Y
	Fort Gillem	US	GA	FORSCOM	474	0	0	0			Y									Y
	Fort Huachuca	US	AZ	TRADOC	73,953	815	0	0			Y	Y	Y							Y
	Fort Leavenworth	US	KS	TRADOC	4,285	0	0	0			Y		Y							Y
	Fort Meade	US	SD	ARNG	6,139	0	0	0			Y									
	Fort Monmouth	US	NJ	AMC	104	0	0	0			Y		Y				Y			Y
	Fort Nathaniel Greene	US	RI	USARC	96	0	0	0			Y		Y							Y
	Fort Wingate Missile Launch Complex	US	NM	ATEC	6,526	0	0	0					Y							
	Fort Wolters	US	TX	ARNG	4,061	0	0	0			Y	Y	Y							Y
	Frye Mountain Training Site	US	ME	ARNG	5,137	0	0	0			Y		Y							
	Fort McPherson	US	GA	FORSCOM	21	0	0	0			Y		Y							Y
	Gardiner	US	ME	ARNG	106	0	0	0			Y		Y							Y
	Greely	US	AK	USARPAC	631,643	0	0	0			Y	Y	Y				Y			Y
	Green River Launch Complex	US	UT	ATEC	3,960	0	0	0					Y							
	Guilderland	US	NY	ARNG	291	0	0	0					Y							Y

## Training and Testing Range Complex Inventory

Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Major Command or Claimant Organization	Range Description				Range Type											
					Land Area for Ranges (acres)	Special Use 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	
	Gunpowder MIL RES	US	MD	ARNG	227	0	0	0			Y									Y
	Happy Valley (Carlsbad)	US	NM	ARNG	721	0	0	0			Y		Y							
	Hawthorne Army Depot	US	NV	AMC	35,789	0	0	0				Y	Y							
	Henry H. Cobb Jr. - Pelham	US	AL	ARNG	22,142	0	0	0			Y	Y	Y							Y
	Hollis Plains Training Site	US	ME	ARNG	412	0	0	0			Y		Y							Y
	Hunter Army Airfield	US	GA	FORSCOM	2,832	0	0	0			Y		Y							Y
	Idaho Falls Training Site	US	ID	ARNG	1,081	0	0	0			Y		Y							
	Idaho Launch Complex	US	ID	ATEC	315	0	0	0					Y							
	Ike Skelton Training Site	US	MO	ARNG	24	0	0	0			Y		Y							Y
	Indiana Range Wet Site	US	PA	ARNG	165	0	0	0			Y		Y							
	Iowa AAP	US	IA	AMC	1,338	0	0	0			Y		Y							Y
	Jefferson Proving Ground	US	IN	AMC	1,050	0	0	0				Y								
	John Sevier Range	US	TN	ARNG	6	0	0	0					Y							
	Joliet Training Center	US	IL	USARC	3,446	0	0	0			Y	Y	Y							Y
	Kanaio Training Center	US	HI	ARNG	4,633	0	0	0			Y		Y							
	Kansas AAP	US	KS	AMC	157	0	0	0			Y		Y							
	Kekaha	US	HI	ARNG	61	0	0	0			Y		Y							
	Keystone Rifle Range	US	CA	ARNG	189	0	0	0			Y		Y							
	Keystone Training Site	US	PA	USARC	452	0	0	0			Y		Y							Y
	La Reforma Training Site	US	TX	ARNG	4,264	0	0	0			Y		Y							

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	Lake City AAP	US	MO	AMC	696	0	0	0			Y		Y							Y
	Lander Local Training Area	US	WY	ARNG	1,353	0	0	0			Y		Y							
	Lauderick Creek MIL RES	US	MD	ARNG	1,065	0	0	0			Y									
	Letterkenny Army Depot	US	PA	AMC	9	0	0	0					Y							
	Lone Star AAP	US	TX	AMC	232	0	0	0					Y							
	Los Alamitos JFTB	US	CA	ARNG	397	0	0	0					Y							Y
	Lovell Local Training Area	US	WY	ARNG	3,606	0	0	0			Y		Y							Y
	Mabe Range LTA	US	VA	ARNG	1,733	0	0	0					Y							Y
	Mead Training Site	US	NE	ARNG	1,185	0	0	0			Y		Y							Y
	Mobridge Training Area	US	SD	ARNG	120	0	0	0			Y									Y
	MOTSU	US	NC	MTMC	7	0	0	0			Y		Y							
	MTA SMR CP Pendleton	US	VA	ARNG	89	0	0	0			Y		Y							Y
	New Castle Rifle Range	US	DE	ARNG	93	0	0	0			Y		Y							Y
	Newton Falls (RAAP)	US	OH	ARNG	2,879	0	0	0			Y		Y							Y
	NGTC at Sea Girt	US	NJ	ARNG	120	0	0	0			Y	Y	Y							Y
	NH NG Training Site	US	NH	ARNG	94	0	0	0												Y
	Ocate Training Site	US	NM	ARNG	158	0	0	0			Y									Y
	Papago Park MIL RES	US	AZ	ARNG	104	0	0	0					Y							Y
	Pearson Ridge NC	US	LA	FORSCOM	33,456	0	0	0				Y	Y							
	Picatiny Arsenal	US	NJ	AMC	4,545	0	0	0			Y		Y							Y

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	Pine Bluff Arsenal	US	AR	AMC	98	0	0	0					Y							Y
	Plymouth Training Site	US	ME	ARNG	306	0	0	0			Y		Y							Y
	Pocatello Training Site	US	ID	ARNG	718	0	0	0			Y		Y							
	Pueblo Chemical Depot	US	CO	AMC	94	0	0	0					Y							Y
	Puu Luahine (Red Hill) LTA	US	HI	ARNG	8,346	0	0	0			Y									
	Racine County Line Range	US	WI	ARNG	15	0	0	0					Y							
	Red River Army Depot	US	TX	AMC	165	0	0	0					Y							Y
	Redfield Training Area	US	SD	ARNG	176	0	0	0			Y									
	Ridgeway	US	PA	ARNG	7	0	0	0			Y		Y							Y
	Rio Rancho	US	NM	ARNG	96	0	0	0					Y							Y
	Scranton (Leach Range)	US	PA	AMC	102	0	0	0			Y		Y							
	Seagoville LTA	US	TX	USARC	198	0	0	0			Y		Y							Y
	Sheridan Local TA	US	WY	ARNG	3,980	0	0	0			Y		Y							
	Sierra Army Depot	US	CA	AMC	4,749	0	0	0					Y							Y
	Sioux Falls Airport Training Area	US	SD	ARNG	15	0	0	0			Y		Y							
	Springfield Training Site	US	IL	ARNG	99	0	0	0					Y							Y
	St. Anthony Training Site	US	ID	ARNG	3,336	0	0	0			Y		Y							
	St. George Training Area	US	UT	ARNG	369	0	0	0			Y									
	Sunflower Army Ammunition Plant	US	KS	AMC	493	0	0	0			Y									Y
	Tooele Army Depot	US	UT	AMC	1,457	0	0	0					Y							

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	Truman Training Site	US	MO	ARNG	565	0	0	0			Y									
	TS NAS Fallon RG B19	US	NV	ARNG	132	0	0	0					Y							Y
	Tucumcari Training Site	US	NM	ARNG	63	0	0	0			Y		Y							
	Twin Falls Training Site	US	ID	ARNG	312	0	0	0			Y		Y							
	Ukumehame Firing Range	US	HI	ARNG	27	0	0	0			Y		Y							
	Umatilla Chemical Depot	US	OR	AMC	9	0	0	0					Y							Y
	Vail Tree Farm LTA	US	WA	USARC	166,332	0	0	0												Y
	Van Vleck Ranch	US	CA	ARNG	2,685	0	0	0			Y									Y
	Smyrna Volunteer Training Site	US	TN	ARNG	557	0	0	0			Y		Y							Y
	Waco Training Area	US	MT	ARNG	4,763	0	0	0			Y		Y							
	Watkin Armory	US	CO	ARNG	5	0	0	0												Y
	Weldon Spring	US	MO	ARNG	1,659	0	0	0			Y		Y							Y
	West Camp Rapid	US	SD	ARNG	570	0	0	0			Y		Y							Y
	West Silver Spring Complex	US	WI	USARC	9	0	0	0												Y
	Westminster	US	VT	ARNG	39	0	0	0			Y		Y							
	Wildcat Hills State Rec. Area TA	US	NE	ARNG	853	0	0	0			Y		Y							
	Williston Wets	US	ND	ARNG	345	0	0	0			Y		Y							
	WV DNR Elk River WMA TA	US	WV	ARNG	278	0	0	0			Y		Y							Y
	WV DNR McClintic WMA TA	US	WV	ARNG	55	0	0	0			Y		Y							
	Youngstown Wets	US	NY	ARNG	848	0	0	0			Y		Y							Y

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	Grafenwoehr	OS	Germany	USAREUR	52,281	0	0	0			Y	Y	Y						Y
	Hofenfels	OS	Germany	USAREUR	38,981	0	0	0			Y		Y			Y			Y
	Area I (North)	OS	Korea	EUSA	41,495	0	0	0			Y	Y	Y			Y			Y
	Area II (Northwest)	OS	Korea	EUSA	115	0	0	0					Y						Y
	Area III (Central)	OS	Korea	EUSA	113	0	0	0					Y						Y
	Area IV (South)	OS	Korea	EUSA	722	0	0	0			Y	Y	Y						Y
	Friedberg LTA	OS	Germany	USAREUR	8,519	0	0	0			Y		Y						Y
	Schweinfurt	OS	Germany	USAREUR	6,326	0	0	0			Y	Y	Y						Y
	Wuerzburg	OS	Germany	USAREUR	3,308	0	0	0			Y		Y			Y			Y
	Ansbach LTA	OS	Germany	USAREUR	899	0	0	0			Y		Y						Y
	Aschaffenu RG LTA	OS	Germany	USAREUR	1,337	0	0	0			Y		Y						Y
	Baumholder	OS	Germany	USAREUR	188	0	0	0			Y	Y	Y			Y			Y
	Boeblingen	OS	Germany	USAREUR	1,125	0	0	0			Y		Y			Y			Y
	Breitenwald	OS	Germany	USAREUR	205	0	0	0			Y		Y						Y
	Camp Darby	OS	Italy	USAREUR	135	0	0	0											Y
	Campo Pond TA	OS	Germany	USAREUR	366	0	0	0			Y		Y						Y
	Cao Malnisio	OS	Italy	USAREUR	4,098	0	0	0			Y	Y	Y						Y
	Cellina-Meduna	OS	Italy	USAREUR	11,558	0	0	0			Y		Y						Y
	Conn Barracks	OS	Germany	USAREUR	127	0	0	0					Y						Y
	Ederle	OS	Italy	USAREUR	11	0	0	0			Y		Y						Y

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	Foce del Reno	OS	Italy	USAREUR	8,941	0	0	0				Y	Y						
	Foce Fume Serchio	OS	Italy	USAREUR	163	0	0	0				Y	Y						
	Lampertheim Training Area	OS	Germany	USAREUR	3,942	0	0	0			Y	Y	Y						Y
	Longare	OS	Italy	USAREUR	15	0	0	0			Y								Y
	Messell Small Arms Range	OS	Germany	USAREUR	25	0	0	0					Y						Y
	Monte Carpegna	OS	Italy	USAREUR	6,488	0	0	0			Y	Y							
	Monte Ciarlec	OS	Italy	USAREUR	7,925	0	0	0			Y	Y							
	Monte Romano	OS	Italy	USAREUR	10,207	0	0	0			Y	Y	Y						Y
	Offersheim Small Arms Range	OS	Germany	USAREUR	3	0	0	0			Y		Y						Y
	Podeldorf LTA	OS	Germany	USAREUR	1,105	0	0	0			Y		Y						Y
	P-Series	OS	Italy	USAREUR	5,291	0	0	0			Y								
	Ray Barracks Training Area	OS	Germany	USAREUR	21	0	0	0			Y		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
	Rivoli Bianchi	OS	Italy	USAREUR	235	0	0	0					Y						
	Santa Severa	OS	Italy	USAREUR	100	0	0	0				Y	Y						
	Schwetzingen LTA	OS	Germany	USAREUR	249	0	0	0			Y								Y
	Tiergarten	OS	Germany	USAREUR	234	0	0	0			Y								Y
	T-Series	OS	Italy	USAREUR	7,222	0	0	0			Y								
	Wackernheim Small Arms Ranges	OS	Germany	USAREUR	32	0	0	0					Y						Y



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<b>Individual Army Ranges</b>																			
	BULLSEYE 02	OS	KOREA	EUSA	1,395						Y								
	CAMP GREAVES	OS	KOREA	EUSA	0							Y							
	CAMP HOWZE	OS	KOREA	EUSA	0							Y							
	GIMBOLS	OS	KOREA	EUSA	3,019						Y								
	WATKINS RANGE	OS	KOREA	EUSA	44														Y
	CAMP HUMPHREYS	OS	KOREA	EUSA	1							Y							
	ROTTERSHAUSEN	OS	GERMANY	USAREUR	142						Y								
	FAHR RIVER CROSSING	OS	GERMANY	USAREUR	3														Y
	GERLACHSHAUSEN SWIM SITE	OS	GERMANY	USAREUR	0													Y	
	MICHELFELD	OS	GERMANY	USAREUR	92						Y								
	KATTERBACH KASERNE	OS	GERMANY	USAREUR	49														Y
	BAMBERG TA G	OS	GERMANY	USAREUR	70							Y							
	APPENDORF LTA	OS	GERMANY	USAREUR	328						Y								
	AREA OCKSTADT	OS	GERMANY	USAREUR	192						Y								
	BABENHAUSEN LTA	OS	GERMANY	USAREUR	190						Y								
	BAMBERG ARMY AIRFIELD	OS	GERMANY	USAREUR	11														Y
	BENELUX TSC	OS	BELGIUM	USAREUR	70						Y								
	BUG LTA	OS	GERMANY	USAREUR	111						Y								
	BURGEBRACH LTA	OS	GERMANY	USAREUR	249						Y								

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	FONTANIVA	OS	ITALY	USAREUR	155							Y								
	GIESSEN DEPOT TRAINING AREA	OS	GERMANY	USAREUR	137							Y								
	GROSSAUHEIM	OS	GERMANY	USAREUR	46														Y	
	GROSSOSTHEIM LTA	OS	GERMANY	USAREUR	1,557							Y								
	HOHE WARTE	OS	GERMANY	USAREUR	160							Y								
	KUNIGUNDENRUH LTA	OS	GERMANY	USAREUR	113							Y								
	LTA 6910	OS	GERMANY	USAREUR	104							Y								
	MAINZ-LAYENHOF	OS	GERMANY	USAREUR	249												Y			
	RIVERSIDE	OS	ITALY	USAREUR	3							Y								
	SAN GIORGIO	OS	ITALY	USAREUR	68												Y			
	SAND DUNES	OS	GERMANY	USAREUR	105							Y								
	SOUTH HAUPTSMOOR LTA	OS	GERMANY	USAREUR	268							Y								
	WARNER BARRACKS	OS	GERMANY	USAREUR	2									Y						
	BLACK RAPIDS TRAINING SITE	US	AK	USARPAC	4,213							Y								
	EKLUTNA GLACIER TS	US	AK	USARPAC	33							Y								
	GERSTLE RIVER TRAINING AREA	US	AK	USARPAC	20,589							Y								
	WHISTLER CREEK TS	US	AK	USARPAC	543							Y								
	KEAMUKU LTA	US	HI	USARPAC	22,640							Y								
	CAMEL TRACKS TNG SITE	US	NM	ARNG	8,349							Y								
	BG THOMAS BAKER TRAINING SITE	US	MD	ARNG	871							Y								

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	MTA STEAD FAC	US	NV	ARNG	196						Y									
	89TH RSC MEAD WET SITE	US	NE	USARC	956						Y									
	89TH RSC SUNFLOWER WET SITE	US	KS	USARC	69						Y									
	AAHOAKA LTA	US	HI	ARNG	3,128						Y									
	ALBUQUERQUE LTA	US	NM	USARC	7						Y									
	AMERICAN SAMOA LTA	US	AS	USARC	79						Y									
	ANAHOLA LTA	US	HI	ARNG	3,322						Y									
	ARTEMUS LTA	US	KY	ARNG	523						Y									
	AVN TRAINING AREA (WEYERHAEUSER)	US	WA	USARC	20,443															Y
	BARADA LTA	US	NE	ARNG	85						Y									
	BARKER DAM LTA	US	TX	USARC	1,636															Y
	BEAVER TRAINING AREA	US	UT	ARNG	657						Y									
	BECKLEY CITY POLICE RANGE	US	WV	ARNG	2								Y							
	BEECH FORK STATE PARK	US	WV	ARNG	12,836						Y									
	BIDWELL HILL	US	CO	ARNG	40															Y
	BLANDING ARMORY	US	UT	ARNG	28						Y									
	BOLIVAR LTA	US	TN	ARNG	170						Y									
	BOOK CLIFFS RIFLE RANGE	US	CO	ARNG	346								Y							
	BOX BUTTE RESERVOIR LTA	US	NE	ARNG	13															Y
	BRETTONS WOOD BIATHLON RANGE	US	NH	ARNG	1								Y							

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	BUCKEYE TRAINING SITE	US	AZ	ARNG	1,481						Y										
	BUCKLEY ANG BASE, CO	US	CO	ARNG	10																Y
	BULLVILLE USARC	US	NY	USARC	154																Y
	CAMERON PASS	US	CO	ARNG	45,396						Y										
	CAMP BARKELEY	US	TX	ARNG	980						Y										
	CAMP FOWLER	US	IN	ARNG	98						Y										
	CAMP HALE	US	CO	ARNG	21,483						Y										
	CAMP KEYES T.S.	US	ME	ARNG	1																Y
	CAMP LUNA	US	NM	ARNG	133						Y										
	CAMP MABRY	US	TX	ARNG	178						Y										
	CAMP SEVEN MILE	US	WA	ARNG	340						Y										
	CASA GRANDE TRAINING SITE	US	AZ	ARNG	800						Y										
	CHATFIELD RESERVOIR	US	CO	ARNG	2,281																Y
	CLARKS HILL TS	US	SC	ARNG	891						Y										
	CORNHUSKER AAP	US	NE	USACE	6								Y								
	DOUGLAS TRAINING SITE	US	AZ	ARNG	990						Y										
	DZ BABICH	US	MD	ARNG	114																Y
	DZ BEECH HILL	US	WV	ARNG	189																Y
	EAGLE MOUNTAIN LAKE TRAINING SITE	US	TX	ARNG	1,246						Y										
	EAST STROUDSBURG ARMORY	US	PA	ARNG	19						Y										

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	EDGEMEADE TS MTN HOME	US	ID	ARNG	123							Y													
	ERNIE PYLE USARC/AMSA #12 (G)	US	NY	USARC	2																				Y
	FAA RADIO TOWER SITE	US	CO	ARNG	13																				Y
	FELICITY	US	OH	ARNG	1																				Y
	FORT MIFFLIN	US	PA	ARNG	27																				Y
	FORT MORGAN AIRPORT	US	CO	ARNG	20																				Y
	FORT RUGER	US	HI	USARPAC	312							Y													
	FOUNTAIN INN TS	US	SC	ARNG	21							Y													
	FREEMAN FIELD POLICE RANGE	US	IN	ARNG	2									Y											
	GARRISON WETS	US	ND	ARNG	765							Y													
	GILA BEND TRAINING SITE	US	AZ	ARNG	639																				Y
	GOODPASTURE DZ	US	CO	ARNG	179																				Y
	GREAT BEND LTA	US	KS	USARC	1																				Y
	HAWS CROSSROADS WET SITE	US	TN	USARC	103							Y													
	HAYDEN LAKE LTA	US	ID	USARC	612									Y											
	HAYFORD PIT LTA	US	WA	USARC	24																				Y
	HIDDEN VALLEY LTA	US	KY	ARNG	535							Y													
	HILLTOP RANGE	US	IN	ARNG	1									Y											
	HOBBS	US	NM	ARNG	262							Y													
	HODGES TS	US	SC	ARNG	20							Y													

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					Land Area for Ranges (acres)	Special Use 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						
	HONOPOU LTA	US	HI	ARNG	106							Y													
	HORSETOOTH RESERVOIR	US	CO	ARNG	5,047																				Y
	KALEPA LTA	US	HI	ARNG	903							Y													
	KEKAHA LTA	US	HI	ARNG	3,195							Y													
	KELLY CANYON TS	US	ID	ARNG	3,826							Y													
	KINGSBURY LTA	US	IN	USARC	919							Y													
	LEBANON READINESS CENTER	US	NH	ARNG	0																			Y	
	LEEMAN FIELD LTA	US	VA	ARNG	24																			Y	
	LEROY DILKA LAND	US	CO	ARNG	2																			Y	
	LEXINGTON	US	OK	ARNG	317							Y													
	LONGHORN AAP	US	TX	AMC	0										Y										
	LTA VAAP	US	TN	USARC	195							Y													
	LTC HERNAN G. PESQUERA USAR CENTER	US	PR	USARC	4																			Y	
	MALUHIA LTA	US	HI	ARNG	70							Y													
	MANKATO LOCAL TRAINING AREA	US	MN	USARC	20							Y													
	MARION LTA	US	OH	USARC	122							Y													
	MITCHELL TRAINING AREA	US	SD	ARNG	1										Y										
	MOOSEHORN	US	ME	ARNG	0										Y										
	MOUNTWOOD PARK	US	WV	ARNG	3,121							Y													
	NEW RIVER VALLEY TRAINING SITE	US	VA	USARC	88																			Y	

## Training and Testing Range Complex Inventory

Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Major Command or Claimant Organization	Range Description*				Range Type*													
					Land Area for Ranges (acres)	Special Use 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			
	NEWARK LTA, NY	US	NY	ARNG	100						Y											
	NEWFANE WET SITE	US	NY	USARC	3																	Y
	NEWPORT CHEMICAL DEPOT	US	IN	AMC	0								Y									
	NOUNOU LTA	US	HI	ARNG	1,721						Y											
	OCALA ARMORY	US	FL	ARNG	0																	Y
	OGDEN LOCAL TRAINING AREA	US	UT	USARC	132																	Y
	OXFORD	US	ME	ARNG	58						Y											
	PAISLEY LTA	US	FL	ARNG	11,300						Y											
	PAU'UILO LTA	US	HI	ARNG	45						Y											
	PEACEFUL VALLEY RANCH	US	CO	ARNG	1,213						Y											
	PETERBOROUGH READINESS CENTER	US	NH	ARNG	0																	Y
	PICACHO TRAINING SITE	US	AZ	ARNG	353																	Y
	PICKENS TS	US	SC	ARNG	9						Y											
	PIERRE TRAINING AREA	US	SD	ARNG	5								Y									
	PLATTE TRAINING AREA	US	SD	ARNG	41						Y											
	POCATELLO AIRPORT LOCAL TRAINING AREA	US	ID	USARC	9						Y											
	POVERTY FLATS TRAINING AREA	US	UT	ARNG	448						Y											
	PRICE TRAINING AREA	US	UT	ARNG	159																	Y
	PUU KAPELE LTA	US	HI	ARNG	1,113						Y											
	PUU PA LTA	US	HI	ARNG	13,273						Y											

## Training and Testing Range Complex Inventory

Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Major Command or Claimant Organization	Range Description				Range Type														
					Land Area for Ranges (acres)	Special Use 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				
	PU'UNENE LTA	US	HI	ARNG	1,618							Y											
	RALEIGH COUNTY FIRING RANGE	US	WV	ARNG	1									Y									
	RAMEY USAR CENTER LTA	US	PR	USARC	53																		Y
	RAYTOWN TRAINING SITE	US	MO	ARNG	51							Y											
	RITTENHOUSE TRAINING SITE	US	AZ	ARNG	226							Y											
	SAFFORD TRAINING SITE	US	AZ	ARNG	400							Y											
	SAN JUAN NATIONAL FOREST	US	CO	ARNG	634,562							Y											
	SNAKE CREEK TRAINING SITE	US	FL	ARNG	295							Y											
	SOUTH CHARLESTON	US	WV	ARNG	1									Y									
	STANTON LTA	US	NE	ARNG	633							Y											
	STATE POLICE ACADEMY, VT	US	VT	ARNG	0									Y									
	STRASBURG DZ	US	CO	ARNG	949																		Y
	SUNNY HILLS LTA	US	FL	ARNG	11,119							Y											
	SWIFT ACRES LTA	US	FL	ARNG	4,163							Y											
	TARLTON LTA	US	OH	ARNG	118							Y											
	TOLEDO USARC	US	OH	USARC	28							Y											
	TOSOHATCHEE LTA	US	FL	ARNG	3,451																		Y
	TS-HAWK MCCONNELSVILLE, OH	US	OH	ARNG	395							Y											
	VERNAL TRAINING AREA	US	UT	ARNG	159																		Y
	WAIAWA	US	HI	ARNG	15																		Y



### Training and Testing Range Complex Inventory

Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Major Command or Claimant Organization	Range Description				Range Type															
					Land Area for Ranges (acres)	Special Use 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					
	WALKER FIELD AIRPORT	US	CO	ARNG	25																		Y	
	WALLY EAGLE DZ	US	CO	ARNG	841																			Y
	WASHINGTON COUNTY MEMORIAL USARC	US	OH	USARC	16							Y												
	WATERTOWN TRAINING AREA	US	SD	ARNG	5									Y										
	WELLS GULCH	US	CO	ARNG	57																			Y
	WESTERN ARNG AVIATION (WAATS) SILVERBELL	US	AZ	ARNG	161																			Y
	WHEELER ARMY AIRFIELD	US	HI	USARPAC	568																			Y
	WHITAKER EDUCATION TRAINING CENTER	US	OK	ARNG	593							Y												
	WHITEHORSE RANGE	US	WV	ARNG	1										Y									
	WILCOX	US	AZ	TRADOC	28,893										Y									
	WV STATE POLICE ACADEMY RANGE	US	WV	ARNG	12										Y									
	WVDNR BLUESTONE WMA RANGE	US	WV	ARNG	1										Y									
	WVDNR PLUM ORCHARD WMA RANGE	US	WV	ARNG	3										Y									
<b>NAVY</b>																								
	Atlantic City	US	NJ	CFFC	0	5,590	4,410	0	Y							Y								
	Boston Area	US	MA	CFFC	12,467	10,190	13,500	0	Y	Y	Y	Y				Y								
	Cherry Point	US	NC	CFFC	0	18,978	18,390	0	Y						Y	Y								
	Diego Garcia	OS	BIOT	CPF	0	28,520	0	0	Y															
	El Centro	US	CA	CFFC	0	256	0	0	Y	Y														
	Fallon	US	NV	CFFC	232,456	14,230	0	0	Y	Y	Y	Y	Y	Y	Y		Y							Y

### Training and Testing Range Complex Inventory

Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Major Command or Claimant Organization	Range Description*				Range Type*											
					Land Area for Ranges (acres)	Special Use 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	
	Gulf of Mexico	US	FL/TX	CFFC	6,500	15,640	17,520	0	Y	Y			Y		Y					Y
	Hawaiian Islands	US/OS	HI	CPF	7	58,599	210,324	819	Y	Y	Y	Y	Y					Y	Y	Y
	Jacksonville	US	FL/GA	CFFC	7,500	42,970	50,100	0	Y	Y		Y	Y							
	Japan	OS	Japan	CPF	0	12,310	0	0	Y	Y					Y					
	Key West	US	Key West	CFFC	0	25,480	8,282	0	Y				Y		Y					Y
	Marianas Islands	OS	CNMI	CPF	212	8,730	0	0	Y				Y		Y					Y
	Meridian	US	MS/AL	NAVAIR	375	4,650	0	0	Y	Y			Y							
	Narragansett	US	RI	CFFC	0	13,040	27,210	0	Y						Y					
	NAS JRB Fort Worth	US	TX		0	0	0	0	Y				Y							
	Okinawa	OS	Japan	CPF	0	19,580	0	0	Y											
	San Francisco	US	CA	CFFC	0	15,902	0	0	Y											
	SOCAL	US	CA	CFFC	44,900	113,000	120,000	695	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	VACAPES	US	VA/NC	CFFC	1,500	30,563	28,923	0	Y	Y	Y	Y	Y			Y			Y	
	Whidbey Island	US	WA/OR/CA	CFFC	47,982	43,870	126,630	0	Y		Y	Y	Y	Y	Y	Y			Y	Y
	Test and Evaluation	Various	Various	NAVAIR, NAVSEA	1,161,900	31,860	1,650	195	Y	Y					Y			Y		
<b>MARINE CORPS</b>																				
	MCB Camp Butler	OS	Japan	MARFORPAC	47,000	3,330	0	0			Y	Y	Y		Y				Y	
	MCB Camp Lejeune	US	NC	MARFORLANT	152,000	200	0	0		Y	Y	Y	Y		Y	Y			Y	
	MCB Camp Pendleton	US	CA	MARFORPAC	114,000	392	222	0		Y	Y	Y	Y		Y	Y			Y	
	MCAS Cherry Point	US	NC	COMCABEAST	29,139	20,712	0	0	Y	Y		Y	Y	Y	Y					

## Training and Testing Range Complex Inventory

Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Major Command or Claimant Organization	Range Description*				Range Type*															
					Land Area for Ranges (acres)	Special Use 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					
	MCAGCC, 29 Palms	US	CA	TECOM	594,083	1,267	0	0		Y	Y	Y	Y											
	MCAS Beaufort/Townsend	US	SC	COMCABEAST	5,182	1,206	0	0	Y	Y		Y	Y											
	MCAS Miramar	US	CA	COMCABWEST	4,700	0	0	0				Y	Y											
	MCAS Yuma/Bob Stump Training Range Complex	US	AZ	COMCABWEST	1,216,000	10,000	0	0	Y	Y	Y	Y	Y	Y		Y								
	MCB Hawaii	US/OS	HI	MARFORPAC	1,845	0	0	0			Y	Y	Y		Y	Y			Y					
	MCB Quantico	US	VA	MCCDC	60,080	278	0	0		Y	Y	Y	Y			Y								
	MCLB Albany	US	GA	MATCOM	4	0	0	0				Y	Y											
	MCLB Barstow	US	CA	MATCOM	2,438	0	0	0				Y	Y											
	MCMWTC Bridgeport	US	CA	TECOM	45,217	0	0	0			Y													
	MCRD Parris Island	US	SC	TECOM	1,100	0	0	0			Y	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										

## Training and Testing Range Complex Inventory

Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Major Command or Claimant Organization	Range Description				Range Type											
					Land Area for Ranges (acres)	Special Use 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	
	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										
	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					

### Training and Testing Range Complex Inventory

Military Service	Range Complex	United States (US) or Overseas (OS)	State or Country	Major Command or Claimant Organization	Range Description*				Range Type*														
					Land Area for Ranges (acres)	Special Use 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				
	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													
	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								

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> )
ARMY	R4001A	FAA, WASHINGTON, DC ARTCC	Aberdeen Proving Ground	UNLTD	SURFACE	USA	99
	R4001B	FAA, WASHINGTON, DC ARTCC	Aberdeen Proving Ground	010000AMSL	SURFACE	USA	26
	R2101	FAA, ATLANTA ARTCC	Anniston Army Depot	005000AMSL	SURFACE	USA	2
	R3203A	FAA, SALT LAKE CITY ARTCC	Boise	015000AMSL	SURFACE	USA	85
	R3203B	FAA, SALT LAKE CITY ARTCC	Boise	022000AMSL	15000AMSL	USA	85
	R3203C	FAA, SALT LAKE CITY ARTCC	Boise	006000AMSL	SURFACE	USA	9
	R3203D	FAA, SALT LAKE CITY ARTCC	Boise	022000AMSL	SURFACE	USA	22
	SADDLE A MOA, OR	FAA, SALT LAKE CITY ARTCC	Boise	017999AMSL	10000AMSL	USA	484
	SADDLE B MOA, OR	FAA, SALT LAKE CITY ARTCC	Boise	017999AMSL	08000AMSL	USA	1,200
	R4101	FAA, CAPE APP	Camp Edwards	009000AMSL	SURFACE	USA	13
	PIKE EAST MOA, MI	FAA, MINNEAPOLIS ARTCC	Camp Grayling	017999AMSL	00300AGL	USA	3,389
	PIKE WEST MOA, MI	FAA, MINNEAPOLIS ARTCC	Camp Grayling	017999AMSL	06000AMSL	USA	2,501
	R4201A	FAA, MINNEAPOLIS ARTCC	Camp Grayling	023000AMSL	SURFACE	USA	60
	R4201B	FAA, MINNEAPOLIS ARTCC	Camp Grayling	009000AMSL	SURFACE	USA	39
	R4202	FAA, MINNEAPOLIS ARTCC	Camp Grayling	008200AMSL	SURFACE	USA	5
	STEELHEAD MOA, MI	FAA, CLEVELAND ARTCC	Camp Grayling	017999AMSL	06000AMSL	USA	2,079
	R7001A	FAA, DENVER ARTCC	Camp Guernsey	007999AMSL	SURFACE	USA	43
	R7001B	FAA, DENVER ARTCC	Camp Guernsey	023500AMSL	08000AMSL	USA	43
	R7001C	FAA, DENVER ARTCC	Camp Guernsey	030000AMSL	23500AMSL	USA	43
	A685	FAA, ATLANTA ARTCC	Camp Merrill	000700AGL	SURFACE	USA	463
	R4301	FAA, MINNEAPOLIS ARTCC	Camp Riley	027000AMSL	SURFACE	USA	60
	R2504	FAA, OAKLAND ARTCC	Camp Roberts	015000AMSL	SURFACE	USA	25
R2401A	FAA, MEMPHIS ARTCC	Chaffee	030000AMSL	SURFACE	USA	15	
R2401B	FAA, MEMPHIS ARTCC	Chaffee	030000AMSL	SURFACE	USA	2	

\* 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 0413 (effective: December 23, 2004 through January 19, 2005)). Please refer to DoD Flight Information Publications for more information.

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	R2402	FAA, MEMPHIS ARTCC	Chaffee	FL300	SURFACE	USA	60
	R2602	FAA, DENVER ARTCC	Colorado Springs Training Site	001000AGL	SURFACE	USA	1
	R4102A	FAA, BOSTON ARTCC	Devens Reserve Forces Training Area	001999AMSL	SURFACE	USA	5
	R4102B	FAA, BOSTON ARTCC	Devens Reserve Forces Training Area	003995AMSL	02000AMSL	USA	5
	R2310A	FAA, ALBUQUERQUE ARTCC	Florence Training Site	010000AMSL	SURFACE	USA	28
	R2310B	FAA, ALBUQUERQUE ARTCC	Florence Training Site	017000AMSL	10000AMSL	USA	17
	R2310C	FAA, ALBUQUERQUE ARTCC	Florence Training Site	035000AMSL	17000AMSL	USA	14
	HILL MOA, VA	FAA, POTOMAC APP	Fort A.P. Hill	003000AMSL	SURFACE	USA	34
	HILL TOP MOA, IN	FAA, CHICAGO ARTCC	Fort A.P. Hill	017999AMSL	10000AMSL	USA	801
	R6601	FAA, RICHMOND TWR	Fort A.P. Hill	005000AMSL	SURFACE	USA	37
	BENNING MOA, GA	FAA, COLUMBUS TWR	Fort Benning	008000AMSL	00500AGL	USA	102
	R3002A	FAA, ATCT, COLUMBUS	Fort Benning	004000AMSL	SURFACE	USA	111
	R3002B	FAA, ATCT, COLUMBUS	Fort Benning	008000AMSL	04000AMSL	USA	111
	R3002C	FAA, ATCT, COLUMBUS	Fort Benning	014000AMSL	08000AMSL	USA	111
	R3002D	FAA, ATCT, COLUMBUS	Fort Benning	008000AMSL	SURFACE	USA	75
	R3002E	FAA, ATCT, COLUMBUS	Fort Benning	014000AMSL	08000AMSL	USA	75
	R3002F	FAA, ATLANTA ARTCC	Fort Benning	FL250	14000AMSL	USA	114
	R5103A	FAA, ALBUQUERQUE ARTCC	Fort Bliss	017999AMSL	SURFACE	USA	266
	R5103B	FAA, ALBUQUERQUE ARTCC	Fort Bliss	012500AMSL	SURFACE	USA	627
	R5103C	FAA, ALBUQUERQUE ARTCC	Fort Bliss	UNLTD	12500AMSL	USA	627
	R5103D	FAA, ALBUQUERQUE ARTCC	Fort Bliss	UNLTD	FL180	USA	225
	A531	USA, FORT BRAGG	Fort Bragg	001500AGL	00200AGL	USA	660
	FORT BRAGG NORTH AREA A MOA, NC	FAA, FAYETTEVILLE TWR	Fort Bragg	006000AMSL	00500AGL	USA	40
	FORT BRAGG NORTH AREA B MOA, NC	FAA, FAYETTEVILLE TWR	Fort Bragg	006000AMSL	04000AMSL	USA	29
	FORT BRAGG SOUTH AREA A MOA, NC	FAA, FAYETTEVILLE TWR	Fort Bragg	006000AMSL	00500AGL	USA	50

\* 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 0413 (effective: December 23, 2004 through January 19, 2005)). Please refer to DoD Flight Information Publications for more information.

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	FORT BRAGG SOUTH AREA B MOA, NC	FAA, FAYETTEVILLE TWR	Fort Bragg	006000AMSL	01500AGL	USA	34
	R5311A	FAA, WASHINGTON, DC ARTCC	Fort Bragg	006999AMSL	SURFACE	USA	115
	R5311B	FAA, WASHINGTON, DC ARTCC	Fort Bragg	011999AMSL	07000AMSL	USA	115
	R5311C	FAA, WASHINGTON, DC ARTCC	Fort Bragg	028999AMSL	12000AMSL	USA	115
	A371	USA, CAMPBELL AAF APP	Fort Campbell	002000AMSL	SURFACE	USA	1,127
	CAMPBELL 1 MOA, KY	FAA, MEMPHIS ARTCC	Fort Campbell	010000AMSL	00500AGL	USA	374
	CAMPBELL 2 MOA, KY	FAA, MEMPHIS ARTCC	Fort Campbell	010000AMSL	01500AGL	USA	294
	R3701	USA, CAMPBELL AAF APP	Fort Campbell	005000AMSL	SURFACE	USA	8
	R3702A	FAA, MEMPHIS ARTCC	Fort Campbell	006000AMSL	SURFACE	USA	88
	R3702B	FAA, MEMPHIS ARTCC	Fort Campbell	FL220	06001AMSL	USA	88
	R3702C	FAA, MEMPHIS ARTCC	Fort Campbell	FL270	FL220	USA	88
	PINON CANYON MOA, CO	FAA, DENVER ARTCC	Fort Carson	010000AMSL	00100AGL	USA	972
	R2601A	FAA, DENVER ARTCC	Fort Carson	012499AMSL	SURFACE	USA	116
	R2601B	FAA, DENVER ARTCC	Fort Carson	022499AMSL	12500AMSL	USA	116
	R2601C	FAA, DENVER ARTCC	Fort Carson	034999AMSL	22500AMSL	USA	116
	R2601D	FAA, DENVER ARTCC	Fort Carson	059999AMSL	35000AMSL	USA	116
	R5001A	FAA, NEW YORK ARTCC	Fort Dix	004000AMSL	SURFACE	USA	22
	R5001B	FAA, NEW YORK ARTCC	Fort Dix	008000AMSL	04000AMSL	USA	20
	R5002A	FAA, NEW YORK ARTCC	Fort Dix	014000AMSL	SURFACE	USA	34
	R5002B	FAA, NEW YORK ARTCC	Fort Dix	014000AMSL	01000AMSL	USA	11
	R5002C	FAA, NEW YORK ARTCC	Fort Dix	003000AMSL	SURFACE	USA	8
	R5002D	FAA, NEW YORK ARTCC	Fort Dix	004000AMSL	SURFACE	USA	2
	R5002E	FAA, NEW YORK ARTCC	Fort Dix	014000AMSL	03500AMSL	USA	2
	DRUM 1 MOA, NY	USA, WHEELER SACK APP	Fort Drum	005000AMSL	00500AGL	USA	89
	DRUM 2 MOA, NY	USA, WHEELER SACK APP	Fort Drum	005999AMSL	00100AGL	USA	79
	R5201	FAA, BOSTON ARTCC	Fort Drum	023000AMSL	SURFACE	USA	104

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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 0413 (effective: December 23, 2004 through January 19, 2005)). Please refer to DoD Flight Information Publications for more information.



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 2B MOA, NY	USA, WHEELER SACK APPROACH	Fort Drum	005999AMSL	00100AGL	USA	151
	R3004	FAA, ATLANTA ARTCC	Fort Gordon	016000AMSL	SURFACE	USA	29
	R2202A	FAA, ANCHORAGE ARTCC	Fort Greely	009999AMSL	SURFACE	USA	177
	R2202B	FAA, ANCHORAGE ARTCC	Fort Greely	009999AMSL	SURFACE	USA	411
	R2202C	FAA, ANCHORAGE ARTCC	Fort Greely	UNLTD	10000AMSL	USA	588
	GRAY MOA, TX	FAA, HOUSTON ARTCC	Fort Hood	010000AMSL	02000AMSL	USA	27
	HOOD MOA, TX	FAA, HOUSTON ARTCC	Fort Hood	010000AMSL	02000AMSL	USA	255
	R6302A	FAA, HOUSTON ARTCC	Fort Hood	FL300	SURFACE	USA	120
	R6302B	FAA, HOUSTON ARTCC	Fort Hood	011000AMSL	SURFACE	USA	15
	R6302C	FAA, HOUSTON ARTCC	Fort Hood	FL300	SURFACE	USA	38
	R6302D	FAA, HOUSTON ARTCC	Fort Hood	FL300	SURFACE	USA	23
	R6302E	FAA, HOUSTON ARTCC	Fort Hood	FL450	FL300	USA	116
	R6320	FAA, HOUSTON ARTCC	Fort Hood	015000AMSL	SURFACE	USA	20
	R2303A	FAA, ALBUQUERQUE ARTCC	Fort Huachuca	015000AMSL	SURFACE	USA	254
	R2303B	FAA, ALBUQUERQUE ARTCC	Fort Huachuca	FL300	08000AMSL	USA	473
	R2303C	FAA, ALBUQUERQUE ARTCC	Fort Huachuca	FL300	15000AMSL	USA	222
	R2513	FAA, OAKLAND ARTCC	Fort Hunter-Leggett	FL240	SURFACE	USA	107
	R5802A	FAA, NEW YORK ARTCC	Fort Indiantown Gap	005000AMSL	00200AGL	USA	11
	R5802B	FAA, NEW YORK ARTCC	Fort Indiantown Gap	013000AMSL	SURFACE	USA	13
	R5802C	FAA, NEW YORK ARTCC	Fort Indiantown Gap	016999AMSL	00500AGL	USA	31
	R5802D	FAA, NEW YORK ARTCC	Fort Indiantown Gap	022999AMSL	17000AMSL	USA	31
	R5802E	FAA, NEW YORK ARTCC	Fort Indiantown Gap	FL250	FL220	USA	91
	R2502E	FAA, HI-DESERT TRACON, EDWARDS AFB	Fort Irwin	UNLTD	SURFACE	USA	170
	R2502N	FAA, HI-DESERT TRACON, EDWARDS AFB	Fort Irwin	UNLTD	SURFACE	USA	530
	R6001A	FAA, JACKSONVILLE ARTCC	Fort Jackson	003200AMSL	SURFACE	USA	36
	R6001B	FAA, JACKSONVILLE ARTCC	Fort Jackson	FL230	03200AMSL	USA	38

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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> )
	R3704A	FAA, STANDIFORD TWR, LOUISVILLE	Fort Knox	010000AMSL	SURFACE	USA	107
	R3704B	FAA, STANDIFORD TWR, LOUISVILLE	Fort Knox	020000AMSL	10001AMSL	USA	107
	R6602A	FAA, WASHINGTON, DC ARTCC	Fort Lee	003999AMSL	SURFACE	USA	34
	R6602B	FAA, WASHINGTON, DC ARTCC	Fort Lee	010999AMSL	04000AMSL	USA	31
	R6602C	FAA, WASHINGTON, DC ARTCC	Fort Lee	017999AMSL	11000AMSL	USA	31
	R4501A	FAA, KANSAS CITY ARTCC	Fort Leonard Wood	002199AMSL	SURFACE	USA	20
	R4501B(A)	FAA, KANSAS CITY ARTCC	Fort Leonard Wood	002200AMSL	SURFACE	USA	9
	R4501B(B)	FAA, KANSAS CITY ARTCC	Fort Leonard Wood	001500AMSL	SURFACE	USA	0
	R4501C	FAA, KANSAS CITY ARTCC	Fort Leonard Wood	005000AMSL	02200AMSL	USA	32
	R4501D	FAA, KANSAS CITY ARTCC	Fort Leonard Wood	012000AMSL	05000AMSL	USA	32
	R4501E	FAA, KANSAS CITY ARTCC	Fort Leonard Wood	FL180	12000AMSL	USA	32
	R4501F	FAA, KANSAS CITY ARTCC	Fort Leonard Wood	003200AMSL	SURFACE	USA	4
	R4501H	FAA, KANSAS CITY ARTCC	Fort Leonard Wood	003200AMSL	SURFACE	USA	14
	RAINIER 1 MOA, WA	FAA, SEATTLE-TACOMA APP CON	Fort Leonard Wood	009000AMSL	02000AMSL	USA	26
	RAINIER 2 MOA, WA	FAA, SEATTLE-TACOMA APP CON	Fort Leonard Wood	009000AMSL	02000AMSL	USA	46
	RAINIER 3 MOA, WA	FAA, SEATTLE-TACOMA APP CON	Fort Leonard Wood	009000AMSL	02000AMSL	USA	14
	R6714A	FAA, SEATTLE ARTCC	Fort Lewis	028999AMSL	SURFACE	USA	216
	R6714B	FAA, SEATTLE ARTCC	Fort Lewis	028999AMSL	SURFACE	USA	23
	R6714C	FAA, SEATTLE ARTCC	Fort Lewis	028999AMSL	SURFACE	USA	28
	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	20
	R6714H	FAA, SEATTLE ARTCC	Fort Lewis	005499AMSL	SURFACE	USA	24
	R2102A	FAA, ATLANTA ARTCC	Fort McClellan	008000AMSL	SURFACE	USA	25
	R2102B	FAA, ATLANTA ARTCC	Fort McClellan	014000AMSL	08000AMSL	USA	25
	R2102C	FAA, ATLANTA ARTCC	Fort McClellan	FL240	14000AMSL	USA	25

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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	020000AMSL	SURFACE	USA	43
	R6901B	FAA, MINNEAPOLIS ARTCC	Fort McCoy	020000AMSL	SURFACE	USA	19
	PICKETT 1 MOA, VA	FAA, WASHINGTON, DC ARTCC	Fort Pickett	006000AMSL	00500AGL	USA	42
	PICKETT 2 MOA, VA	FAA, WASHINGTON, DC ARTCC	Fort Pickett	010000AMSL	00500AGL	USA	88
	PICKETT 3 MOA, VA	FAA, WASHINGTON, DC ARTCC	Fort Pickett	010000AMSL	04000AMSL	USA	22
	R3803A	FAA, HOUSTON ARTCC	Fort Polk	FL180	SURFACE	USA	39
	R3803B	FAA, HOUSTON ARTCC	Fort Polk	034999AMSL	FL180	USA	39
	R3804A	FAA, HOUSTON ARTCC	Fort Polk	FL180	SURFACE	USA	96
	R3804B	FAA, HOUSTON ARTCC	Fort Polk	003000AMSL	SURFACE	USA	13
	R3804C	FAA, HOUSTON ARTCC	Fort Polk	034999AMSL	FL180	USA	96
	WARRIOR 1 HIGH MOA, LA	FAA, HOUSTON ARTCC	Fort Polk	017999AMSL	10000AMSL	USA	1,528
	WARRIOR 1 LOW MOA, LA	FAA, HOUSTON ARTCC	Fort Polk	009999AMSL	00100AGL	USA	1,528
	WARRIOR 2 HIGH MOA, LA	FAA, HOUSTON ARTCC	Fort Polk	017999AMSL	10000AMSL	USA	847
	WARRIOR 2 LOW MOA, LA	FAA, HOUSTON ARTCC	Fort Polk	009999AMSL	00100AGL	USA	847
	WARRIOR 3 HIGH MOA, LA	FAA, HOUSTON ARTCC	Fort Polk	017999AMSL	10000AMSL	USA	965
	WARRIOR 3 LOW MOA, LA	FAA, HOUSTON ARTCC	Fort Polk	009999AMSL	00100AGL	USA	965
	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	144
	R3602A	FAA, KANSAS CITY ARTCC	Fort Riley	029000AMSL	SURFACE	USA	46
	R3602B	FAA, KANSAS CITY ARTCC	Fort Riley	029000AMSL	SURFACE	USA	55
	A211	USA, CAIRNES APP	Fort Rucker	005000AMSL	SURFACE	USA	4,409
	R2103A	USA, CAIRNS APP	Fort Rucker	009999AMSL	SURFACE	USA	48
	R2103B	FAA, JACKSONVILLE ARTCC	Fort Rucker	015000AMSL	10000AMSL	USA	48
	R5601A	FAA, FORT WORTH ARTCC	Fort Sill	040000AMSL	SURFACE	USA	32

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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> )
	R5601B	FAA, FORT WORTH ARTCC	Fort Sill	040000AMSL	SURFACE	USA	52
	R5601C	FAA, FORT WORTH ARTCC	Fort Sill	040000AMSL	SURFACE	USA	17
	R5601D	FAA, FORT WORTH ARTCC	Fort Sill	FL400	00500AGL	USA	34
	R5601E	FAA, FORT WORTH ARTCC	Fort Sill	006000AMSL	00500AGL	USA	9
	HOG HIGH NORTH MOA, AR	FAA, MEMPHIS ARTCC	Fort Smith	017999AMSL	06000AMSL	USA	649
	HOG HIGH SOUTH MOA, AR	FAA, MEMPHIS ARTCC	Fort Smith	017999AMSL	06000AMSL	USA	1,226
	HOG JRTC MOA, AR	FAA, MEMPHIS ARTCC	Fort Smith	017999AMSL	00100AGL	USA	23
	HOG LOW NORTH MOA, AR	FAA, MEMPHIS ARTCC	Fort Smith	005999AMSL	00100AGL	USA	649
	HOG LOW SOUTH MOA, AR	FAA, MEMPHIS ARTCC	Fort Smith	005999AMSL	00100AGL	USA	774
	SHIRLEY 1 MOA, AR	FAA, MEMPHIS ARTCC	Fort Smith	017999AMSL	10000AMSL	USA	2,902
	FORT STEWART B1 MOA, GA	FAA, JACKSONVILLE ARTCC	Fort Stewart	004999AMSL	00500AGL	USA	139
	FORT STEWART B2 MOA, GA	FAA, JACKSONVILLE ARTCC	Fort Stewart	010000AMSL	05000AMSL	USA	139
	FORT STEWART C1 MOA, GA	FAA, JACKSONVILLE ARTCC	Fort Stewart	002999AMSL	00500AGL	USA	29
	FORT STEWART C2 MOA, GA	FAA, JACKSONVILLE ARTCC	Fort Stewart	010000AMSL	03000AMSL	USA	67
	R3005A	FAA, JACKSONVILLE ARTCC	Fort Stewart	029000AMSL	SURFACE	USA	68
	R3005B	FAA, JACKSONVILLE ARTCC	Fort Stewart	029000AMSL	SURFACE	USA	44
	R3005C	FAA, JACKSONVILLE ARTCC	Fort Stewart	FL290	SURFACE	USA	102
	R3005D	FAA, JACKSONVILLE ARTCC	Fort Stewart	029000AMSL	SURFACE	USA	48
	R3005E	FAA, JACKSONVILLE ARTCC	Fort Stewart	029000AMSL	SURFACE	USA	34
	TWELVE MILE EAST MOA, IN	FAA, CHICAGO ARTCC	Fort Wayne	009999AMSL	00500AGL	USA	350
	TWELVE MILE WEST MOA, IN	FAA, CHICAGO ARTCC	Fort Wayne	005999AMSL	00500AGL	USA	195
	DE SOTO 1 MOA, MS	FAA, HOUSTON ARTCC	Gulfport	010000AMSL	00500AGL	USA	282
	DE SOTO 2 MOA, MS	FAA, HOUSTON ARTCC	Gulfport	005000AMSL	00100AGL	USA	445
	R5203	FAA, CLEVELAND ARTCC	Hancock Field	FL500	SURFACE	USA	667

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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> )
	R4811	FAA, OAKLAND ARTCC	Hawthorne Army Ammunition Plant	015000AMSL	SURFACE	USA	7
	R3401A	FAA, INDIANAPOLIS ARTCC	Indianapolis	040000AMSL	SURFACE	USA	40
	R3401B	FAA, INDIANAPOLIS ARTCC	Indianapolis	014000AMSL	01200AGL	USA	33
	R3403A	FAA, INDIANAPOLIS ARTCC	Indianapolis	043000AMSL	SURFACE	USA	50
	R3403B	FAA, INDIANAPOLIS ARTCC	Indianapolis	FL180	01200AGL	USA	25
	JUNIPER LOW MOA, OR	FAA, SEATTLE ARTCC	Kingley Field	010999AMSL	00300AGL	USA	2,870
	JUNIPER NORTH MOA, OR	FAA, SEATTLE ARTCC	Kingley Field	017999AMSL	11000AMSL	USA	455
	JUNIPER SOUTH MOA, OR	FAA, SEATTLE ARTCC	Kingley Field	017999AMSL	11000AMSL	USA	2,697
	R5801	FAA, WASHINGTON, DC ARTCC	Letterkenny Ordnance Depot	004000AMSL	SURFACE	USA	2
	R5803	FAA, WASHINGTON, DC ARTCC	Letterkenny Ordnance Depot	004000AMSL	SURFACE	USA	2
	R2403A	FAA, MEMPHIS ARTCC	Little Rock	016000AMSL	SURFACE	USA	7
	R2403B	FAA, MEMPHIS ARTCC	Little Rock	016000AMSL	SURFACE	USA	10
	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	16
	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	16
	R2104E	FAA, MEMPHIS ARTCC	Redstone Arsenal	FL300	12000AMSL	USA	4
	BISON MOA, KS	FAA, KANSAS CITY ARTCC	Salinas	017999AMSL	01000AGL	USA	1,013
	SMOKY HIGH MOA, KS	FAA, KANSAS CITY ARTCC	Salinas	017999AMSL	05000AMSL	USA	174
	SMOKY MOA, KS	FAA, KANSAS CITY ARTCC	Salinas	004999AMSL	00500AGL	USA	174
	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	5

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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> )
	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
	R5207	FAA, NEW YORK ARTCC	Seneca Army Depot	002000AMSL	SURFACE	USA	0
	R2530	FAA, OAKLAND ARTCC	Sierra Army Depot	008600AMSL	SURFACE	USA	4
	LAKE ANDES MOA, SD	FAA, MINNEAPOLIS ARTCC	Sioux Falls	017999AMSL	06000AMSL	USA	3,289
	HOWARD EAST MOA, IL	FAA, KANSAS CITY ARTCC	Springfield	017999AMSL	09000AMSL	USA	1,738
	HOWARD WEST MOA, IL	FAA, KANSAS CITY ARTCC	Springfield	017999AMSL	10000AMSL	USA	302
	PRUITT A MOA, IL	FAA, KANSAS CITY ARTCC	Springfield	006000AMSL	00500AGL	USA	922
	PRUITT B MOA, IL	FAA, KANSAS CITY ARTCC	Springfield	003000AMSL	00500AGL	USA	400
	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	267
	R5107B	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	SURFACE	USA	2,984
	R5107C	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	09000AMSL	USA	846
	R5107D	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	022000AMSL	SURFACE	USA	524
	R5107E	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	SURFACE	USA	121
	R5107F	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	FL450	FL240	USA	1,137
	R5107G	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	FL450	FL240	USA	907
	R5107H	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	009000AMSL	SURFACE	USA	772
	R5107J	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	009000AMSL	SURFACE	USA	73
	R5109A	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	24000AMSL	USA	1,599
	R5109B	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	24000AMSL	USA	952
	R5111A	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	13000AMSL	USA	384
	R5111B	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	013000AMSL	SURFACE	USA	384
	R5111C	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	13000AMSL	USA	302

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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> )
	R5111D	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	012999AMSL	SURFACE	USA	302
	R5117	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	SURFACE	USA	21
	R5119	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	FL350	USA	372
	R5121	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	FL200	USA	36
	R5123	FAA, ALBUQUERQUE ARTCC	White Sands Missile Range	UNLTD	SURFACE	USA	144
	R6714E	FAA, SEATTLE ARTCC	Yakima	054999AMSL	29000AMSL	USA	300
	R2306A	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	080000AMSL	SURFACE	USA	198
	R2306B	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	080000AMSL	SURFACE	USA	157
	R2306D	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	FL230	SURFACE	USA	15
	R2306E	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	080000AMSL	SURFACE	USA	62
	R2307	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	UNLTD	SURFACE	USA	277
	R2308A	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	080000AMSL	01500AGL	USA	524
	R2308B	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	080000AMSL	SURFACE	USA	73
	R2308C	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	FL230	01500AGL	USA	28
	R2311	YUMA APP, YUMA MCAS	Yuma Proving Ground	003500AMSL	SURFACE	USA	59
	RIVERS MOA, OK	FAA, FORT WORTH ARTCC	125 FS, OK ANG	017999AMSL	08000AMSL	USA(ARNG)	1,831
	R3601A	FAA, KANSAS CITY ARTCC	ARNG Topeka, KS	FL180	SURFACE	USA(ARNG)	51
	R3601B	FAA, KANSAS CITY ARTCC	ARNG Topeka, KS	006500AMSL	SURFACE	USA(ARNG)	15
	R6501A	FAA, BURLINGTON APP	ARNG, Colchester, VT	004000AMSL	SURFACE	USA(ARNG)	8
	R6501B	FAA, BURLINGTON APP	ARNG, Colchester, VT	013600AMSL	04000AMSL	USA(ARNG)	8
	R5401	FAA, MINNEAPOLIS ARTCC	Camp Grafton	005000AMSL	SURFACE	USA(ARNG)	3
	R4401A	FAA, HOUSTON ARTCC	Camp Shelby	004000AMSL	SURFACE	USA(ARNG)	83
	R4401B	FAA, HOUSTON ARTCC	Camp Shelby	018000AMSL	04000AMSL	USA(ARNG)	83
	R4401C	FAA, HOUSTON ARTCC	Camp Shelby	029000AMSL	18001AMSL	USA(ARNG)	83
	R4403	FAA, HOUSTON ARTCC	Camp Shelby	005000AMSL	SURFACE	USA(ARNG)	4
	R6412A	FAA, SALT LAKE CITY TRACON	Camp Williams	009000AMSL	SURFACE	USA(ARNG)	17

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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 0413 (effective: December 23, 2004 through January 19, 2005)). Please refer to DoD Flight Information Publications for more information.

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	R6412B	FAA, SALT LAKE CITY TRACON	Camp Williams	010000AMSL	09000AMSL	USA(ARNG)	17
	R6412C	FAA, SALT LAKE CITY TRACON	Camp Williams	009000AMSL	SURFACE	USA(ARNG)	12
	R6412D	FAA, SALT LAKE CITY TRACON	Camp Williams	010000AMSL	09000AMSL	USA(ARNG)	12
	R2903A	FAA, JACKSONVILLE ARTCC	State Arsenal, St. Augustine	022999AMSL	SURFACE	USA(ARNG)	63
	R2903B	FAA, JACKSONVILLE ARTCC	State Arsenal, St. Augustine	032000AMSL	23000AMSL	USA(ARNG)	63
	R2903C	FAA, JACKSONVILLE TRACON	State Arsenal, St. Augustine	007000AMSL	SURFACE	USA(ARNG)	11
	R2903D	FAA, JACKSONVILLE TRACON	State Arsenal, St. Augustine	005000AMSL	SURFACE	USA(ARNG)	22
	R2904A	FAA, JACKSONVILLE TRACON	State Arsenal, St. Augustine	001799AMSL	SURFACE	USA(ARNG)	27
<b>NAVY</b>							
	W107A	FAA, WASHINGTON, DC ARTCC	Atlantic City Range Complex	UNLTD	SURFACE	USN	4,525
	W107B	FAA, WASHINGTON, DC ARTCC	Atlantic City Range Complex	001999AMSL	SURFACE	USN	212
	W107C	FAA, WASHINGTON, DC ARTCC	Atlantic City Range Complex	017999AMSL	SURFACE	USN	517
	W102H	FAA, BOSTON ARTCC	Boston Range Complex	FL600	17001AMSL	USN	3,237
	W102L	FAA, BOSTON ARTCC	Boston Range Complex	017000AMSL	SURFACE	USN	3,237
	W103	FAA, BOSTON ARTCC	Boston Range Complex	002000AMSL	SURFACE	USN	1,391
	W104A	FAA, BOSTON ARTCC	Boston Range Complex	010000AMSL	SURFACE	USN	296
	W104B	FAA, BOSTON ARTCC	Boston Range Complex	017999AMSL	SURFACE	USN	1,418
	W104C	FAA, BOSTON ARTCC	Boston Range Complex	UNLTD	FL180	USN	1,418
	W122(1)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	833
	W122(10)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	623
	W122(11)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	795
	W122(12)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	736
	W122(13)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	1,036
	W122(14)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	1,033
	W122(15A)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range	UNLTD	SURFACE	USN	901

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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> )
			Complex				
	W122(15B)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	39
	W122(16)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	929
	W122(17)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	703
	W122(18)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	779
	W122(19)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	845
	W122(2)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	1,007
	W122(20)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	749
	W122(21)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	978
	W122(22)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	584
	W122(23)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	422
	W122(3)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	881
	W122(4)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	649
	W122(5)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	610
	W122(6)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	756
	W122(7)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	757
	W122(8)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	478
	W122(9)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	630
	W72(13)A	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	001999AMSL	SURFACE	USN	405
	W72(13)B	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	FL600	USN	405
	W72(1A)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	455

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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> )
	W72(1B)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	611
	W72(1C)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	692
	W72(1D)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	751
	W72(1E)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	756
	W72(1F)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	839
	W72(20)A	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	001999AMSL	SURFACE	USN	295
	W72(20)B	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	FL600	USN	295
	W72(2A)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	485
	W72(2B)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	656
	W72(2C)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	747
	W72(2D)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	814
	W72(2E)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	823
	W72(2F)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	919
	W72(3A)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	538
	W72(3B)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	847
	W72(3C)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	1,057
	W72(3D)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	1,206
	W72(3E)	FAA, WASHINGTON, DC ARTCC	Cherry Point Range Complex	UNLTD	SURFACE	USN	1,047
	R2505	FAA, HI-DESERT TRACON, EDWARDS AFB	China Lake Range Complex	UNLTD	SURFACE	USN	736
	R2506	FAA, HI-DESERT TRACON, EDWARDS AFB	China Lake Range Complex	006000AMSL	SURFACE	USN	45

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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> )
	R2524	FAA, HI-DESERT TRACON, EDWARDS AFB	China Lake Range Complex	UNLTD	SURFACE	USN	669
	R2510A	FAA, LOS ANGELES ARTCC	El Centro Range Complex	015000AMSL	SURFACE	USN	172
	R2510B	FAA, LOS ANGELES ARTCC	El Centro Range Complex	FL400	15000AMSL	USN	118
	R2512	FAA, LOS ANGELES ARTCC	El Centro Range Complex	023000AMSL	SURFACE	USN	71
	AUSTIN 1 MOA, NV	FAA, SALT LAKE CITY ARTCC	Fallon Range Complex	017999AMSL	00200AGL	USN	2,264
	AUSTIN 2 MOA, NV	FAA, SALT LAKE CITY ARTCC	Fallon Range Complex	017999AMSL	00200AGL	USN	793
	CARSON MOA, NV	FAA, OAKLAND ARTCC	Fallon Range Complex	017999AMSL	00500AGL	USN	123
	CHURCHILL HIGH MOA, NV	FAA, OAKLAND ARTCC	Fallon Range Complex	017999AMSL	09000AMSL	USN	59
	CHURCHILL LOW MOA, NV	FAA, OAKLAND ARTCC	Fallon Range Complex	009000AMSL	00500AGL	USN	66
	GABBS CENTRAL MOA, NV	FAA, OAKLAND ARTCC	Fallon Range Complex	017999AMSL	00100AGL	USN	868
	GABBS NORTH MOA, NV	FAA, OAKLAND ARTCC	Fallon Range Complex	017999AMSL	00100AGL	USN	2,535
	GABBS SOUTH MOA, NV	FAA, OAKLAND ARTCC	Fallon Range Complex	017999AMSL	00100AGL	USN	270
	R4803	FAA, OAKLAND ARTCC	Fallon Range Complex	017999AMSL	SURFACE	USN	27
	R4804A	FAA, OAKLAND ARTCC	Fallon Range Complex	017999AMSL	SURFACE	USN	82
	R4804B	FAA, OAKLAND ARTCC	Fallon Range Complex	FL350	FL180	USN	82
	R4810	FAA, OAKLAND ARTCC	Fallon Range Complex	017000AMSL	SURFACE	USN	82
	R4812	FAA, OAKLAND ARTCC	Fallon Range Complex	017999AMSL	SURFACE	USN	95
	R4813A	FAA, OAKLAND ARTCC	Fallon Range Complex	017999AMSL	SURFACE	USN	392
	R4813B	FAA, OAKLAND ARTCC	Fallon Range Complex	FL350	FL180	USN	392
	R4816N	FAA, OAKLAND ARTCC	Fallon Range Complex	017999AMSL	01500AGL	USN	382
	R4816S	FAA, OAKLAND ARTCC	Fallon Range Complex	017999AMSL	00500AGL	USN	312
	RANCH HIGH MOA, NV	FAA, OAKLAND ARTCC	Fallon Range Complex	013000AMSL	09000AMSL	USN	92
	RANCH MOA, NV	FAA, OAKLAND ARTCC	Fallon Range Complex	009000AMSL	00500AMSL	USN	296
	RENO MOA, NV	FAA, OAKLAND ARTCC	Fallon Range Complex	017999AMSL	13000AMSL	USN	954
	BRADY HIGH MOA, TX	FAA, HOUSTON ARTCC	Fort Worth NAS JRB	017999AMSL	06000AMSL	USN	923
	BRADY LOW MOA, TX	FAA, HOUSTON ARTCC	Fort Worth NAS JRB	005999AMSL	00500AGL	USN	923

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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> )
	BRADY NORTH MOA, TX	FAA, FORT WORTH ARTCC	Fort Worth NAS JRB	017999AMSL	03600AMSL	USN	149
	BROWNWOOD 1 EAST MOA, TX	FAA, FORT WORTH ARTCC	Fort Worth NAS JRB	017999AMSL	07000AMSL	USN	544
	BROWNWOOD 1 WEST MOA, TX	FAA, FORT WORTH ARTCC	Fort Worth NAS JRB	017999AMSL	07000AMSL	USN	529
	BROWNWOOD 2 EAST MOA, TX	FAA, FORT WORTH ARTCC	Fort Worth NAS JRB	017999AMSL	07000AMSL	USN	436
	BROWNWOOD 2 WEST MOA, TX	FAA, FORT WORTH ARTCC	Fort Worth NAS JRB	017999AMSL	07000AMSL	USN	565
	BROWNWOOD 3 MOA, TX	FAA, FORT WORTH ARTCC	Fort Worth NAS JRB	017999AMSL	13000AMSL	USN	665
	BROWNWOOD 4 MOA, TX	FAA, FORT WORTH ARTCC	Fort Worth NAS JRB	017999AMSL	13000AMSL	USN	306
	KINGSVILLE 1 MOA, TX	FAA, HOUSTON ARTCC	GOMEX Range Complex	017999AMSL	08000AMSL	USN	3,220
	KINGSVILLE 2 MOA, TX	FAA, HOUSTON ARTCC	GOMEX Range Complex	017999AMSL	13000AMSL	USN	371
	KINGSVILLE 3 MOA, TX	FAA, HOUSTON ARTCC	GOMEX Range Complex	017999AMSL	08000AMSL	USN	1,775
	KINGSVILLE 4 MOA, TX	FAA, HOUSTON ARTCC	GOMEX Range Complex	017999AMSL	09000AMSL	USN	1,991
	KINGSVILLE 5 MOA, TX	FAA, HOUSTON ARTCC	GOMEX Range Complex	017999AMSL	09000AMSL	USN	454
	PENSACOLA NORTH MOA, FL	FAA, JACKSONVILLE ARTCC	GOMEX Range Complex	017999AMSL	10000AMSL	USN	1,160
	PENSACOLA SOUTH MOA, FL	FAA, PENSACOLA TOWER	GOMEX Range Complex	017999AMSL	10000AMSL	USN	1,348
	R6312	FAA, HOUSTON ARTCC	GOMEX Range Complex	012000AMSL	SURFACE	USN	147
	W155A	FAA, JACKSONVILLE ARTCC	GOMEX Range Complex	FL600	SURFACE	USN	2,150
	W155B	FAA, JACKSONVILLE ARTCC	GOMEX Range Complex	FL600	SURFACE	USN	2,572
	W155C	FAA, JACKSONVILLE ARTCC	GOMEX Range Complex	FL600	SURFACE	USN	505
	W228A	FAA, HOUSTON ARTCC	GOMEX Range Complex	FL450	SURFACE	USN	867
	W228B	FAA, HOUSTON ARTCC	GOMEX Range Complex	FL450	SURFACE	USN	1,226
	W228C	FAA, HOUSTON ARTCC	GOMEX Range Complex	FL450	SURFACE	USN	3,524
	W228D	FAA, HOUSTON ARTCC	GOMEX Range Complex	FL450	SURFACE	USN	2,101
	W92	FAA, HOUSTON ARTCC	GOMEX Range Complex	FL400	SURFACE	USN	2,519
	R3101	FAA, HONOLULU CERAP	Hawaiian Islands Range Complex	UNLTD	SURFACE	USN	51

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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> )
	R3107	FAA, HONOLULU CERAP	Hawaiian Islands Range Complex	FL180	SURFACE	USN	28
	W186	FAA, HONOLULU CERAP	Hawaiian Islands Range Complex	009000AMSL	SURFACE	USN	749
	W187	FAA, HONOLULU CERAP	Hawaiian Islands Range Complex	FL180	SURFACE	USN	78
	W188	FAA, HONOLULU CERAP	Hawaiian Islands Range Complex	UNLTD	SURFACE	USN	34,829
	W189	FAA, HONOLULU CERAP	Hawaiian Islands Range Complex	UNLTD	SURFACE	USN	7,914
	W190	FAA, HONOLULU CERAP	Hawaiian Islands Range Complex	UNLTD	SURFACE	USN	1,593
	W191	FAA, HONOLULU CERAP	Hawaiian Islands Range Complex	003000AMSL	SURFACE	USN	291
	W192	FAA, HONOLULU CERAP	Hawaiian Islands Range Complex	UNLTD	SURFACE	USN	3,483
	W193	FAA, HONOLULU CERAP	Hawaiian Islands Range Complex	UNLTD	SURFACE	USN	4,579
	W194	FAA, HONOLULU CERAP	Hawaiian Islands Range Complex	UNLTD	SURFACE	USN	4,071
	W196	FAA, HONOLULU TWR	Hawaiian Islands Range Complex	002000AMSL	SURFACE	USN	90
	GATOR 1 MOA, GA	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	017999AMSL	14000AMSL	USN	1,305
	GATOR 2 MOA, GA	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	014000AMSL	13000AMSL	USN	120
	MAYPORT HIGH MOA, FL	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	017999AMSL	03000AMSL	USN	65
	MAYPORT LOW MOA, FL	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	002999AMSL	00500AMSL	USN	65
	PALATKA 1 MOA, FL	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	017999AMSL	03000AGL	USN	440
	PALATKA 2 MOA, FL	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	017999AMSL	03000AGL	USN	269
	QUICK THRUST E MOA, GA	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	000499AGL	00100AGL	USN	137
	QUICK THRUST F MOA, GA	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	002999AMSL	00100AGL	USN	65
	QUICK THRUST G MOA, GA	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	014000AMSL	10000AMSL	USN	137

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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> )
	QUICK THRUST H MOA, GA	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	014000AMSL	10000AMSL	USN	65
	QUICK THRUST I MOA, GA	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	014000AMSL	00100AGL	USN	1,200
	QUICK THRUST J MOA, GA	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	014000AMSL	08000AMSL	USN	311
	QUICK THRUST L MOA, GA	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	014000AMSL	12000AMSL	USN	393
	QUICK THRUST M MOA, GA	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	012000AMSL	11000AMSL	USN	541
	QUICK THRUST N MOA, GA	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	003000AMSL	00500AGL	USN	541
	R2906	FAA, JACKSONVILLE TRACON	Jacksonville Range Complex	014000AMSL	SURFACE	USN	72
	R2907A	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	FL230	SURFACE	USN	85
	R2907B	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	009000AMSL	SURFACE	USN	50
	R2908	FAA, PENSACOLA TRACON	Jacksonville Range Complex	012000AMSL	SURFACE	USN	50
	R2910	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	FL230	SURFACE	USN	75
	R2910(A)	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	009000AMSL	SURFACE	USN	13
	R2910(B)	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	009000AMSL	SURFACE	USN	25
	R2910(C)	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	006000AMSL	SURFACE	USN	55
	SNOWBIRD MOA, TN	FAA, ATLANTA ARTCC	Jacksonville Range Complex	017999AMSL	11000AMSL	USN	1,367
	W132A	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	UNLTD	SURFACE	USN	958
	W132B	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	FL240	SURFACE	USN	347
	W133	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	004500AMSL	SURFACE	USN	1,661
	W134	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	UNLTD	04500AMSL	USN	1,661
	W157A	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	FL430	SURFACE	USN	7,746

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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 0413 (effective: December 23, 2004 through January 19, 2005)). Please refer to DoD Flight Information Publications for more information.

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	W157B	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	FL240	SURFACE	USN	2,206
	W157C	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	005000AMSL	SURFACE	USN	9,949
	W158A	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	FL430	SURFACE	USN	5,565
	W158B	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	FL240	SURFACE	USN	2,687
	W158C	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	UNLTD	FL430	USN	21,084
	W158E	FAA, JACKSONVILLE NAS TRACON	Jacksonville Range Complex	001200AMSL	SURFACE	USN	523
	W158F	FAA, JACKSONVILLE NAS TRACON	Jacksonville Range Complex	001700AMSL	01200AMSL	USN	165
	W159A	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	FL430	SURFACE	USN	1,880
	W159B	FAA, JACKSONVILLE ARTCC	Jacksonville Range Complex	FL240	SURFACE	USN	994
	TORTUGAS MOA, FL	FAA, MIAMI ARTCC	Key West Range Complex	017999AMSL	05000AMSL	USN	1,091
	W174A	FAA, MIAMI ARTCC	Key West Range Complex	FL700	SURFACE	USN	3,238
	W174B(A)	FAA, MIAMI ARTCC	Key West Range Complex	FL700	SURFACE	USN	10,006
	W174B(B)	FAA, MIAMI ARTCC	Key West Range Complex	005500AMSL	SURFACE	USN	207
	W174C(A)	FAA, MIAMI ARTCC	Key West Range Complex	FL700	SURFACE	USN	978
	W174C(B)	FAA, MIAMI ARTCC	Key West Range Complex	005500AMSL	SURFACE	USN	388
	W174D	FAA, MIAMI ARTCC	Key West Range Complex	FL700	SURFACE	USN	2,760
	W174D(A)	FAA, MIAMI ARTCC	Key West Range Complex	FL700	05500AMSL	USN	423
	W174E	FAA, MIAMI ARTCC	Key West Range Complex	010000AMSL	SURFACE	USN	275
	W174F	FAA, MIAMI ARTCC	Key West Range Complex	FL700	SURFACE	USN	786
	W174G	FAA, MIAMI ARTCC	Key West Range Complex	FL700	SURFACE	USN	445
	W465A	FAA, MIAMI ARTCC	Key West Range Complex	FL700	SURFACE	USN	1,445
	W465B	FAA, MIAMI ARTCC	Key West Range Complex	FL700	SURFACE	USN	1,422
	W465C	FAA, MIAMI ARTCC	Key West Range Complex	FL700	FL210	USN	829
	R7201	FAA, GUAM CERAP	Marianas Range Complex	FL600	SURFACE	USN	29

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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> )
	W517	FAA, GUAM CERAP	Marianas Range Complex	UNLTD	SURFACE	USN	9,142
	MERIDIAN 1 EAST MOA, MS	FAA, MEMPHIS ARTCC	Meridian Complex	017999AMSL	08000AMSL	USN	674
	MERIDIAN 1 WEST MOA, MS	FAA, MEMPHIS ARTCC	Meridian Complex	017999AMSL	08000AMSL	USN	3,740
	PINE HILL EAST MOA, MS	FAA, ATLANTA ARTCC	Meridian Complex	017999AMSL	10000AMSL	USN	1,202
	PINE HILL WEST MOA, MS	FAA, ATLANTA ARTCC	Meridian Complex	017999AMSL	10000AMSL	USN	1,012
	R4404A	FAA, MEMPHIS ARTCC	Meridian Complex	011500AMSL	SURFACE	USN	3
	R4404B	FAA, MEMPHIS ARTCC	Meridian Complex	011500AMSL	01200AGL	USN	74
	R4404C	FAA, MEMPHIS ARTCC	Meridian Complex	014500AMSL	11500AMSL	USN	74
	W105A	FAA, BOSTON ARTCC	Narragansett Range Complex	FL500	SURFACE	USN	9,689
	W105B	FAA, BOSTON ARTCC	Narragansett Range Complex	FL180	SURFACE	USN	1,239
	W106A	FAA, BOSTON ARTCC	Narragansett Range Complex	003000AMSL	SURFACE	USN	337
	W106B	FAA, BOSTON ARTCC	Narragansett Range Complex	008000AMSL	SURFACE	USN	475
	W106C	FAA, BOSTON ARTCC	Narragansett Range Complex	010000AMSL	SURFACE	USN	213
	W106D	FACSFAC, VACAPES, OCEANA NAS	Narragansett Range Complex	005999AMSL	SURFACE	USN	254
	A632A	USN, CORPUS CHRISTI NAS	NAS Corpus Christi	017999AMSL	06000AMSL	USN	2,006
	A632B	USN, CORPUS CHRISTI NAS	NAS Corpus Christi	017999AMSL	SURFACE	USN	1,283
	A632C	USN, CORPUS CHRISTI NAS	NAS Corpus Christi	017999AMSL	SURFACE	USN	495
	A632D	USN, CORPUS CHRISTI NAS	NAS Corpus Christi	010999AMSL	06000AMSL	USN	1,787
	A632E	USN, CORPUS CHRISTI NAS	NAS Corpus Christi	008999AMSL	06000AMSL	USN	867
	A632F	USN, CORPUS CHRISTI NAS	NAS Corpus Christi	017999AMSL	03000AGL	USN	397
	FOOTHILL 1 MOA, CA	FAA, OAKLAND ARTCC	NAS Lemoore	017999AMSL	02000AGL	USN	779
	FOOTHILL 2 MOA, CA	FAA, OAKLAND ARTCC	NAS Lemoore	017999AMSL	02000AGL	USN	820
	HUNTER HIGH MOA, CA	FAA, OAKLAND ARTCC	NAS Lemoore	017999AMSL	11000AMSL	USN	942
	HUNTER LOW A MOA, CA	FAA, OAKLAND ARTCC	NAS Lemoore	010999AMSL	00200AGL	USN	465

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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> )
	HUNTER LOW B MOA, CA	FAA, OAKLAND ARTCC	NAS Lemoore	010999AMSL	02000AGL	USN	139
	HUNTER LOW C MOA, CA	FAA, OAKLAND ARTCC	NAS Lemoore	010999AMSL	03000AGL	USN	77
	HUNTER LOW D MOA, CA	FAA, OAKLAND ARTCC	NAS Lemoore	006000AMSL	01500AGL	USN	196
	HUNTER LOW E MOA, CA	FAA, OAKLAND ARTCC	NAS Lemoore	003000AMSL	01500AGL	USN	66
	A292	USN, COMTRAWING SIX	NAS Pensacola	003000AMSL	SURFACE	USN	3,291
	R3404	FAA, HULMAN TWR, TERRE HAUTE	Naval Ammunitions Depot, Crane	002500AMSL	SURFACE	USN	3
	R6611A	FAA, WASHINGTON, DC ARTCC	NAVSEA Dahlgren	040000AMSL	SURFACE	USN	20
	R6612	FAA, WASHINGTON, DC ARTCC	NAVSEA Dahlgren	007000AMSL	SURFACE	USN	5
	R6613A	FAA, WASHINGTON, DC ARTCC	NAVSEA Dahlgren	040000AMSL	SURFACE	USN	17
	W59A	FAA, HOUSTON ARTCC	New Orleans NAS JRB	FL500	05000AMSL	USN	2,435
	W59B	FAA, HOUSTON ARTCC	New Orleans NAS JRB	027999AMSL	05000AMSL	USN	3,270
	W59C	FAA, HOUSTON ARTCC	New Orleans NAS JRB	FL500	FL280	USN	3,270
	R6611B	FAA, WASHINGTON, DC ARTCC	NSWC Dahlgren	060000AMSL	40000AMSL	USN	20
	R6613B	FAA, WASHINGTON, DC ARTCC	NSWC Dahlgren	060000AMSL	40000AMSL	USN	17
	R5113	FAA, ALBUQUERQUE ARTCC	Office of Naval Research, Atmospheric Sciences	045000AMSL	SURFACE	USN	18
	R4002	FAA, WASHINGTON, DC ARTCC	Patuxent River Complex	020000AMSL	SURFACE	USN	37
	R4005	FAA, WASHINGTON, DC ARTCC	Patuxent River Complex	024999AMSL	SURFACE	USN	298
	R4006	FAA, WASHINGTON, DC ARTCC	Patuxent River Complex	024999AMSL	03500AMSL	USN	1,374
	R4007	FAA, WASHINGTON, DC ARTCC	Patuxent River Complex	004999AMSL	SURFACE	USN	153
	R4008	FAA, WASHINGTON, DC ARTCC	Patuxent River Complex	FL850	FL250	USN	1,224
	R4009	FAA, WASHINGTON, DC ARTCC	Patuxent River Complex	012500AMSL	05000AMSL	USN	26
	R6609	FAA, WASHINGTON, DC ARTCC	Patuxent River Complex	FL200	SURFACE	USN	118
	R2519	FAA, LOS ANGELES ARTCC	Pt. Mugu Range Complex	UNLTD	SURFACE	USN	20
	R2535A	FAA, LOS ANGELES ARTCC	Pt. Mugu Range Complex	100000AMSL	SURFACE	USN	60
	R2535B	FAA, LOS ANGELES ARTCC	Pt. Mugu Range Complex	100000AMSL	SURFACE	USN	35
	W289	FAA, LOS ANGELES ARTCC	Pt. Mugu Range Complex	UNLTD	SURFACE	USN	11,162

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency (Digital Aeronautical Flight Information File, Edition 0413 (effective: December 23, 2004 through January 19, 2005)). Please refer to DoD Flight Information Publications for more information.

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	W289N	FAA, LOS ANGELES ARTCC	Pt. Mugu Range Complex	FL240	SURFACE	USN	102
	W290	FAA, LOS ANGELES ARTCC	Pt. Mugu Range Complex	FL800	SURFACE	USN	450
	W412	FAA, LOS ANGELES ARTCC	Pt. Mugu Range Complex	003000AMSL	SURFACE	USN	356
	W532	FAA, LOS ANGELES ARTCC	Pt. Mugu Range Complex	UNLTD	SURFACE	USN	9,000
	W537	FAA, LOS ANGELES ARTCC	Pt. Mugu Range Complex	UNLTD	SURFACE	USN	2,925
	W60	FAA, LOS ANGELES ARTCC	Pt. Mugu Range Complex	UNLTD	SURFACE	USN	749
	W602	FAA, HOUSTON ARTCC	Pt. Mugu Range Complex	FL250	SURFACE	USN	10,148
	W61	FAA, LOS ANGELES ARTCC	Pt. Mugu Range Complex	UNLTD	SURFACE	USN	1,398
	W260	FAA, OAKLAND ARTCC	San Francisco Range Complex	FL600	SURFACE	USN	5,348
	W283	FAA, OAKLAND ARTCC	San Francisco Range Complex	FL600	SURFACE	USN	5,590
	W285A	FAA, OAKLAND ARTCC	San Francisco Range Complex	FL450	SURFACE	USN	2,578
	W285B	FAA, OAKLAND ARTCC	San Francisco Range Complex	FL450	08000AMSL	USN	843
	W513	FAA, OAKLAND ARTCC	San Francisco Range Complex	FL600	SURFACE	USN	541
	W291	FAA, LOS ANGELES ARTCC	SOCAL Range Complex	FL800	SURFACE	USN	107,551
	PAMLICO A MOA, NC	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	017999AMSL	08000AMSL	USN	214
	PAMLICO B MOA, NC	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	017999AMSL	08000AMSL	USN	808
	R5301	FAA, WASHINGTON ARTCC	VACAPES Range Complex	014000AMSL	SURFACE	USN	6
	R5302A	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	014000AMSL	SURFACE	USN	10
	R5302B	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	014000AMSL	00100AGL	USN	64
	R5302C	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	003000AMSL	00100AGL	USN	11
	R5313A	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	018000AMSL	SURFACE	USN	20
	R5313B	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	013000AMSL	00100AGL	USN	74
	R5313C	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	013000AMSL	00100AGL	USN	21
	R5313D	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	013000AMSL	00500AGL	USN	57
	R5314A	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	FL205	SURFACE	USN	43

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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> )
	R5314B	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	FL205	00500AGL	USN	55
	R5314C	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	FL205	00500AGL	USN	50
	R5314D	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	FL205	SURFACE	USN	3
	R5314E	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	FL205	SURFACE	USN	5
	R5314F	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	FL205	00500AGL	USN	20
	R5314G	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	015000AMSL	00200AGL	USN	41
	R5314H	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	010000AMSL	00500AGL	USN	73
	R5314J	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	006000AMSL	01000AGL	USN	200
	R6606	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	051000AMSL	SURFACE	USN	31
	STUMPY POINT MOA, NC	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	007999AMSL	SURFACE	USN	117
	W110	USN, FACSFAC, VACAPES	VACAPES Range Complex	FL230	SURFACE	USN	1,750
	W386	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	UNLTD	SURFACE	USN	9,034
	W386(A)	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	FL230	SURFACE	USN	142
	W387A	USN, FACSFAC VACAPES	VACAPES Range Complex	023999AMSL	SURFACE	USN	2,152
	W387B	USN, FACSFAC VACAPES	VACAPES Range Complex	UNLTD	FL240	USN	2,152
	W50A	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	FL750	SURFACE	USN	25
	W50B	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	FL750	SURFACE	USN	60
	W50C	FAA, WASHINGTON, DC ARTCC	VACAPES Range Complex	FL750	SURFACE	USN	31
	A680	USN, WHIDBEY NAS APP	Whidbey Island Range Complex	003000AMSL	SURFACE	USN	27
	BOARDMAN MOA, OR	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	017999AMSL	04000AMSL	USN	337
	CHINOOK A MOA, WA	USN, WHIDBEY IS NAS APP	Whidbey Island Range Complex	005000AMSL	00300AMSL	USN	21
	CHINOOK B MOA, WA	USN, WHIDBEY IS NAS APP	Whidbey Island Range Complex	005000AMSL	00300AMSL	USN	31
	DOLPHIN NORTH MOA, OR	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	017999AMSL	11000AMSL	USN	5,376
	DOLPHIN SOUTH MOA, OR	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	017999AMSL	11000AMSL	USN	1,660
	OKANOGAN A MOA, WA	FAA, SEATTLE ARTCC	Whidbey Island Range	017999AMSL	09000AMSL	USN	2,461

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**Special Use Airspace Inventory**

<b>Military Service</b>	<b>SUA Name</b>	<b>Controlling Agency</b>	<b>Range Complex / Installation Name</b>	<b>Upper Altitude</b>	<b>Lower Altitude</b>	<b>User*</b>	<b>Area** (nm<sup>2</sup>)</b>
			Complex				
	OKANOGAN B MOA, WA	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	008999AMSL	00300AGL	USN	907
	OKANOGAN C MOA, WA	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	008999AMSL	00300AGL	USN	701
	OLYMPIC A MOA, WA	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	017999AMSL	06000AMSL	USN	869
	OLYMPIC B MOA, WA	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	017999AMSL	06000AMSL	USN	660
	R5701(A)	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	FL200	SURFACE	USN	74
	R5701(B)	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	010000AMSL	SURFACE	USN	11
	R5701(C)	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	006000AMSL	SURFACE	USN	30
	R5701(D)	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	010000AMSL	SURFACE	USN	20
	R5701(E)	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	006000AMSL	SURFACE	USN	60
	R5706	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	010000AMSL	03500AMSL	USN	100
	R6701	USN, WHIDBEY ISLAND NAS APP	Whidbey Island Range Complex	005000AMSL	SURFACE	USN	20
	R6703A	FAA, SEATTLE-TACOMA APP	Whidbey Island Range Complex	014000AMSL	SURFACE	USN	13
	R6703B	FAA, SEATTLE-TACOMA APP	Whidbey Island Range Complex	005000AMSL	SURFACE	USN	4
	R6703C	FAA, SEATTLE-TACOMA APP	Whidbey Island Range Complex	014000AMSL	SURFACE	USN	19
	R6703D	FAA, SEATTLE-TACOMA APP	Whidbey Island Range Complex	005000AMSL	SURFACE	USN	4
	ROBERTS MOA, CA	FAA, OAKLAND ARTCC	Whidbey Island Range Complex	014999AMSL	00500AGL	USN	82
	ROOSEVELT A MOA, WA	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	017999AMSL	09000AMSL	USN	2,980
	ROOSEVELT B MOA, WA	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	008999AMSL	00300AGL	USN	2,072
	W237A(HI)	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	FL500	FL230	USN	1,922
	W237A(LO)	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	FL230	SURFACE	USN	1,922

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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> )
	W237B(HI)	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	FL500	FL230	USN	1,436
	W237B(LO)	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	FL230	SURFACE	USN	1,436
	W237C	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	UNLTD	SURFACE	USN	1,458
	W237D	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	UNLTD	SURFACE	USN	1,536
	W237E	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	FL270	SURFACE	USN	1,718
	W237F	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	UNLTD	SURFACE	USN	3,683
	W237G	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	UNLTD	SURFACE	USN	2,193
	W237H	FAA, OAKLAND ARTCC	Whidbey Island Range Complex	FL270	SURFACE	USN	5,572
	W237J	FAA, OAKLAND ARTCC	Whidbey Island Range Complex	FL270	SURFACE	USN	4,054
	W570	FAA, SEATTLE ARTCC	Whidbey Island Range Complex	FL500	SURFACE	USN	4,220
<b>MARINE CORPS</b>							
	R2503A	FAA, LOS ANGELES ARTCC	Camp Pendleton Range Complex	002000AMSL	SURFACE	USMC	68
	R2503B	FAA, LOS ANGELES ARTCC	Camp Pendleton Range Complex	015000AMSL	SURFACE	USMC	103
	R2503C	FAA, LOS ANGELES ARTCC	Camp Pendleton Range Complex	FL270	15000AMSL	USMC	81
	SAN ONOFRE HIGH MOA, CA	FAA, SOCAL TRACON	Camp Pendleton Range Complex	007999AMSL	04000AMSL	USMC	39
	SAN ONOFRE LOW MOA, CA	FAA, SOCAL TRACON	Camp Pendleton Range Complex	003999AMSL	02000AMSL	USMC	83
	HATTERAS F MOA, NC	FAA, WASHINGTON, DC ARTCC	Cherry Point/Camp Lejeune Range Complex	013000AMSL	03000AMSL	USMC	97
	R5303A	USMC, CHERRY POINT APP	Cherry Point/Camp Lejeune Range Complex	006999AMSL	SURFACE	USMC	24
	R5303B	USMC, CHERRY POINT APP	Cherry Point/Camp Lejeune Range Complex	009999AMSL	07000AMSL	USMC	24
	R5303C	FAA, WASHINGTON, DC ARTCC	Cherry Point/Camp Lejeune Range Complex	017999AMSL	10000AMSL	USMC	24
	R5304A	USMC, CHERRY POINT APP	Cherry Point/Camp Lejeune	006999AMSL	SURFACE	USMC	23

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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 0413 (effective: December 23, 2004 through January 19, 2005)). Please refer to DoD Flight Information Publications for more information.

### Special Use Airspace Inventory

Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
			Range Complex				
	R5304B	USMC, CHERRY POINT APP	Cherry Point/Camp Lejeune Range Complex	009999AMSL	07000AMSL	USMC	23
	R5304C	FAA, WASHINGTON, DC ARTCC	Cherry Point/Camp Lejeune Range Complex	017999AMSL	10000AMSL	USMC	23
	R5306A	USMC, CHERRY POINT APP	Cherry Point/Camp Lejeune Range Complex	017999AMSL	SURFACE	USMC	772
	R5306C	USMC, CHERRY POINT APP	Cherry Point/Camp Lejeune Range Complex	017999AMSL	01200AMSL	USMC	155
	R5306D	USMC, CHERRY POINT APP	Cherry Point/Camp Lejeune Range Complex	017999AMSL	SURFACE	USMC	93
	R5306E	USMC, CHERRY POINT APP	Cherry Point/Camp Lejeune Range Complex	017999AMSL	SURFACE	USMC	4
	BEAUFORT 1 MOA, SC	FAA, JACKSONVILLE ARTCC	MCAS Beaufort/Townsend Range Complex	010000AMSL	00100AGL	USMC	243
	BEAUFORT 2 MOA, SC	FAA, JACKSONVILLE ARTCC	MCAS Beaufort/Townsend Range Complex	007000AMSL	00100AGL	USMC	397
	BEAUFORT 3 MOA, SC	FAA, JACKSONVILLE ARTCC	MCAS Beaufort/Townsend Range Complex	002000AMSL	00100AGL	USMC	262
	W74(A)	FAA, JACKSONVILLE ARTCC	MCAS Beaufort/Townsend Range Complex	010000AMSL	SURFACE	USMC	165
	W74(B)	FAA, JACKSONVILLE ARTCC	MCAS Beaufort/Townsend Range Complex	010000AMSL	03000AMSL	USMC	9
	A530	USMC, CHERRY POINT MCAS	MCAS Cherry Point	017999AMSL	SURFACE	USMC	383
	DEMO 1 MOA, VA	FAA, WASHINGTON, DC ARTCC	Quantico Range Complex	005000AMSL	00500AMSL	USMC	79
	DEMO 2 MOA, VA	FAA, WASHINGTON, DC ARTCC	Quantico Range Complex	015000AMSL	10000AMSL	USMC	51
	DEMO 3 MOA, VA	FAA, WASHINGTON, DC ARTCC	Quantico Range Complex	015000AMSL	05000AMSL	USMC	79
	R6608A	FAA, DULLES INTL TWR	Quantico Range Complex	010000AMSL	SURFACE	USMC	10
	R6608B	FAA, DULLES INTL TWR	Quantico Range Complex	010000AMSL	SURFACE	USMC	25
	R6608C	FAA, DULLES INTL TWR	Quantico Range Complex	010000AMSL	SURFACE	USMC	16
	BRISTOL MOA, CA	FAA, LOS ANGELES ARTCC	Twentynine Palms Range Complex	017999AMSL	05000AMSL	USMC	382
	R2501E	FAA, LOS ANGELES ARTCC	Twentynine Palms Range Complex	UNLTD	SURFACE	USMC	225
	R2501N	FAA, LOS ANGELES ARTCC	Twentynine Palms Range Complex	UNLTD	SURFACE	USMC	289
	R2501S	FAA, LOS ANGELES ARTCC	Twentynine Palms Range	UNLTD	SURFACE	USMC	186

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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> )
			Complex				
	R2501W	FAA, LOS ANGELES ARTCC	Twentynine Palms Range Complex	UNLTD	SURFACE	USMC	72
	SUNDANCE MOA, CA	FAA, LOS ANGELES ARTCC	Twentynine Palms Range Complex	010000AMSL	00500AGL	USMC	48
	ABEL BRAVO MOA, CA	FAA, LOS ANGELES ARTCC	Yuma Range Complex	017999AMSL	07000AMSL	USMC	85
	ABEL EAST MOA, CA	FAA, LOS ANGELES ARTCC	Yuma Range Complex	012999AMSL	05000AMSL	USMC	294
	ABEL NORTH MOA, CA	FAA, LOS ANGELES ARTCC	Yuma Range Complex	017999AMSL	07000AMSL	USMC	635
	ABEL SOUTH MOA, CA	FAA, LOS ANGELES ARTCC	Yuma Range Complex	017999AMSL	07000AMSL	USMC	245
	DOME MOA, AZ	FAA, LOS ANGELES ARTCC	Yuma Range Complex	017999AMSL	06000AMSL	USMC	183
	KANE EAST MOA, CA	FAA, LOS ANGELES ARTCC	Yuma Range Complex	017999AMSL	10000AMSL	USMC	446
	KANE SOUTH MOA, CA	FAA, LOS ANGELES ARTCC	Yuma Range Complex	017999AMSL	10000AMSL	USMC	68
	KANE WEST MOA, CA	FAA, LOS ANGELES ARTCC	Yuma Range Complex	017999AMSL	10000AMSL	USMC	581
	QUAIL MOA, AZ	FAA, LOS ANGELES ARTCC	Yuma Range Complex	017999AMSL	10000AMSL	USMC	1,002
	R2301W	FAA, LOS ANGELES ARTCC	Yuma Range Complex	FL800	SURFACE	USMC	1,116
	R2507N	FAA, LOS ANGELES ARTCC	Yuma Range Complex	FL400	SURFACE	USMC	203
	R2507S	FAA, LOS ANGELES ARTCC	Yuma Range Complex	FL400	SURFACE	USMC	231
TURTLE MOA, AZ	FAA, LOS ANGELES ARTCC	Yuma Range Complex	017999AMSL	11000AMSL	USMC	1,626	
<b>AIR FORCE</b>							
	R2206	FAA, ANCHORAGE ARTCC	13th Missile Wing	008800AMSL	SURFACE	USAF	11
	R2901A	FAA, MIAMI ARTCC	Avon Park	014000AMSL	SURFACE	USAF	160
	R2901B	FAA, MIAMI ARTCC	Avon Park	FL180	14000AMSL	USAF	141
	R2901C	FAA, MIAMI ARTCC	Avon Park	014000AMSL	SURFACE	USAF	24
	R2901D	FAA, MIAMI ARTCC	Avon Park	004000AMSL	00500AMSL	USAF	27
	R2901E	FAA, MIAMI ARTCC	Avon Park	004000AMSL	01000AMSL	USAF	87
	R2901F	FAA, MIAMI ARTCC	Avon Park	005000AMSL	04000AMSL	USAF	14
	R2901G	FAA, MIAMI ARTCC	Avon Park	005000AMSL	SURFACE	USAF	26
	R2901H	FAA, MIAMI ARTCC	Avon Park	004000AMSL	01000AMSL	USAF	31

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**Special Use Airspace Inventory**

<b>Military Service</b>	<b>SUA Name</b>	<b>Controlling Agency</b>	<b>Range Complex / Installation Name</b>	<b>Upper Altitude</b>	<b>Lower Altitude</b>	<b>User*</b>	<b>Area** (nm<sup>2</sup>)</b>
	R2901I	FAA, MIAMI ARTCC	Avon Park	004000AMSL	01500AMSL	USAF	30
	ANNE HIGH MOA, AR	FAA, FORT WORTH ARTCC	Barksdale AFB	017999AMSL	07000AMSL	USAF	649
	ANNE LOW MOA, AR	FAA, FORT WORTH ARTCC	Barksdale AFB	006999AMSL	00100AGL	USAF	649
	HACKETT MOA, LA	FAA, FORT WORTH ARTCC	Barksdale AFB	017999AMSL	07000AMSL	USAF	1,176
	JENA 1 MOA, LA	FAA, HOUSTON ARTCC	Barksdale AFB	005000AMSL	00100AGL	USAF	1,026
	R3801A(A)	FAA, HOUSTON ARTCC	Barksdale AFB	004000AMSL	01500AGL	USAF	54
	R3801A(B)	FAA, HOUSTON ARTCC	Barksdale AFB	004000AMSL	00500AGL	USAF	23
	R3801B	FAA, HOUSTON ARTCC	Barksdale AFB	007000AMSL	SURFACE	USAF	96
	R3801C	FAA, HOUSTON ARTCC	Barksdale AFB	014000AMSL	07000AMSL	USAF	96
	R4105A	FAA, CAPE APP	Barnes ANGB	009999AMSL	SURFACE	USAF	26
	R4105B	FAA, CAPE APP	Barnes ANGB	017999AMSL	10000AMSL	USAF	26
	FUZZY MOA, AZ	FAA, ALBUQUERQUE ARTCC	Barry M. Goldwater Range	009999AMSL	00100AGL	USAF	423
	CHINA MOA, CA	FAA, OAKLAND ARTCC	Beale AFB	017999AMSL	03000AGL	USAF	588
	MAXWELL 1 MOA, CA	FAA, OAKLAND ARTCC	Beale AFB	017999AMSL	11000AMSL	USAF	825
	MAXWELL 2 MOA, CA	FAA, OAKLAND ARTCC	Beale AFB	017999AMSL	11000AMSL	USAF	871
	MAXWELL 3 MOA, CA	FAA, OAKLAND ARTCC	Beale AFB	017999AMSL	11000AMSL	USAF	871
	WHITMORE 1 MOA, CA	FAA, OAKLAND ARTCC	Beale AFB	017999AMSL	11000AMSL	USAF	550
	WHITMORE 2 MOA, CA	FAA, OAKLAND ARTCC	Beale AFB	017999AMSL	11000AMSL	USAF	581
	WHITMORE 3 MOA, CA	FAA, OAKLAND ARTCC	Beale AFB	017999AMSL	11000AMSL	USAF	580
	BRONCO 1 MOA, TX	FAA, FORT WORTH ARTCC	Cannon AFB	017999AMSL	08000AMSL	USAF	987
	BRONCO 2 MOA, TX	FAA, FORT WORTH ARTCC	Cannon AFB	017999AMSL	10000AMSL	USAF	578
	BRONCO 3 MOA, TX	FAA, FORT WORTH ARTCC	Cannon AFB	017999AMSL	10000AMSL	USAF	1,652
	BRONCO 4 MOA, TX	FAA, FORT WORTH ARTCC	Cannon AFB	017999AMSL	10000AMSL	USAF	1,676
	MT DORA EAST HIGH MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	017999AMSL	11000AMSL	USAF	1,098
	MT DORA EAST LOW MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	010999AMSL	01500AGL	USAF	1,098
	MT DORA NORTH HIGH MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	017999AMSL	11000AMSL	USAF	1,190

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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> )
	MT DORA NORTH LOW MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	010999AMSL	01500AGL	USAF	1,190
	MT DORA WEST HIGH MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	017999AMSL	11000AMSL	USAF	1,518
	MT DORA WEST LOW MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	010999AMSL	01500AGL	USAF	1,518
	PECOS NORTH HIGH MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	017999AMSL	11000AMSL	USAF	1,175
	PECOS NORTH LOW MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	010999AMSL	00500AGL	USAF	985
	PECOS SOUTH HIGH MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	017999AMSL	11000AMSL	USAF	1,262
	PECOS SOUTH LOW MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	010999AMSL	00500AGL	USAF	903
	R5104A	FAA, ALBUQUERQUE ARTCC	Cannon AFB	017999AMSL	SURFACE	USAF	198
	R5104B	FAA, ALBUQUERQUE ARTCC	Cannon AFB	023000AMSL	18000AMSL	USAF	198
	R5105	FAA, ALBUQUERQUE ARTCC	Cannon AFB	010000AMSL	SURFACE	USAF	132
	TAIBAN MOA, NM	FAA, ALBUQUERQUE ARTCC	Cannon AFB	010999AMSL	00500AGL	USAF	223
	R2932	FAA, MIAMI ARTCC	Cape Canaveral Range Complex	004999AMSL	SURFACE	USAF	111
	R2933	FAA, MIAMI ARTCC	Cape Canaveral Range Complex	UNLTD	05000AMSL	USAF	111
	R2934	FAA, MIAMI ARTCC	Cape Canaveral Range Complex	UNLTD	SURFACE	USAF	163
	R2935	FAA, MIAMI ARTCC	Cape Canaveral Range Complex	UNLTD	11000AMSL	USAF	390
	CLAIBORNE A MOA, LA	USA, POLK APP CON	Claiborne	009999AMSL	00100AGL	USAF	76
	CLAIBORNE B MOA, LA	USA, POLK APP CON	Claiborne	017999AMSL	10000AMSL	USAF	76
	A440	USAF, 14 FTW COLUMBUS AFB	Columbus AFB	006500AMSL	SURFACE	USAF	206
	COLUMBUS 1 MOA, MS	FAA, MEMPHIS ARTCC	Columbus AFB	017999AMSL	08000AMSL	USAF	2,567
	COLUMBUS 2 MOA, MS	FAA, MEMPHIS ARTCC	Columbus AFB	017999AMSL	08000AMSL	USAF	609
	COLUMBUS 3 MOA, MS	FAA, MEMPHIS ARTCC	Columbus AFB	017999AMSL	08000AMSL	USAF	2,523
	COLUMBUS 4 MOA, MS	FAA, MEMPHIS ARTCC	Columbus AFB	017999AMSL	10000AMSL	USAF	1,302
	TOMBSTONE A MOA, AZ	FAA, ALBUQUERQUE ARTCC	David-Monthan AFB	014499AMSL	00500AGL	USAF	496

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**Special Use Airspace Inventory**

<b>Military Service</b>	<b>SUA Name</b>	<b>Controlling Agency</b>	<b>Range Complex / Installation Name</b>	<b>Upper Altitude</b>	<b>Lower Altitude</b>	<b>User*</b>	<b>Area** (nm<sup>2</sup>)</b>
	TOMBSTONE B MOA, AZ	FAA, ALBUQUERQUE ARTCC	David-Monthan AFB	014499AMSL	00500AGL	USAF	1,239
	TOMBSTONE C MOA, AZ	FAA, ALBUQUERQUE ARTCC	David-Monthan AFB	017999AMSL	14500AMSL	USAF	2,856
	LANCER MOA, TX	FAA, FORT WORTH ARTCC	Dyess AFB	017999AMSL	06200AMSL	USAF	3,064
	BAKERSFIELD MOA, CA	FAA, LOS ANGELES ARTCC	Edwards AFB	017999AMSL	02000AGL	USAF	284
	BARSTOW MOA, CA	FAA, HI-DESERT TRACON, EDWARDS, CA	Edwards AFB	017999AMSL	00200AGL	USAF	154
	BISHOP MOA, CA	FAA, LOS ANGELES ARTCC	Edwards AFB	017999AMSL	00200AGL	USAF	120
	BUCKHORN MOA, CA	FAA, LOS ANGELES ARTCC	Edwards AFB	017999AMSL	00200AGL	USAF	55
	ISABELLA MOA, CA	FAA, HI-DESERT TRACON, EDWARDS AFB	Edwards AFB	017999AMSL	00200AGL	USAF	2,538
	OWENS MOA, CA	FAA, HI-DESERT TRACON, EDWARDS AFB	Edwards AFB	017999AMSL	00200AGL	USAF	1,902
	PANAMINT MOA, CA	FAA, HI-DESERT TRACON, EDWARDS AFB	Edwards AFB	017999AMSL	03001AGL	USAF	1,940
	PORTERVILLE MOA, CA	FAA, LOS ANGELES ARTCC	Edwards AFB	017999AMSL	02000AGL	USAF	440
	POWDER RIVER A MOA, MT	FAA, SALT LAKE CITY ARTCC	Edwards AFB	017999AMSL	SURFACE	USAF	2,868
	POWDER RIVER B MOA, WY	FAA, DENVER ARTCC	Edwards AFB	017999AMSL	01000AGL	USAF	1,303
	R2515	FAA, HI-DESERT TRACON, EDWARDS AFB	Edwards AFB	UNLTD	SURFACE	USAF	1,295
	SALINE MOA, CA	FAA, HI-DESERT TRACON, EDWARDS AFB	Edwards AFB	017999AMSL	00200AGL	USAF	1,595
	EGLIN A EAST MOA, FL	FAA, JACKSONVILLE ARTCC	Eglin AFB	017999AMSL	01000AGL	USAF	94
	EGLIN A WEST MOA, FL	FAA, JACKSONVILLE ARTCC	Eglin AFB	017999AMSL	01000AGL	USAF	86
	EGLIN B MOA, FL	FAA, JACKSONVILLE ARTCC	Eglin AFB	017999AMSL	01000AGL	USAF	212
	EGLIN C MOA, FL	FAA, JACKSONVILLE ARTCC	Eglin AFB	017999AMSL	01000AGL	USAF	138
	EGLIN D MOA, FL	FAA, JACKSONVILLE ARTCC	Eglin AFB	003000AMSL	01000AGL	USAF	128
	EGLIN E MOA, FL	FAA, JACKSONVILLE ARTCC	Eglin AFB	017999AMSL	SURFACE	USAF	1,095
	EGLIN F MOA, FL	FAA, JACKSONVILLE ARTCC	Eglin AFB	017999AMSL	SURFACE	USAF	5
	R2914A	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	370
	R2914B	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	08500AMSL	USAF	68

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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> )
	R2915A	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	199
	R2915B	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	44
	R2915C	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	08500AMSL	USAF	33
	R2917	USAF, EGLIN AFB APP	Eglin AFB	022999AMSL	SURFACE	USAF	19
	R2918	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	15
	R2919A	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	46
	R2919B	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	08500AMSL	USAF	80
	ROSE HILL MOA, AL	FAA, JACKSONVILLE ARTCC	Eglin AFB	017999AMSL	08000AMSL	USAF	620
	W151A	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	2,452
	W151B	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	2,420
	W151C	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	1,663
	W151D	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	2,034
	W151E	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	512
	W151F	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	781
	W470A	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	1,934
	W470B	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	2,051
	W470C	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	1,105
	W470D	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	406
	W470E	FAA, MIAMI ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	973
	W470F	FAA, JACKSONVILLE ARTCC	Eglin AFB	UNLTD	SURFACE	USAF	254
	BIRCH MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	005000AMSL	00500AGL	USAF	443
	BUFFALO MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	006999AMSL	00300AGL	USAF	1,712
	EIELSON MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	017999AMSL	00100AGL	USAF	751
	FOX 1 MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	017999AMSL	05000AGL	USAF	1,177
	FOX 2 MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	017999AMSL	07000AMSL	USAF	97
	FOX 3 MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	017999AMSL	05000AMSL	USAF	3,815

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**Special Use Airspace Inventory**

<b>Military Service</b>	<b>SUA Name</b>	<b>Controlling Agency</b>	<b>Range Complex / Installation Name</b>	<b>Upper Altitude</b>	<b>Lower Altitude</b>	<b>User*</b>	<b>Area** (nm<sup>2</sup>)</b>
	R2211	FAA, ANCHORAGE ARTCC	Eielson AFB	018000AMSL	SURFACE	USAF	140
	VIPER A MOA, AK	FAA, FAIRBANKS TWR	Eielson AFB	010000AMSL	00500AGL	USAF	110
	VIPER B MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	017999AMSL	10000AMSL	USAF	110
	YUKON 1 MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	017999AMSL	00100AGL	USAF	3,932
	YUKON 2 MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	017999AMSL	00100AGL	USAF	5,204
	YUKON 3 HIGH MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	017999AMSL	10000AMSL	USAF	2,378
	YUKON 3A LOW MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	009999AMSL	00100AGL	USAF	2,378
	YUKON 3B MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	017999AMSL	02000AGL	USAF	1,585
	YUKON 4 MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	017999AMSL	00100AGL	USAF	3,563
	YUKON 5 MOA, AK	FAA, ANCHORAGE ARTCC	Eielson AFB	017999AMSL	05000AGL	USAF	2,878
	W147A	FAA, HOUSTON ARTCC	Ellington Field	022999AMSL	05000AMSL	USAF	4,329
	W147B	FAA, HOUSTON ARTCC	Ellington Field	FL500	FL230	USAF	4,329
	W147D	FAA, HOUSTON ARTCC	Ellington Field	FL500	SURFACE	USAF	5,277
	W147E	FAA, HOUSTON ARTCC	Ellington Field	FL500	FL260	USAF	1,858
	GALENA MOA, AK	FAA, ANCHORAGE ARTCC	Elmendorf AFB	017999AMSL	01000AMSL	USAF	4,073
	NAKNEK 1 MOA, AK	FAA, ANCHORAGE ARTCC	Elmendorf AFB	017999AMSL	03000AGL	USAF	3,899
	NAKNEK 2 MOA, AK	FAA, ANCHORAGE ARTCC	Elmendorf AFB	017999AMSL	03000AGL	USAF	2,762
	STONY A MOA, AK	FAA, ANCHORAGE ARTCC	Elmendorf AFB	017999AMSL	00100AGL	USAF	4,133
	STONY B MOA, AK	FAA, ANCHORAGE ARTCC	Elmendorf AFB	017999AMSL	02000AGL	USAF	2,430
	SUSITNA MOA, AK	FAA, ANCHORAGE ARTCC	Elmendorf AFB	017999AMSL	10000AMSL	USAF	2,532
	W612	FAA, ANCHORAGE ARTCC	Elmendorf AFB	FL290	SURFACE	USAF	2,543
	GANDY MOA, UT	FAA, SALT LAKE CITY ARTCC	Hill AFB	017999AMSL	00100AGL	USAF	782
	LUCIN A MOA, UT	FAA, SALT LAKE CITY ARTCC	Hill AFB	009000AMSL	00100AGL	USAF	1,439
	LUCIN B MOA, UT	FAA, SALT LAKE CITY ARTCC	Hill AFB	007500AMSL	00100AGL	USAF	932
	LUCIN C MOA, UT	FAA, SALT LAKE CITY ARTCC	Hill AFB	006500AMSL	00100AGL	USAF	112
	R6402A	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL580	SURFACE	USAF	928

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency (Digital Aeronautical Flight Information File, Edition 0413 (effective: December 23, 2004 through January 19, 2005)). Please refer to DoD Flight Information Publications for more information.

### Special Use Airspace Inventory

Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	R6402B	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL580	00100AGL	USAF	33
	R6404A	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL580	SURFACE	USAF	1,052
	R6404B	FAA, SALT LAKE CITY ARTCC	Hill AFB	013000AMSL	SURFACE	USAF	189
	R6404C	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL280	00100AGL	USAF	158
	R6404D	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL250	13000AMSL	USAF	189
	R6405	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL580	00100AGL	USAF	1,828
	R6406A	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL580	SURFACE	USAF	799
	R6406B	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL580	00100AGL	USAF	44
	R6407	FAA, SALT LAKE CITY ARTCC	Hill AFB	FL580	SURFACE	USAF	612
	SEVIER A MOA, UT	FAA, SALT LAKE CITY ARTCC	Hill AFB	014500AMSL	00100AGL	USAF	950
	SEVIER B MOA, UT	FAA, SALT LAKE CITY ARTCC	Hill AFB	009500AMSL	00100AGL	USAF	2,069
	SEVIER C MOA, NV	FAA, SALT LAKE CITY ARTCC	Hill AFB	017999AMSL	14500AMSL	USAF	950
	SEVIER D MOA, UT	FAA, SALT LAKE CITY ARTCC	Hill AFB	017999AMSL	09500AMSL	USAF	2,069
	BEAK A MOA, NM	FAA, ALBUQUERQUE ARTCC	Holloman AFB	017999AMSL	12500AMSL	USAF	654
	BEAK B MOA, NM	FAA, ALBUQUERQUE ARTCC	Holloman AFB	017999AMSL	12500AMSL	USAF	576
	BEAK C MOA, NM	FAA, ALBUQUERQUE ARTCC	Holloman AFB	017999AMSL	12500AMSL	USAF	605
	TALON EAST HIGH MOA, NM	FAA, ALBUQUERQUE ARTCC	Holloman AFB	017999AMSL	12500AMSL	USAF	629
	TALON LOW MOA, NM	FAA, ALBUQUERQUE ARTCC	Holloman AFB	012499AMSL	00300AGL	USAF	978
	TALON WEST HIGH MOA, NM	FAA, ALBUQUERQUE ARTCC	Holloman AFB	017999AMSL	12500AMSL	USAF	927
	VALENTINE MOA, TX	FAA, ALBUQUERQUE ARTCC	Holloman AFB	017999AMSL	15000AMSL	USAF	2,357
	CATO MOA, NM	FAA, ALBUQUERQUE ARTCC	Kirtland AFB	017999AMSL	13500AMSL	USAF	2,520
	EVERS MOA, WV	FAA, WASHINGTON, DC ARTCC	Langley AFB	017999AMSL	01000AGL	USAF	451
	FARMVILLE MOA, VA	FAA, WASHINGTON, DC ARTCC	Langley AFB	005000AMSL	00300AGL	USAF	1,119
	A633A	USAF, LAUGHLIN AFB	Laughlin AFB	007000AMSL	SURFACE	USAF	525
	A633B	USAF, LAUGHLIN AFB	Laughlin AFB	004000AMSL	SURFACE	USAF	147
	CRYSTAL MOA, TX	FAA, HOUSTON ARTCC	Laughlin AFB	017999AMSL	06000AMSL	USAF	1,328

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**Special Use Airspace Inventory**

<b>Military Service</b>	<b>SUA Name</b>	<b>Controlling Agency</b>	<b>Range Complex / Installation Name</b>	<b>Upper Altitude</b>	<b>Lower Altitude</b>	<b>User*</b>	<b>Area** (nm<sup>2</sup>)</b>
	CRYSTAL NORTH MOA, TX	FAA, HOUSTON ARTCC	Laughlin AFB	017999AMSL	06000AMSL	USAF	395
	LAUGHLIN 1 MOA, TX	FAA, HOUSTON ARTCC	Laughlin AFB	017999AMSL	09000AMSL	USAF	4,541
	LAUGHLIN 2 MOA, TX	FAA, HOUSTON ARTCC	Laughlin AFB	017999AMSL	07000AMSL	USAF	2,190
	LAUGHLIN 3 HIGH MOA, TX	FAA, HOUSTON ARTCC	Laughlin AFB	FL180	15000AMSL	USAF	404
	LAUGHLIN 3 LOW MOA, TX	FAA, HOUSTON ARTCC	Laughlin AFB	014999AMSL	07000AMSL	USAF	404
	A231	FAA, ALBUQUERQUE ARTCC	Luke AFB	006500AMSL	00500AGL	USAF	489
	BAGDAD 1 MOA, AZ	FAA, ALBUQUERQUE ARTCC	Luke AFB	017999AMSL	07000AMSL	USAF	1,010
	GLADDEN 1 MOA, AZ	FAA, ALBUQUERQUE ARTCC	Luke AFB	017999AMSL	05000AGL	USAF	1,774
	R2301E	FAA, ALBUQUERQUE ARTCC	Luke AFB	FL800	SURFACE	USAF	1,476
	R2304	FAA, ALBUQUERQUE ARTCC	Luke AFB	FL240	SURFACE	USAF	328
	R2305	FAA, ALBUQUERQUE ARTCC	Luke AFB	FL240	SURFACE	USAF	178
	SELLS 1 MOA, AZ	FAA, ALBUQUERQUE ARTCC	Luke AFB	017999AMSL	10000AMSL	USAF	3,491
	SELLS LOW MOA, AZ	FAA, ALBUQUERQUE ARTCC	Luke AFB	009999AMSL	03000AGL	USAF	2,985
	SUNNY MOA, AZ	FAA, DENVER ARTCC	Luke AFB	017999AMSL	12000AMSL	USAF	2,203
	AVON EAST MOA, FL	FAA, MIAMI ARTCC	MacDill AFB	013999AMSL	00500AGL	USAF	36
	AVON NORTH MOA, FL	FAA, MIAMI ARTCC	MacDill AFB	017999AMSL	05000AMSL	USAF	91
	AVON SOUTH MOA, FL	FAA, MIAMI ARTCC	MacDill AFB	017999AMSL	05000AMSL	USAF	113
	BASINGER MOA, FL	FAA, MIAMI ARTCC	MacDill AFB	005000AMSL	00500AGL	USAF	41
	LAKE PLACID MOA, FL	FAA, MIAMI ARTCC	MacDill AFB	017999AMSL	07000AMSL	USAF	1,049
	MARIAN MOA, FL	FAA, MIAMI ARTCC	MacDill AFB	005000AMSL	00500AGL	USAF	197
	W168	FAA, MIAMI ARTCC	MacDill AFB	UNLTD	SURFACE	USAF	7,038
	DEVILS LAKE EAST MOA, ND	FAA, MINNEAPOLIS ARTCC	McChord AFB	017999AMSL	03500AMSL	USAF	1,674
	DEVILS LAKE WEST MOA, ND	FAA, MINNEAPOLIS ARTCC	McChord AFB	017999AMSL	04000AMSL	USAF	1,643
	R2312	LIBBY AAF TWR	McChord AFB	014999AMSL	SURFACE	USAF	9
	R5115	FAA, ALBUQUERQUE ARTCC	McChord AFB	015000AMSL	SURFACE	USAF	9
	R6316	FAA, HOUSTON ARTCC	McChord AFB	015000AMSL	SURFACE	USAF	21

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**Special Use Airspace Inventory**

<b>Military Service</b>	<b>SUA Name</b>	<b>Controlling Agency</b>	<b>Range Complex / Installation Name</b>	<b>Upper Altitude</b>	<b>Lower Altitude</b>	<b>User*</b>	<b>Area** (nm<sup>2</sup>)</b>
	R6317	FAA, HOUSTON ARTCC	McChord AFB	015000AMSL	SURFACE	USAF	21
	R6318	FAA, ALBUQUERQUE ARTCC	McChord AFB	014000AMSL	SURFACE	USAF	9
	TIGER NORTH MOA, ND	FAA, MINNEAPOLIS ARTCC	McChord AFB	017999AMSL	00300AGL	USAF	2,104
	TIGER SOUTH MOA, ND	FAA, MINNEAPOLIS ARTCC	McChord AFB	017999AMSL	06000AMSL	USAF	1,625
	W93(A)	FAA, SEATTLE ARTCC	McChord AFB	FL500	SURFACE	USAF	4,684
	W93(B)	FAA, SEATTLE ARTCC	McChord AFB	FL500	SURFACE	USAF	919
	A220	USAF, MCGUIRE AFB RAPCON	McGuire AFB	004500AMSL	SURFACE	USAF	430
	POWERS MOA, ND	FAA, MINNEAPOLIS ARTCC	Minot AFB	017999AMSL	12000AMSL	USAF	557
	A684	FAA, JACKSONVILLE ARTCC	Moody AFB	004000AGL	SURFACE	USAF	299
	LIVE OAK MOA, FL	FAA, JACKSONVILLE ARTCC	Moody AFB	017999AMSL	08000AMSL	USAF	1,157
	MOODY 1 MOA, GA	FAA, JACKSONVILLE ARTCC	Moody AFB	017999AMSL	08000AMSL	USAF	4,500
	MOODY 2 NORTH MOA, GA	FAA, JACKSONVILLE ARTCC	Moody AFB	007999AMSL	00500AGL	USAF	303
	MOODY 2 SOUTH MOA, GA	FAA, JACKSONVILLE ARTCC	Moody AFB	007999AMSL	00100AGL	USAF	387
	MOODY 3 MOA, GA	FAA, JACKSONVILLE ARTCC	Moody AFB	017999AMSL	08000AMSL	USAF	1,200
	R3008A	USAF, VALDOSTA APP	Moody AFB	010000AMSL	SURFACE	USAF	5
	R3008B	USAF, VALDOSTA APP	Moody AFB	010000AMSL	00100AGL	USAF	19
	R3008C	USAF, VALDOSTA APP	Moody AFB	010000AMSL	00500AGL	USAF	64
	R3008C(A)	USAF, VALDOSTA APP	Moody AFB	001500AGL	SURFACE	USAF	3
	R3008D	USAF, VALDOSTA APP	Moody AFB	022999AMSL	10000AMSL	USAF	89
	R3202(HI)	FAA, SALT LAKE CITY ARTCC	Mountain Home AFB	FL290	FL180	USAF	213
	R3202(LO)	FAA, SALT LAKE CITY ARTCC	Mountain Home AFB	017999AMSL	SURFACE	USAF	213
	R3204A	FAA, SALT LAKE CITY ARTCC	Mountain Home AFB	000100AGL	SURFACE	USAF	13
	R3204B	FAA, SALT LAKE CITY ARTCC	Mountain Home AFB	017999AMSL	00100AGL	USAF	74
	R3204C	FAA, SALT LAKE CITY ARTCC	Mountain Home AFB	FL290	FL180	USAF	74
	JARBIDGE MOA, ID	FAA, SALT LAKE CITY ARTCC	Mt. Home AFB	017999AMSL	00100AGL	USAF	1,724
	OWYHEE MOA, ID	FAA, SALT LAKE CITY ARTCC	Mt. Home AFB	017999AMSL	00100AGL	USAF	1,869

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**Special Use Airspace Inventory**

<b>Military Service</b>	<b>SUA Name</b>	<b>Controlling Agency</b>	<b>Range Complex / Installation Name</b>	<b>Upper Altitude</b>	<b>Lower Altitude</b>	<b>User*</b>	<b>Area** (nm<sup>2</sup>)</b>
	PARADISE EAST MOA, NV	FAA, SALT LAKE CITY ARTCC	Mt. Home AFB	017999AMSL	14500AMSL	USAF	1,516
	PARADISE WEST MOA, OR	FAA, SALT LAKE CITY ARTCC	Mt. Home AFB	017999AMSL	14500AMSL	USAF	1,729
	A481	USAF, NELLIS AFB	Nellis AFB	017000AMSL	07000AMSL	USAF	238
	DESERT MOA, NV	FAA, LOS ANGELES ARTCC	Nellis AFB	017999AMSL	00100AGL	USAF	5,227
	R4806E	FAA, LOS ANGELES ARTCC	Nellis AFB	UNLTD	00100AGL	USAF	274
	R4806W	FAA, LOS ANGELES ARTCC	Nellis AFB	UNLTD	SURFACE	USAF	1,112
	R4807A	FAA, LOS ANGELES ARTCC	Nellis AFB	UNLTD	SURFACE	USAF	1,601
	R4807B	FAA, LOS ANGELES ARTCC	Nellis AFB	UNLTD	SURFACE	USAF	94
	REVEILLE NORTH MOA, NV	FAA, SALT LAKE CITY ARTCC	Nellis AFB	017999AMSL	00100AGL	USAF	1,173
	REVEILLE SOUTH MOA, NV	FAA, SALT LAKE CITY ARTCC	Nellis AFB	017999AMSL	00100AGL	USAF	413
	SILVER MOA, CA	FAA, LOS ANGELES ARTCC	Nellis AFB	007000AMSL	00200AGL	USAF	480
	R4808N	FAA, LOS ANGELES ARTCC	Nellis AFB	UNLTD	SURFACE	DOE	1208
	R4808S	FAA, LOS ANGELES ARTCC	Nellis AFB	UNLTD	SURFACE	DOE	23
	R4809	FAA, LOS ANGELES ARTCC	Nellis AFB	UNLTD	SURFACE	DOE	370
	ONTONAGON MOA, MI	FAA, MINNEAPOLIS ARTCC	Offutt AFB	017999AMSL	00500AGL	USAF	814
	R4305	FAA, MINNEAPOLIS ARTCC	Offutt AFB	FL450	SURFACE	USAF	1,172
	W497A	FAA, MIAMI ARTCC	Patrick AFB	UNLTD	SURFACE	USAF	2,334
	W497B	FAA, MIAMI ARTCC	Patrick AFB	UNLTD	SURFACE	USAF	20,929
	R2508	FAA, HI-DESERT TRACON, EDWARDS AFB	R-2508 Complex	UNLTD	20000AMSL	USAF	11,480
	SHOSHONE MOA, CA	FAA, LOS ANGELES ARTCC	R-2508 Complex	017999AMSL	03001AGL	USAF	1,104
	A635	USAF, RANDOLPH AFB	Randolph AFB	004000AMSL	01500AMSL	USAF	134
	A638	USAF, RANDOLPH AFB	Randolph AFB	003000AMSL	SURFACE	USAF	124
	A640	USAF, RANDOLPH AFB	Randolph AFB	007500AMSL	00200AGL	USAF	2,397
	RANDOLPH 1A MOA, TX	FAA, HOUSTON ARTCC	Randolph AFB	017999AMSL	08000AMSL	USAF	1,361
	RANDOLPH 1B MOA, TX	FAA, SAN ANTONIO TRACON	Randolph AFB	017999AMSL	07000AMSL	USAF	726
	RANDOLPH 2A MOA, TX	FAA, HOUSTON ARTCC	Randolph AFB	017999AMSL	09000AMSL	USAF	1,387

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**Special Use Airspace Inventory**

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	RANDOLPH 2B MOA, TX	FAA, HOUSTON ARTCC	Randolph AFB	017999AMSL	14000AMSL	USAF	304
	TEXON MOA, TX	FAA, HOUSTON ARTCC	Randolph AFB	017999AMSL	06000AMSL	USAF	1,103
	PHELPS A MOA, NC	FAA, WASHINGTON, DC ARTCC	Seymour-Johnson AFB	017999AMSL	06000AMSL	USAF	200
	PHELPS B MOA, NC	FAA, WASHINGTON, DC ARTCC	Seymour-Johnson AFB	017999AMSL	10000AMSL	USAF	73
	PHELPS C MOA, NC	FAA, WASHINGTON, DC ARTCC	Seymour-Johnson AFB	017999AMSL	15000AMSL	USAF	41
	SEYMOUR JOHNSON ECHO MOA, NC	FAA, WASHINGTON, DC ARTCC	Seymour-Johnson AFB	017999AMSL	07000AMSL	USAF	979
	BULLDOG A MOA, GA	FAA, ATLANTA ARTCC	Shaw AFB	009999AMSL	00500AGL	USAF	1,000
	BULLDOG B MOA, GA	FAA, ATLANTA ARTCC	Shaw AFB	017999AMSL	10000AMSL	USAF	1,595
	BULLDOG D MOA, GA	FAA, ATLANTA ARTCC	Shaw AFB	017000AMSL	00500AGL	USAF	75
	GAMECOCK B MOA, SC	FAA, JACKSONVILLE ARTCC	Shaw AFB	017999AMSL	10000AMSL	USAF	236
	GAMECOCK C MOA, SC	FAA, JACKSONVILLE ARTCC	Shaw AFB	010000AMSL	00100AGL	USAF	591
	GAMECOCK D MOA, SC	FAA, JACKSONVILLE ARTCC	Shaw AFB	017999AMSL	10000AMSL	USAF	797
	GAMECOCK I MOA, SC	FAA, JACKSONVILLE ARTCC	Shaw AFB	006000AMSL	00100AGL	USAF	384
	POINSETT MOA, SC	USAF, SHAW APP CON	Shaw AFB	002500AMSL	00300AGL	USAF	138
	R6002A	FAA, JACKSONVILLE ARTCC	Shaw AFB	012999AMSL	SURFACE	USAF	51
	R6002B	FAA, JACKSONVILLE ARTCC	Shaw AFB	017999AMSL	13000AMSL	USAF	51
	R6002C	FAA, JACKSONVILLE ARTCC	Shaw AFB	FL230	FL180	USAF	51
	W161A	FAA, JACKSONVILLE ARTCC	Shaw AFB	FL620	SURFACE	USAF	1,203
	W161B	FAA, JACKSONVILLE ARTCC	Shaw AFB	FL240	SURFACE	USAF	534
	W177A(A)	FAA, JACKSONVILLE ARTCC	Shaw AFB	FL500	SURFACE	USAF	1,581
	W177A(B)	FAA, JACKSONVILLE ARTCC	Shaw AFB	FL500	06001AMSL	USAF	200
	W177B	FAA, JACKSONVILLE ARTCC	Shaw AFB	FL240	SURFACE	USAF	720
	GAMECOCK A MOA, NC	FAA, WASHINGTON, DC ARTCC	Shaw AFB (20 OSS/OSOS)	017999AMSL	07000AMSL	USAF	526
	A561	USAF, SHEPPARD AFB	Sheppard AFB	004000AMSL	SURFACE	USAF	137
	A636	USAF, SHEPPARD AFB	Sheppard AFB	004000AMSL	SURFACE	USAF	502
	HOLLIS MOA, OK	FAA, FORT WORTH ARTCC	Sheppard AFB	017999AMSL	11000AMSL	USAF	1,140

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**Special Use Airspace Inventory**

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	SHEPPARD 1 MOA, TX	FAA, FORT WORTH ARTCC	Sheppard AFB	017999AMSL	08000AMSL	USAF	979
	SHEPPARD 2 MOA, TX	FAA, FORT WORTH ARTCC	Sheppard AFB	017999AMSL	08000AMSL	USAF	1,198
	WASHITA MOA, OK	FAA, FORT WORTH ARTCC	Sheppard AFB	017999AMSL	08000AMSL	USAF	915
	WESTOVER 1 MOA, TX	FAA, FORT WORTH ARTCC	Sheppard AFB	017999AMSL	09000AMSL	USAF	1,885
	WESTOVER 2 MOA, TX	FAA, FORT WORTH ARTCC	Sheppard AFB	017999AMSL	10000AMSL	USAF	2,069
	A682(A)	USAF, TRAVIS AFB	Travis AFB	006000AMSL	SURFACE	USAF	194
	A682(B)	USAF, TRAVIS AFB	Travis AFB	003000AMSL	SURFACE	USAF	109
	R2905A	TYNDALL AFB RADAR APP	Tyndall AFB	010000AMSL	SURFACE	USAF	14
	R2905B	TYNDALL AFB RADAR APP	Tyndall AFB	010000AMSL	SURFACE	USAF	24
	R2916	FAA, MIAMI ARTCC	Tyndall AFB	014000AMSL	SURFACE	USAF	37
	R2938	FAA, JACKSONVILLE ARTCC	Tyndall AFB	015000AMSL	SURFACE	USAF	7
	R3807	FAA, HOUSTON ARTCC	Tyndall AFB	015000AMSL	SURFACE	USAF	27
	TYNDALL B MOA, FL	USAF, TYNDALL RADAR APP CON	Tyndall AFB	017999AMSL	09000AMSL	USAF	332
	TYNDALL C MOA, FL	USAF, TYNDALL RADAR APP CON	Tyndall AFB	006000AMSL	00300AGL	USAF	535
	TYNDALL D MOA, FL	USAF, TYNDALL RADAR APP CON	Tyndall AFB	006000AMSL	00300AGL	USAF	297
	TYNDALL E MOA, FL	USAF, TYNDALL RADAR APP CON	Tyndall AFB	017999AMSL	00300AGL	USAF	856
	TYNDALL F MOA, FL	USAF, TYNDALL RADAR APP CON	Tyndall AFB	017999AMSL	00300AGL	USAF	285
	TYNDALL G MOA, FL	USAF, TYNDALL RADAR APP CON	Tyndall AFB	017999AMSL	01000AGL	USAF	215
	TYNDALL H MOA, FL	USAF, TYNDALL RADAR APP CON	Tyndall AFB	017999AMSL	09000AMSL	USAF	535
	A260	USAF ACADEMY	USAF Academy	017500AMSL	SURFACE	USAF	29
	A639A	USAF, USAF ACADEMY	USAF Academy	012000AMSL	03000AGL	USAF	687
	A639B	USAF, USAF ACADEMY	USAF Academy	012000AMSL	03000AGL	USAF	128
	A562A	USAF, VANCE AFB	Vance AFB	010000AMSL	SURFACE	USAF	198
	A562B	USAF, VANCE AFB	Vance AFB	010000AMSL	SURFACE	USAF	148
	ADA EAST MOA, KS	FAA, KANSAS CITY ARTCC	Vance AFB	017999AMSL	07000AMSL	USAF	1,057
	ADA WEST MOA, KS	FAA, KANSAS CITY ARTCC	Vance AFB	017999AMSL	07000AMSL	USAF	1,002

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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 0413 (effective: December 23, 2004 through January 19, 2005)). Please refer to DoD Flight Information Publications for more information.

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	VANCE 1A MOA, OK	FAA, KANSAS CITY ARTCC	Vance AFB	017999AMSL	10000AMSL	USAF	5,828
	VANCE 1B MOA, OK	FAA, KANSAS CITY ARTCC	Vance AFB	017999AMSL	07000AMSL	USAF	2,111
	R2516	FAA, LOS ANGELES ARTCC	Vandenberg AFB	UNLTD	SURFACE	USAF	127
	R2517	FAA, LOS ANGELES ARTCC	Vandenberg AFB	UNLTD	SURFACE	USAF	90
	R2534A	FAA, LOS ANGELES ARTCC	Vandenberg AFB	UNLTD	00500AGL	USAF	50
	R2534B	FAA, LOS ANGELES ARTCC	Vandenberg AFB	UNLTD	00500AGL	USAF	51
	R6413	FAA, DENVER ARTCC	White Sands Missile Range	UNLTD	SURFACE	USAF	192
	TRUMAN A MOA, MO	FAA, KANSAS CITY ARTCC	Whiteman AFB	017999AMSL	08000AMSL	USAF	1,043
	TRUMAN B MOA, MO	FAA, KANSAS CITY ARTCC	Whiteman AFB	017999AMSL	08000AMSL	USAF	688
	TRUMAN C MOA, MO	FAA, KANSAS CITY ARTCC	Whiteman AFB	017999AMSL	00500AGL	USAF	573
	R2309	FAA, LOS ANGELES ARTCC	Yuma Proving Ground	015000AMSL	SURFACE	USAF	7
	W506	FAA, NEW YORK ARTCC	Northeast ADS/DOOS	FL500	SURFACE	USAF	1,688
	R3007A	FAA, JACKSONVILLE ARTCC	Townsend	005000AMSL	01500AGL	USAF (ANG)	63
	R3007A(A)	FAA, JACKSONVILLE ARTCC	Townsend	005000AMSL	03001AGL	USAF (ANG)	7
	R3007B	FAA, JACKSONVILLE ARTCC	Townsend	005000AMSL	00500AGL	USAF (ANG)	55
	R3007C	FAA, JACKSONVILLE ARTCC	Townsend	013000AMSL	00100AGL	USAF (ANG)	89
	R3007D	FAA, JACKSONVILLE ARTCC	Townsend	013000AMSL	01200AGL	USAF (ANG)	31
	R3007E	FAA, JACKSONVILLE ARTCC	Townsend	013000AMSL	SURFACE	USAF (ANG)	5
	YANKEE 1 MOA, NH	FAA, BOSTON ARTCC	103 TFG/DOC, CT ANG	017999AMSL	09000AMSL	USAF(ANG)	1,806
	YANKEE 2 MOA, NH	FAA, BOSTON ARTCC	103 TFG/DOC, CT ANG	008999AMSL	00100AGL	USAF(ANG)	728
	HERSEY MOA, MI	FAA, MINNEAPOLIS ARTCC	110 TASG, MI ANG	017999AMSL	05000AMSL	USAF(ANG)	542
	DUKE MOA, PA	FAA, CLEVELAND ARTCC	112 ACS/DOT, PA ANG	017999AMSL	08000AMSL	USAF(ANG)	1,544
	HAYS MOA, MT	FAA, SALT LAKE CITY ARTCC	120 FW, MT ANG	017999AMSL	00300AGL	USAF(ANG)	5,061
	BRUSH CREEK MOA, OH	FAA, INDIANAPOLIS ARTCC	123 ACS, OH ANG	004999AMSL	00100AGL	USAF(ANG)	678
	BUCKEYE MOA, OH	FAA, INDIANAPOLIS ARTCC	123 ACS, OH ANG	017999AMSL	05000AMSL	USAF(ANG)	1,555
	LINDBERGH A MOA, MO	FAA, KANSAS CITY ARTCC	131 FW, MO ANG	017999AMSL	07000AMSL	USAF(ANG)	2,171

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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 0413 (effective: December 23, 2004 through January 19, 2005)). Please refer to DoD Flight Information Publications for more information.

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	LINDBERGH B MOA, MO	FAA, KANSAS CITY ARTCC	131 FW, MO ANG	017999AMSL	08000AMSL	USAF(ANG)	765
	LINDBERGH C MOA, MO	FAA, KANSAS CITY ARTCC	131 FW, MO ANG	017999AMSL	08000AMSL	USAF(ANG)	576
	CANNON A MOA, MO	FAA, KANSAS CITY ARTCC	131 TFW, Det 1, MO ANG	017999AMSL	00300AGL	USAF(ANG)	219
	CANNON B MOA, MO	FAA, KANSAS CITY ARTCC	131 TFW, Det 1, MO ANG	017999AMSL	00100AGL	USAF(ANG)	15
	SALEM MOA, MO	FAA, KANSAS CITY ARTCC	131 TFW, Det 1, MO ANG	006999AMSL	SURFACE	USAF(ANG)	1,375
	CRYPT CENTRAL MOA, IA	FAA, MINNEAPOLIS ARTCC	132 FW, IA ANG	017999AMSL	08000AMSL	USAF(ANG)	1,389
	CRYPT NORTH MOA, IA	FAA, MINNEAPOLIS ARTCC	132 FW, IA ANG	017999AMSL	08000AMSL	USAF(ANG)	1,670
	CRYPT SOUTH MOA, IA	FAA, MINNEAPOLIS ARTCC	132 FW, IA ANG	017999AMSL	08000AMSL	USAF(ANG)	1,244
	BEAVER MOA, MN	FAA, MINNEAPOLIS ARTCC	148 FIG, MN ANG	017999AMSL	00300AGL	USAF(ANG)	2,357
	BIG BEAR MOA, MI	FAA, MINNEAPOLIS ARTCC	148 FIG, MN ANG	017999AMSL	00500AMSL	USAF(ANG)	1,650
	SNOOPY EAST MOA, MN	FAA, MINNEAPOLIS ARTCC	148 FIG, MN ANG	017999AMSL	00300AGL	USAF(ANG)	1,012
	SNOOPY WEST MOA, MN	FAA, MINNEAPOLIS ARTCC	148 FIG, MN ANG	017999AMSL	06000AMSL	USAF(ANG)	2,618
	LINCOLN MOA, NE	FAA, MINNEAPOLIS ARTCC	155 TRG, NE ANG	017999AMSL	08000AMSL	USAF(ANG)	1,228
	JACKAL LOW MOA, AZ	FAA, ALBUQUERQUE ARTCC	162 FW, AZ ANG	010999AMSL	00100AGL	USAF(ANG)	644
	JACKAL MOA, AZ	FAA, ALBUQUERQUE ARTCC	162 FW, AZ ANG	017999AMSL	11000AMSL	USAF(ANG)	3,384
	MORENCI MOA, AZ	FAA, ALBUQUERQUE ARTCC	162 FW, AZ ANG	017999AMSL	01500AGL	USAF(ANG)	1,669
	OUTLAW MOA, AZ	FAA, ALBUQUERQUE ARTCC	162 FW, AZ ANG	017999AMSL	08000AMSL	USAF(ANG)	1,886
	RESERVE MOA, AZ	FAA, ALBUQUERQUE ARTCC	162 FW, AZ ANG	017999AMSL	05000AGL	USAF(ANG)	2,402
	RUBY 1 MOA, AZ	FAA, ALBUQUERQUE ARTCC	162 FW, AZ ANG	017999AMSL	10000AMSL	USAF(ANG)	555
	HART NORTH MOA, OR	FAA, SEATTLE ARTCC	173 FW, OR ANG	017999AMSL	11000AMSL	USAF(ANG)	620
	HART SOUTH MOA, OR	FAA, SEATTLE ARTCC	173 FW, OR ANG	017999AMSL	11000AMSL	USAF(ANG)	1,713
	MISTY 1 MOA, NY	FAA, CLEVELAND ARTCC	174 FW, NY ANG	017999AMSL	04000AMSL	USAF(ANG)	562
	MISTY 2 MOA, NY	FAA, CLEVELAND ARTCC	174 FW, NY ANG	017999AMSL	00300AGL	USAF(ANG)	674
	MISTY 3 MOA, NY	FAA, CLEVELAND ARTCC	174 FW, NY ANG	017999AMSL	11000AMSL	USAF(ANG)	489
	SYRACUSE 1 MOA, NY	USA, WHEELER SACK APPROACH	174 FW, NY ANG	005999AMSL	00100AGL	USAF(ANG)	571
	SYRACUSE 2A MOA, NY	USA, WHEELER SACK APPROACH	174 FW, NY ANG	005999AMSL	00100AGL	USAF(ANG)	84

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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 0413 (effective: December 23, 2004 through January 19, 2005)). Please refer to DoD Flight Information Publications for more information.

**Special Use Airspace Inventory**

<b>Military Service</b>	<b>SUA Name</b>	<b>Controlling Agency</b>	<b>Range Complex / Installation Name</b>	<b>Upper Altitude</b>	<b>Lower Altitude</b>	<b>User*</b>	<b>Area** (nm<sup>2</sup>)</b>
	SYRACUSE 3 MOA, NY	USA, WHEELER SACK APPROACH	174 FW, NY ANG	005999AMSL	00100AGL	USAF(ANG)	124
	SYRACUSE 4 MOA, NY	USA, WHEELER SACK APPROACH	174 FW, NY ANG	003000AMSL	00100AGL	USAF(ANG)	157
	RED HILLS MOA, IN	FAA, INDIANAPOLIS ARTCC	181 TFG, IN ANG, Terre Haute	017999AMSL	06000AMSL	USAF(ANG)	1,291
	O NEILL MOA, NE	FAA, MINNEAPOLIS ARTCC	185 FW, IA ANG	017999AMSL	00500AGL	USAF(ANG)	2,071
	BIRMINGHAM 2 MOA, AL	FAA, ATLANTA ARTCC	187 FW, AL ANG	009999AMSL	00500AGL	USAF(ANG)	1,081
	BIRMINGHAM MOA, AL	FAA, ATLANTA ARTCC	187 FW, AL ANG	017999AMSL	10000AMSL	USAF(ANG)	1,108
	CAMDEN RIDGE MOA, AL	FAA, ATLANTA ARTCC	187 FW, AL ANG	009999AMSL	00500AGL	USAF(ANG)	2,053
	W453	FAA, HOUSTON ARTCC	ANG CRTG GULFPORT, Gulfport, MS	FL500	SURFACE	USAF(ANG)	1,208
	AIRBURST A MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	017999AMSL	01500AGL	USAF(ANG)	157
	AIRBURST B MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	017999AMSL	00500AGL	USAF(ANG)	13
	AIRBURST C MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	008499AMSL	00500AGL	USAF(ANG)	10
	CHEYENNE HIGH MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	017999AMSL	09000AMSL	USAF(ANG)	1,752
	CHEYENNE LOW MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	009000AMSL	00300AGL	USAF(ANG)	1,599
	LA VETA HIGH MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	017999AMSL	13000AMSL	USAF(ANG)	1,193
	LA VETA LOW MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	013000AMSL	01500AGL	USAF(ANG)	191
	TWO BUTTES HIGH MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	017999AMSL	10000AMSL	USAF(ANG)	1,352
	TWO BUTTES LOW MOA, CO	FAA, DENVER ARTCC	Buckley ANGB	009999AMSL	00300AGL	USAF(ANG)	1,352
	DEEPWOODS MOA, ME	FAA, BANGOR APP CON	CO, Army Avn Support Fac/ME ANG	003000AMSL	SURFACE	USAF(ANG)	192
	VOLK SOUTH MOA, WI	FAA, CHICAGO ARTCC	Hardwood (Volk Field)	017999AMSL	00500AGL	USAF(ANG)	482
	GOOSE NORTH MOA, OR	FAA, SEATTLE ARTCC	Kingsley Fld	017999AMSL	03000AGL	USAF(ANG)	1,303
	GOOSE SOUTH MOA, OR	FAA, SEATTLE ARTCC	Kingsley Fld	017999AMSL	10000AMSL	USAF(ANG)	693
	A683	WICHITA TRACON	McConnell AFB (184 ARW, KS ANG)	004500AMSL	SURFACE	USAF(ANG)	108
	EUREKA HIGH MOA, KS	FAA, KANSAS CITY ARTCC	McConnell AFB (184 ARW, KS ANG)	017999AMSL	06000AMSL	USAF(ANG)	1,552
	EUREKA LOW MOA, KS	FAA, KANSAS CITY ARTCC	McConnell AFB (184 ARW, KS ANG)	005999AMSL	02500AMSL	USAF(ANG)	1,552

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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 0413 (effective: December 23, 2004 through January 19, 2005)). Please refer to DoD Flight Information Publications for more information.

Special Use Airspace Inventory							
Military Service	SUA Name	Controlling Agency	Range Complex / Installation Name	Upper Altitude	Lower Altitude	User*	Area** (nm <sup>2</sup> )
	CONDOR 1 MOA, ME	FAA, BOSTON ARTCC	NE ADS/DOOS, NY ANG	017999AMSL	07000AMSL	USAF(ANG)	2,280
	CONDOR 2 MOA, ME	FAA, BOSTON ARTCC	NE ADS/DOOS, NY ANG	017999AMSL	07000AMSL	USAF(ANG)	578
	FALCON 1 MOA, NY	FAA, BOSTON ARTCC	NE ADS/DOOS, NY ANG	017999AMSL	06000AMSL	USAF(ANG)	1,918
	FALCON 3 MOA, NY	FAA, BOSTON ARTCC	NE ADS/DOOS, NY ANG	017999AMSL	06000AMSL	USAF(ANG)	228
	R4207	FAA, MINNEAPOLIS ARTCC	Phelps-Collins ANGB	FL450	SURFACE	USAF(ANG)	950
	FALLS 1 MOA, WI	FAA, MINNEAPOLIS ARTCC	Volk Field ANGB	017999AMSL	00500AGL	USAF(ANG)	782
	FALLS 2 MOA, WI	FAA, MINNEAPOLIS ARTCC	Volk Field ANGB	017999AMSL	00500AGL	USAF(ANG)	494
	MINNOW MOA, WI	FAA, CHICAGO ARTCC	Volk Field ANGB	017999AMSL	10000AMSL	USAF(ANG)	1,638
	R6903	FAA, CHICAGO ARTCC	Volk Field ANGB	FL450	SURFACE	USAF(ANG)	887
	R6904A	FAA, MINNEAPOLIS ARTCC	Volk Field ANGB	FL230	00150AGL	USAF(ANG)	65
	R6904B	FAA, MINNEAPOLIS ARTCC	Volk Field ANGB	FL230	SURFACE	USAF(ANG)	11
	VOLK EAST MOA, WI	FAA, CHICAGO ARTCC	Volk Field ANGB	017999AMSL	08000AMSL	USAF(ANG)	1,753
	VOLK WEST MOA, WI	FAA, MINNEAPOLIS ARTCC	Volk Field ANGB	017999AMSL	00100AGL	USAF(ANG)	483
NASA / USN / USAF	R6604A	FAA, WASHINGTON, DC ARTCC	Wallops Island	UNLTD	SURFACE	NASA / USN / USAF	61
NASA / USN / USAF	R6604B	FAA, WASHINGTON, DC ARTCC	Wallops Island	UNLTD	SURFACE	NASA / USN / USAF	12

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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 0413 (effective: December 23, 2004 through January 19, 2005)). Please refer to DoD Flight Information Publications for more information.

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-DIROPS, 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
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

\* 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 0413 (effective: December 23, 2004 through January 19, 2005).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
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
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

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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 0413 (effective: December 23, 2004 through January 19, 2005)).



### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
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
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

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency (Digital Aeronautical Flight Information File, Edition 0413 (effective: December 23, 2004 through January 19, 2005).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR110	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
IR111	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
IR112	58 OSS/DOO, Kirtland AFB, NM 87117-5861 DSN 263-5979/5888, C505-853-5979/5888/57	Same as Originating Activity	Continuous	640
IR113	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
IR115	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
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	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
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)	81
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)	120
IR122	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
IR123	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
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	246
IR126	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
IR127	2 OSS/OSOSB, 41 Orville Wright Ave., Barksdale AFB, LA 71110 DSN 781-3828/5396,	Same as Originating Activity	Continuous	244
IR128	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
IR129	2 OSS/OSOSB, 41 Orville Wright Ave., Barksdale AFB, LA 71110 DSN 781-3828/5396,	Same as Originating Activity	0700-2200 local	279
IR130	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
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	32
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

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
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	0700-2300 local	316
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	Sunrise-0600Z++	236
IR135	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
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	163
IR137	58 OSS/DOO, Kirtland AFB, NM 87117-5861 DSN 263-5979/5888, C505-853-5979/5888/57	Same as Originating Activity	Continuous	218
IR139	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
IR141	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
IR142	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
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
IR160	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
IR161	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

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR164	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
IR165	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
IR166	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
IR167	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
IR169	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
IR170	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
IR171	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
IR172	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
IR173	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
IR174	509 OSS/OSKA, 905 Spirit Blvd., Whiteman AFB, MO 65305 DSN 975-1713/1754, C660-6	Same as Originating Activity	Continuous	545
IR175	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
IR177	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
IR178	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
IR180	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
IR181	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

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR182	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
IR183	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
IR185	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
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

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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 0413 (effective: December 23, 2004 through January 19, 2005).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
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
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

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency (Digital Aeronautical Flight Information File, Edition 0413 (effective: December 23, 2004 through January 19, 2005)).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
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
IR340	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
IR341	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
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	329
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	473
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	323
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	333
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	299

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR409	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
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; OT by NOTAM	106
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	174
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	320
IR418	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
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	40
IR424	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
IR425	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
IR473	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
IR479	120 FW/OSO (ANG) 2800 Airport Ave. B, Great Falls, MT 59404 DSN 279-2292, C406-7	Same as Originating Activity	By NOTAM	581
IR480	120 FW/ACC (ANG) 2800 Airport Ave. B, Great Falls, MT 59404 DSN 279-2292, C406-7	Same as Originating Activity	By NOTAM	421
IR485	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
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	583
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	355
IR500	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
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	723
IR502	509 OSS/OSKA, 905 Spirit Blvd., Whiteman AFB, MO 65305 DSN 975-1713/1754, C660-6	Same as Originating Activity	1200-0500Z ++ daily	383
IR503	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
IR504	509 OSS/OSKA, 905 Spirit Blvd., Whiteman AFB, MO 65305 DSN 975-1713/1754, C660-6	Same as Originating Activity	Continuous	427

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR505	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
IR506	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
IR507	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
IR508	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
IR509	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
IR514	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
IR517	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
IR518	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
IR524	509 OSS/OSKA, 905 Spirit Blvd., Whiteman AFB, MO 65305 DSN 975-1713/1754, C660-6	Same as Originating Activity	Continuous	433
IR527	183 FW/OSF, Capital Airport, Springfield, IL 62707 DSN 892-8202.	Same as Originating Activity	Sunrise-Sunset	173
IR592	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
IR605	148th FIG (ANG), Duluth Intl., MN 55811 DSN 825-7265.	Same as Originating Activity	Daily 1400-0500Z++, available OT	136
IR606	148th FIG (ANG), Duluth Intl., MN 55811 DSN 825-7265.	Same as Originating Activity	Daily 1400-0500Z++, Usage between 0500-1400Z++ is allowable	136
IR608	FACSFACNPA, Pensacola NAS, FL 32508 DSN 922-2735, C904-452-2735.	Same as Originating Activity	1200-0400Z++ Mon-Fri, weekends by NOTAM	257
IR609	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
IR610	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
IR613	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
IR614	183 FW/OSF, Capital Airport, Springfield, IL 62707 DSN 892-8202.	Same as Originating Activity	Daylight hours	135

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR618	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
IR644	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
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 453-2639/3527, C701-723-2639/	Continuous	187
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	703
IR655	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
IR656	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
IR678	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
IR714	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
IR715	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
IR718	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
IR719	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
IR720	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
IR721	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
IR723	FACSFACNPA, NAS Penscola, FL DSN 922-2735, C904-452-2735.	Same as Originating Activity	1200-0400Z++ Mon-Fri, occasionally weekends	262
IR726	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
IR743	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
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	361
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	323
IR762	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
IR800	104 FW, Barnes ANGB, Westfield, MA 01085-1385 DSN 636-9228/9229, C413-568-9151 e	Same as Originating Activity	Continuous	895

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency (Digital Aeronautical Flight Information File, Edition 0413 (effective: December 23, 2004 through January 19, 2005)).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR801	174 FW, Det 1, Ft. Drum, NY 13608 DSN 772-5990/2835, C315-772-5990.	Same as Originating Activity	Continuous	296
IR802	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
IR803	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
IR804	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
IR805	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
IR850	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
IR851	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
IR852	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
IR900	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
IR901	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
IR902	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
IR903	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
IR905	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
IR909	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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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency (Digital Aeronautical Flight Information File, Edition 0413 (effective: December 23, 2004 through January 19, 2005)).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
IR911	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
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	190
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	216
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	189
IR916	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
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	164
IR918	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
IR919	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
IR921	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
IR922	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

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency (Digital Aeronautical Flight Information File, Edition 0413 (effective: December 23, 2004 through January 19, 2005)).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
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	114
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	113
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	58
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	41
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	41
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	83
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	731
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	513
IR983	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
SR029	815 AS, Keesler AFB, MS 39534 DSN 597-1920, C601-377-1920.	Same as Originating Activity	0600-2200 local	140
SR030	815 AS, Keesler AFB, MS 39534 DSN 597-1920, C601-377-1920.	Same as Originating Activity	0600-2200 local	147
SR031	815 AS, Keesler AFB, MS 39534 DSN 597-1920, C601-377-1920.	Same as Originating Activity	0600-2200 local	101
SR038	Base Operations, Lawson AAF, Fort Benning, Ga. DSN 835-3524/2857 C706-545-3524.	Same as Originating Activity	Continuous	159

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR039	Base Operations, Lawson AAF, Fort Benning, Ga. DSN 835-3524/2857 C706-545-3524.	Same as Originating Activity	Continuous	95
SR040	940SS/Dobbins AFB, GA 30069-5009 DSN 625-4107.	Same as Originating Activity	1200-0300Z ++	107
SR059	118 AW, 240 Knapp Blvd, Nashville, TN 37217, DSN 778-6362/6342, C615-399-5662/56	Same as Originating Activity	Continuous	177
SR060	118 AW, 240 Knapp Blvd, Nashville, TN 37217, DSN 778-6362/6342, C615-399-5662/56	Same as Originating Activity	Continuous	173
SR061	118 AW, 240 Knapp Blvd, Nashville, TN 37217, DSN 778-6362/6342, C615-399-5662/56	Same as Originating Activity	Continuous	125
SR062	118 AW, 240 Knapp Blvd, Nashville, TN 37217, DSN 778-6362/6342, C615-399-5662/56	Same as Originating Activity	Continuous	122
SR069	908 AW, 401 W Maxwell Blvd, Maxwell AFB, AL 36112-6591 DSN 493-5016, C334-953-50	Same as Originating Activity	1400-0400Z++	124
SR070	908 AW, 401 W Maxwell Blvd, Maxwell AFB, AL 36112-6591 DSN 493-5016, C334-953-50	Same as Originating Activity	1400-0400Z++	155
SR071	908 AW, 401 W Maxwell Blvd, Maxwell AFB, AL 36112-6591 DSN 493-5016, C334-953-50	Same as Originating Activity	1300-0500Z++	150
SR072	908 AW, 401 W Maxwell Blvd, Maxwell AFB, AL 36112-6591 DSN 493-5016, C334-953-50	Same as Originating Activity	1300-0500Z++	156
SR073	164th TAG (ANG), Memphis Intl, TN 38118 DSN 966-8130.	Same as Originating Activity	Continuous	147
SR074	164th TAG (ANG), Memphis Intl, TN 38118 DSN 966-8130.	Same as Originating Activity	Continuous	163
SR075	164th TAG (ANG), Memphis Intl, TN 38118 DSN 966-8130.	Same as Originating Activity	Continuous	119
SR1001	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
SR1002	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
SR1003	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
SR1004	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
SR1005	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
SR1006	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
SR1007	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
SR1008	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
SR1009	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

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR101	16 OSS/DOO, Hurlburt Field, FL 32544 DSN 579-6877/7812, C850-884-6877/7812.	Same as Originating Activity	Continuous	907
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	154
SR102	16 OSS/DOO, Hurlburt Field, FL 32544 DSN 579-6877/7812, C850-884-6877/7812.	Same as Originating Activity	Continuous	291
SR103	16 OSS/DOO, Hurlburt Field, FL 32544 DSN 579-6877/7812, C850-884-6877/7812.	Same as Originating Activity	Continuous	434
SR104	16 OSS/DOO, Hurlburt Field, FL 32544 DSN 579-6877/7812, C850-884-6877/7812.	Same as Originating Activity	Continuous	823
SR105	16 OSS/DOO, Hurlburt Field, FL 32544 DSN 579-6877/7812, C850-884-6877/7812.	Same as Originating Activity	Continuous	226
SR106	16 OSS/DOO, Hurlburt Field, FL 32544 DSN 579-6877/7812, C850-884-6877/7812.	Same as Originating Activity	Continuous	427
SR119	16 OSS/DOO, Hurlburt Field, FL 32544 DSN 579-6877/7812, C850-884-6877/7812.	Same as Originating Activity	Continuous	801
SR137	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
SR138	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
SR166	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
SR200	58 OSS/DOO, Kirtland AFB, NM 87117-5861 DSN 263-5979/5888/5701, C505-853-5979/58	Same as Originating Activity	Continuous	242
SR201	58 OSS/DOO, Kirtland AFB, NM 87117-5861 DSN 263-5979/5888/5701, C505-853-5979/58	Same as Originating Activity	Continuous	420
SR205	97 OSS/DOA, 400 N. 6th Street, Altus AFB, OK 73521 DSN 866-6098.	Same as Originating Activity	Continuous	88
SR206	97 OSS/DOA, 400 N. 6th Street, Altus AFB, OK 73521 DSN 866-6098	Same as Originating Activity	Continuous	99
SR208	97 OSS/DOA, 400 N. 6th Street, Altus AFB, OK 73521 DSN 866-6098.	Same as Originating Activity	Continuous	116
SR210	58 OSS/DOO, Kirtland AFB, NM 87117-5861 DSN 263-5979/5888/5701, C505-853-5979/58	Same as Originating Activity	Continuous	148
SR211	58 OSS/DOO, Kirtland AFB, NM 871175861 DSN 263-5979/5888/5701, C505-853-5979/588	Same as Originating Activity	Continuous	189
SR212	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
SR213	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

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR214	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
SR216	97 OSS/DOA, 400 N. 6th Street, Altus AFB, OK 73521 DSN 866-6098.	Same as Originating Activity	Continuous	111
SR217	97 OSS/DOA, 400 N. 6th Street, Altus AFB, OK 73521 DSN 866-6098.	Same as Originating Activity	Continuous	114
SR218	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
SR219	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
SR220	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
SR221	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
SR222	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
SR223	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
SR224	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
SR225	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
SR226	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
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	278
SR228	136 TAW/Operations Hensley Field , Dallas, TX 75211 DSN 874-6207.	Same as Originating Activity	Continuous	193
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	234
SR230	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
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	302
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	239
SR233	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	204
SR234	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	127
SR235	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

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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 0413 (effective: December 23, 2004 through January 19, 2005).



### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR236	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	196
SR237	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
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	98
SR239	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
SR240	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	134
SR241	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
SR242	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	195
SR243	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	163
SR244	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	120
SR245	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	129
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	230
SR247	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
SR249	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	197
SR250	463 TAW, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	80
SR251	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	73
SR253	71 FTS/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
SR255	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	86
SR258	317 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	172
SR261	317 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	133
SR267	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	172
SR270	136 TAW/Operations Hensley Field, Dallas, TX 75211 DSN 874-6207.	Same as Originating Activity	0700-2200 local	182
SR273	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	156
SR274	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
SR275	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
SR276	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
SR277	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

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency (Digital Aeronautical Flight Information File, Edition 0413 (effective: December 23, 2004 through January 19, 2005).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR280	7 WG, Dyess AFB, TX 79607 DSN 461-2318.	Same as Originating Activity	Continuous	47
SR281	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
SR282	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
SR283	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
SR284	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
SR286	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
SR287	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
SR290	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
SR292	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
SR293	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
SR294	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
SR295	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
SR296	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
SR300	129 RQW/DOW, PO Box 103, Stop 14, Moffett Federal Afl, CA 94035-5000 DSN 359-93	Same as Originating Activity	Continuous	761
SR301	129 RQW/DOW, PO Box 103, Stop 14, Moffett Federal Afl, CA 94035-5000 DSN 359-93	Same as Originating Activity	Continuous	761
SR311	129 RQW/DOW, PO Box 103, Stop 14, Moffett Federal Afl, CA 94035-5000 DSN 359-93	Same as Originating Activity	Continuous	145
SR353	129 RQW/DOW, PO Box 103, Stop 14, Moffett Federal Afl, CA 94035-5000 DSN 359-93	Same as Originating Activity	Continuous	110
SR359	129 RQW/DOW, PO Box 103, Stop 14, Moffett Federal Afl, CA 94035-5000 DSN 359-93	Same as Originating Activity	Continuous	145
SR381	129 RQW/DOW, PO Box 103, Stop 14, Moffett Federal Afl, CA 94035-5000 DSN 359-93	Same as Originating Activity	Continuous	141
SR390	146 AW/DOXT (ANG), 106 Mulcahey Dr., Port Hueneme, CA 93041-4003 DSN 893-7590/75	Same as Originating Activity	Continuous	97
SR397	146 AW/DOXT (ANG), 106 Mulcahey Dr., Port Hueneme, CA 93041-4003 DSN 893-7590/75	Same as Originating Activity	Continuous	114

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency (Digital Aeronautical Flight Information File, Edition 0413 (effective: December 23, 2004 through January 19, 2005).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR398	129 RQW/DOW, PO Box 103, Stop 14, Moffett Federal Afld, CA 94035-5000 DSN 359-93	Same as Originating Activity	Continuous	43
SR470	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	175
SR471	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	119
SR472	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	118
SR473	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	185
SR474	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	355
SR475	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	162
SR476	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	334
SR477	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	192
SR478	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	310
SR488	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	31
SR489	62 OSS/OSO, McChord AFB, WA 98438-1109 DSN 382-9925, C253-982-9925. During non-d	Same as Originating Activity	Continuous	23
SR540	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
SR541	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
SR542	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
SR616	139 Airlift Wg., 705 Memorial Drive, St. Joseph, MO 64503-9307 DSN 356-3225/3470	Same as Originating Activity	1300-0500Z++ daily	148
SR617	139 Airlift Wg., 705 Memorial Drive, St. Joseph, MO 64503-9307 DSN 356-3225/3470	Same as Originating Activity	1300-0500Z++ daily	147
SR618	139 Airlift Wg., 705 Memorial Drive, St. Joseph, MO 64503-9307 DSN 356-3225/3470	Same as Originating Activity	1300-0500Z++ daily	128

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR619	139 Airlift Wg., 705 Memorial Drive, St. Joseph, MO 64503-9307 DSN 356-3225/3470	Same as Originating Activity	1300-0500Z++ daily	136
SR701	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
SR702	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
SR703	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
SR707	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	142
SR708	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	164
SR709	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	105
SR710	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	110
SR711	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	115
SR712	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	140
SR713	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	117
SR714	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	88
SR715	179 AW, Mansfield Lahm Airport, OH 44903-0179 DSN 696-6165.	Same as Originating Activity	0700-2300 local daily	148
SR727	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
SR728	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
SR729	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

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency (Digital Aeronautical Flight Information File, Edition 0413 (effective: December 23, 2004 through January 19, 2005).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR730	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
SR731	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
SR771	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
SR776	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
SR781	Alpena CRTC/OTM (ANG), 5884 A Street, Alpena MI 49707-8125 DSN 741-3509/3226.	Same as Originating Activity	0700-2300 local daily	119
SR782	Alpena CRTC/OTM (ANG), 5884 A Street, Alpena MI 49707-8125 DSN 741-3509/3226.	Same as Originating Activity	0700-2300 local daily	152
SR785	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
SR800	913 AG (AFRC), Willow Grove ARS, Willow Grove, PA 19090 DSN 991-1910/1981, C215-	Same as Originating Activity	0800-2300 local	155
SR801	913 AG (AFRC), Willow Grove ARS, Willow Grove, PA 19090 DSN 991-1910/1981, C215-	Same as Originating Activity	0800-2300 local	207
SR802	167 TAG, Eastern West Virginia Regional, Martinsburg, WV 25401 DSN 242-9250.	Same as Originating Activity	Continuous	80
SR803	167 TAG, Eastern West Virginia Regional, Martinsburg, WV 25401 DSN 242-9250.	Same as Originating Activity	Continuous	87
SR804	167 TAG, Eastern West Virginia Regional, Martinsburg, WV 25401 DSN 242-9250.	Same as Originating Activity	Continuous	95
SR805	913 AG (AFRC), Willow Grove ARS, Willow Grove, PA 19090 DSN 991-1910/1981, C215-	Same as Originating Activity	0800-2300 local	156
SR806	167 TAG, Eastern West Virginia Regional, Martinsburg, WV 25401 DSN 242-9250.	Same as Originating Activity	Continuous	121
SR807	167 TAG, Eastern West Virginia Regional, Martinsburg, WV 25401 DSN 242-9250.	Same as Originating Activity	Continuous	141
SR808	167 TAG, Eastern West Virginia Regional, Martinsburg, WV 25401 DSN 242-9250.	Same as Originating Activity	Continuous	170
SR820	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
SR821	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
SR822	911 AW, Pittsburgh Intl, PA DSN 277-8722/8761.	Same as Originating Activity	1000-0300Z Mon-Sat	125

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
SR823	914 AW/328 AS,10460 Wagner Dr, Niagra Falls Intl Airport, NY 14304-5010, DSN 238	Same as Originating Activity	1500-0300Z++	183
SR825	914 AW/328 AS,10460 Wagner Dr, Niagra Falls Intl Airport, NY 14304-5010, DSN 238	Same as Originating Activity	1500-0300Z++	181
SR835	327 AS/DOXT,1146 Fairchild Street, Willow Grove ARS, PA DSN 991-1910, C215-443-1	Same as Originating Activity	0900-2300 local	132
SR844	166 Airlift Gp, 166 OSF/DOW, 2600 Spruance Dr, Corporate Commons, New Castle, DE	Same as Originating Activity	0800-2359 local	153
SR845	166 Airlift Gp, 166 OSF/DOW, 2600 Spruance Dr, Corporate Commons, New Castle, DE	Same as Originating Activity	0800-2359 local	199
SR846	166 Airlift Gp, 166 OSF/DOW, 2600 Spruance Dr, Corporate Commons, New Castle, DE	Same as Originating Activity	0800-2359 local	111
SR847	166 Airlift Gp, 166 OSF/DOW, 2600 Spruance Dr, Corporate Commons, New Castle, DE	Same as Originating Activity	0800-2359 local	66
SR867	Commander, Ft Pickett, VA 23824-5000 DSN 438-8506, C804-292-8506.	Same as Originating Activity	Continuous	196
SR871	130 AG (ANG), Kanawha County, Charleston, WV 25311 DSN 366-6291.	Same as Originating Activity	0800-2300 local	149
SR872	130 AG (ANG), Kanawha County, Charleston, WV 25311 DSN 366-6291.	Same as Originating Activity	0800-2300 Local	156
SR873	130 AG (ANG), Kanawha County, Charleston, WV 25311 DSN 366-6291.	Same as Originating Activity	0800-2300 local	155
SR874	130 AG (ANG), Kanawha County, Charleston, WV 25311 DSN 366-6291.	Same as Originating Activity	0800-2300 local	129
SR900	143 AW/Operations, 7 Flightline Dr, North Kingstown, RI 02852-7548 DSN 476-3405,	Same as Originating Activity	1200-0400Z++ Daily	152
SR901	143 AW/Operations, 7 Flightline Dr, North Kingstown, RI 02852-7548 DSN 476-3405,	Same as Originating Activity	1200-0400Z++ Daily	98
SR902	143 AW/Operations, 7 Flightline Dr, North Kingstown, RI 02852-7548 DSN 476-3405,	Same as Originating Activity	1200-0400Z++ Daily	160
SR904	143 AW/Operations, 7 Flightline Dr, North Kingstown, RI 02852-7548 DSN 476-3405,	Same as Originating Activity	1000-2200 local	183
SR905	143 AW/Operations, 7 Flightline Dr, North Kingstown, RI 02852-7548 DSN 476-3405,	Same as Originating Activity	1000-2200 local	97
VR054	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
VR058	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

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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 0413 (effective: December 23, 2004 through January 19, 2005).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR060	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
VR071	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
VR073	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
VR083	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
VR084	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
VR085	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
VR086	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
VR087	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
VR088	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
VR092	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
VR093	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
VR094	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
VR095	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
VR096	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
VR097	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
VR100	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
VR1001	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	390
VR1002	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	435
VR1003	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	489

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency (Digital Aeronautical Flight Information File, Edition 0413 (effective: December 23, 2004 through January 19, 2005).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1004	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	570
VR1005	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	281
VR1006	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	686
VR1007	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	174
VR1008	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	74
VR1009	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	76
VR101	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
VR1010	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	26
VR1013	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	62
VR1014	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
VR1016	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
VR1017	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
VR1020	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ weekdays, occasional weekends	147
VR1021	FACSFAC, NAS Pensacola, FL 32508-5000 DSN 922-4671/4672, C850-452-4671/4672.	Same as Originating Activity	1200-0400Z++ weekdays, occasional weekends	419
VR1022	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ weekdays, occasional weekends	173
VR1023	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ weekdays, occasional weekends	301
VR1024	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0400Z++ weekdays, occasional weekends	298
VR1030	COMDRAWING ONE, NAS MERIDIAN, MS 39309-0136 DSN 637-2487, C601-679-2487.	Same as Originating Activity	1100-0600Z++ daily	255

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1031	COMTRAWING ONE, NAS MERIDIAN, MS 39309-0136 DSN 637-2487, C601-679-2487.	Same as Originating Activity	1100-0600Z++ daily	342
VR1032	COMTRAWING ONE, NAS MERIDIAN, MS 39309-0136 DSN 637-2487, C601-679-2487.	Same as Originating Activity	1100-0600Z++ daily	212
VR1033	COMTRAWING ONE, NAS MERIDIAN, MS 39309-0136 DSN 637-2487, C601-679-2487.	Same as Originating Activity	1100-0600Z++ daily	323
VR1039	FACSFACJAX, P.O. Box 40, NAS Jacksonville, FL 32212-0040 DSN 942-2004/2005, C904	Same as Originating Activity	Continuous	8
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	220
VR1040	CG MCAS CHERRY POINT, ATTN RAC-DIROPS, Cherry Point, NC 28533 DSN 582-3466, C252	Central Scheduling Division MCAS Cherry Point, NC 28533 DSN 582-4040/4041, C252-	Continuous	421
VR1041	CG MCAS CHERRY POINT, ATTN RAC-DIROPS, Cherry Point, NC 28533 DSN 582-3466, C252	Central Scheduling Division MCAS Cherry Point, NC 28533 DSN 582-4040/4041, C252-	Continuous	384
VR1043	CG MCAS CHERRY POINT, ATTN RAC-DIROPS, 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
VR1046	CG MCAS CHERRY POINT, ATTN RAC-DIROPS, 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
VR1050	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
VR1051	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
VR1052	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0500Z++	358
VR1054	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1300-0500Z++ daily	293
VR1055	FACSFAC NPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1300-0500Z++ 7 days a week	299
VR1056	FACSFACNPA, NAS Pensacola, FL 32508-5000 DSN 922-2735, C850-452-2735.	Same as Originating Activity	1200-0500Z++	358
VR1059	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
VR106	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
VR1061	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
VR1065	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
VR1066	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

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1070	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
VR1072	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
VR1076	156 AW (PRANG) Muniz ANGB, 200 Jose A. (Tony) Santana Ave., Carolina, Puerto Ric	Same as Originating Activity	0700-2000 local daily	121
VR1077	156 AW (PRANG) Muniz ANGB, 200 Jose A. (Tony) Santana Ave., Carolina, Puerto Ric	Same as Originating Activity	1100-2400Z++ daily	202
VR1078	156 AW (PRANG) Muniz ANGB, 200 Jose A. (Tony) Santana Ave., Carolina, Puerto Ric	Same as Originating Activity	1100-2400Z++ daily	253
VR1079	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
VR108	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
VR1080	156 AW (PRANG) Muniz ANGB, 200 Jose A. (Tony) Santana Ave., Carolina, Puerto Ric	Same as Originating Activity	0700-2000 local daily	121
VR1081	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
VR1082	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
VR1083	USAFAWC-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
VR1084	USAFAWC-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
VR1085	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
VR1087	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
VR1088	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
VR1089	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
VR1097	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

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1098	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
VR1102	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
VR1103	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
VR1104	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
VR1105	149 FTR GP (TX-ANG), Kelly AFB, TX 78241 DSN 945-5934, C210-925-5934.	Same as Originating Activity	0800-1830 local daily	94
VR1106	149 FTR GP (TX-ANG), Kelly AFB, TX 78241 DSN 969-5934.	Same as Originating Activity	0800-1830 local daily	94
VR1107	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
VR1108	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
VR1109	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
VR1110	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
VR1113	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
VR1116	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
VR1117	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
VR1120	149 FW (TX ANG), 107 Hensley Street, Kelly AFB, TX 78241-5544 DSN 945-5934, C210	Same as Originating Activity	Sunrise-Sunset	128
VR1121	149 FW (TX ANG), 107 Hensley Street, Kelly AFB, TX 78241-5544 DSN 945-5934, C210	Same as Originating Activity	Sunrise-Sunset	128
VR1122	149 FW (TX ANG), 107 Hensley Street, Kelly AFB, TX 78241-5544 DSN 945-5934, C210	Same as Originating Activity	Sunrise-Sunset	194
VR1123	149 FW (TX ANG), 107 Hensley Street, Kelly AFB, TX 78241-5544 DSN 945-5934, C210	Same as Originating Activity	Sunrise-Sunset	194
VR1124	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
VR1128	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

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### 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)	109
VR1137	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
VR1138	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
VR1139	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
VR114	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
VR1140	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
VR1141	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
VR1142	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
VR1143	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
VR1144	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
VR1145	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
VR1146	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
VR1175	OC-ALC/10 Flight Test Sqdn, 4805 West Dr, Tinker AFB, OK 73145-3300 DSN 336-7719	Same as Originating Activity	Sunrise-Sunset	314
VR1176	OC-ALC/10 Flight Test Sqdn, 4805 West Dr, Tinker AFB, OK 73145-3300 DSN 336-7719	Same as Originating Activity	Sunrise-Sunset	314
VR118	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
VR1182	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
VR119	184 ARW (Kansas ANG), McConnell AFB, KS 67221-9010 (1330-2215Z wkd, sked rqr are	Same as Originating Activity	0700-1730 local daily	165
VR1195	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
VR1196	ANG CRTC-Gulfport/OSA, 4715 Hewes Ave, Gulfport, MS 39507-4324 DSN 363-6027, C22	Same as Originating Activity	Continuous	202
VR1205	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

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency (Digital Aeronautical Flight Information File, Edition 0413 (effective: December 23, 2004 through January 19, 2005).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1206	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
VR1211	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
VR1214	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
VR1215	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
VR1217	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
VR1218	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
VR1233	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
VR125	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
VR1250	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	354
VR1251	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	517
VR1252	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	185
VR1253	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	443
VR1254	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	246
VR1255	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	296
VR1256	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	91
VR1257	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
VR1259	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	424
VR1260	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	292
VR1261	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	386
VR1262	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	339

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency (Digital Aeronautical Flight Information File, Edition 0413 (effective: December 23, 2004 through January 19, 2005).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1264	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	150
VR1265	G-3, 3D MAW, MCAS Miramar, San Diego, CA 92145 DSN 267-9462, C858-577-9462. Non-	Same as Originating Activity	Continuous	405
VR1266	Commanding Officer, Yuma MCAS, Box 99160 Yuma, AZ 85369-9160 DSN 269-2326/2077,	Same as Originating Activity	0700-1800 local (daylight hours)	158
VR1267	Commanding Officer, Yuma MCAS, Box 99160 Yuma, AZ 85369-9160 DSN 269-2326/2077,	Same as Originating Activity	0700-1800 local	216
VR1267A	Commanding Officer, Yuma MCAS, Box 99160 Yuma, AZ 85369-9160 DSN 269-2326/2077,	Same as Originating Activity	0700-1800 local	101
VR1268	Commanding Officer, Yuma MCAS, Box 99160 Yuma, AZ 85369-9160 DSN 269-2326/2077,	Same as Originating Activity	0700-1800 local	371
VR1293	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
VR1300	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
VR1301	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
VR1302	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
VR1303	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
VR1304	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
VR1305	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
VR1350	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave, Oak Ha	Same as Originating Activity	Continuous	262
VR1351	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave, Oak Ha	Same as Originating Activity	Continuous	374
VR1352	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave, Oak Ha	Same as Originating Activity	Continuous	315
VR1353	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave, Oak Ha	Same as Originating Activity	Continuous	315
VR1354	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave, Oak Ha	Same as Originating Activity	Continuous	130
VR1355	Commanding Officer (N38), NAS Whidbey Island, 3730 N. Charles Porter Ave, Oak Ha	Same as Originating Activity	Continuous	223
VR137	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

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR138	184 ARW (Kansas ANG), McConnell AFB, KS 67221-9010 (1330-2215Z wk, scheduling r	Same as Originating Activity	0700-2100 local daily	190
VR140	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
VR142	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
VR1422	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
VR1423	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
VR1427	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
VR143	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
VR144	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
VR1445	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
VR1446	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
VR151	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
VR1515	185 FG/OGW, Sergeant Bluff, IA 51054-1002 DSN 939-6578.	Same as Originating Activity	0700-1730 local Tue-Fri, OT by NOTAM	251
VR152	184 ARW (Kansas ANG), McConnell AFB, KS 67221-9010 (1330-2215Z wk, sked rqr 2 hr	Same as Originating Activity	0600-2200 local	191
VR1520	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
VR1521	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
VR1522	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
VR1523	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
VR1525	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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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1546	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
VR156	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
VR158	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
VR159	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
VR1616	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
VR1617	180th TFG/DO (ANG), Toledo Express Airport, Swanton, OH 43558 DSN 580-4084.	Same as Originating Activity	Sunrise-2100 local	190
VR162	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
VR1624	127th TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	233
VR1625	127th TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	167
VR1626	127th TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055/5719.	Same as Originating Activity	Sunrise-Sunset	145
VR1627	127th TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	227
VR1628	127th TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	284
VR1629	127th TFW/DO, Selfridge ANGB, MI 48045 DSN 273-5055/5719.	Same as Originating Activity	Sunrise-Sunset	219
VR163	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
VR1631	123 ACS, Blue Ash, OH 45242 DSN 340-2950, C513-936-2950.	Same as Originating Activity	Continuous	230
VR1632	123 ACS, Blue Ash, OH 45242 DSN 340-2950, C513-936-2950.	Same as Originating Activity	Continuous	202
VR1633	123 ACS, Blue Ash, OH 45242 DSN 340-2950, C513-936-2950.	Same as Originating Activity	Continuous	217
VR1635	183 FW/OSF, Capital Airport, Springfield, IL 62707 DSN 892-8202.	Same as Originating Activity	Sunrise-Sunset only	135
VR1636	Alpena CRTC/OTM (ANG), 5884 A. Street, Alpena, MI 49707-8125 DSN 741-3509/3226.	Same as Originating Activity	Continuous	137
VR1638	180TH TFG/DO, Toledo Express Airport, Swanton, OH 43558 DSN 580-4084.	Same as Originating Activity	Sunrise-2100 local	152
VR1639	127th TFW/DO, Selfridge ANGB, MI 48045 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	219

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1640	122 FW, Ft. Wayne IAP, IN 46809-0122 DSN 786-1202.	Same as Originating Activity	1300-0300Z++ daily	227
VR1641	122 FW, Ft. Wayne IAP, IN 46809-0122 DSN 786-1202.	Same as Originating Activity	1300-0300Z++ daily	135
VR1642	122 FW, Ft. Wayne IAP, IN 46809-0122 DSN 786-1202.	Same as Originating Activity	1300-0100Z++ daily	176
VR1644	127TH TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	190
VR1645	127TH TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	167
VR1647	127TH TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	227
VR1648	127TH TFW/DO, Selfridge ANGB, MI 48045-5029 DSN 273-5055.	Same as Originating Activity	Sunrise-Sunset	284
VR1650	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
VR1666	Alpena CRTC/OTM (ANG), 5884 A. Street, Alpena, MI 49707-8125 DSN 741-3509/3226.	Same as Originating Activity	Continuous	137
VR1667	180 TFG/DO, Toledo Express Airport, Swanton, OH 43558 DSN 580-4084.	Same as Originating Activity	Sunrise - 0200Z++	190
VR1668	180 TFG/DO, Toledo Express Airport, Swanton, OH 43558 DSN 580-4084.	Same as Originating Activity	Sunrise-2100 local	152
VR1679	181st TFG (ANG), Hulman Regional, Terre Haute, IN 47803 DSN 724-1234.	Same as Originating Activity	Sunrise-Sunset Tue-Sun, OT by NOTAM	264
VR168	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
VR1709	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
VR1711	113 WG, Andrews AFB, MD 20331 DSN 857-3307/08, C240-857-3307/3308/4190.	Same as Originating Activity	0730 local-Sunset daily	158
VR1712	113 WG, Andrews AFB, MD 20331 DSN 857-3307/08, C240-857-3307/3308/4190.	Same as Originating Activity	0730 local-Sunset daily	186
VR1713	113 WG, Andrews AFB, MD 20331 DSN 857-3307/08, C240-857-3307/3308/4190.	Same as Originating Activity	0730 local-Sunset daily	194
VR1721	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
VR1722	192nd FG (ANG), Byrd Intl, Richmond, VA 23150 DSN 864-6411/6410.	Same as Originating Activity	Sunrise-Sunset	302
VR1726	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
VR1743	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
VR1751	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

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency (Digital Aeronautical Flight Information File, Edition 0413 (effective: December 23, 2004 through January 19, 2005).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1752	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
VR1753	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
VR1754	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
VR1755	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
VR1756	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
VR1757	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
VR1758	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
VR1759	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
VR176	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
VR179	ANG CRTC-Gulfport/OSA, 4715 Hewes Ave, Gulfport, MS 39507-4324 DSN 363-6027, C22	Same as Originating Activity	Continuous	172
VR1800	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
VR1801	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
VR184	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
VR186	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
VR187	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
VR188	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
VR189	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
VR190	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
VR1900	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

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency (Digital Aeronautical Flight Information File, Edition 0413 (effective: December 23, 2004 through January 19, 2005)).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1902	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
VR1905	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
VR1909	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
VR191	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
VR1912	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
VR1915	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
VR1916	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
VR1926	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
VR1927	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
VR1928	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
VR1929	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

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Source: Department of Defense based on data from the National Geospatial-Intelligence Agency (Digital Aeronautical Flight Information File, Edition 0413 (effective: December 23, 2004 through January 19, 2005).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR1939	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
VR196	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
VR197	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
VR198	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
VR199	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
VR201	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	167
VR202	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	311
VR208	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	0800-1630 local	194
VR209	Commander, Strike Fighter Wing, U.S. Pacific Fleet, 001 K Street, NAS Lemoore, C	Same as Originating Activity	Daylight hours, OT by NOTAM	592
VR222	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
VR223	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
VR231	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
VR239	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
VR241	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
VR242	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

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR243	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
VR244	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
VR245	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
VR249	G-3, 3D MAW, MCAS Miramar, San Diego, CA 92145 DSN 267-9462, C858-577-9462. Non-	Same as Originating Activity	Continuous	101
VR259	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
VR260	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
VR263	162 FW/OGC, 1660 E. El Tigre Way, Tucson, AZ, 85706-6086 DSN 844-6371.	Same as Originating Activity	Continuous	434
VR267	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
VR268	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
VR269	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
VR288	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
VR289	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
VR296	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
VR299	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
VR316	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
VR319	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
VR331	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
VR410	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

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR411	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
VR413	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
VR510	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
VR511	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
VR512	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
VR531	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
VR532	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
VR533	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
VR534	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
VR535	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
VR536	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
VR540	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
VR541	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
VR544	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
VR545	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
VR552	184 ARW (Kansas ANG), McConnell AFB, KS 67221-9010 (1330-2215Z wkd, sked rqr 2 hr	Same as Originating Activity	Sunrise-Sunset daily	191
VR604	148TH FIG (ANG), Duluth Intl, MN 55811 DSN 825-7265.	Same as Originating Activity	1400-0500Z++ daily, 0500-1400Z++ allowable	682
VR607	148TH FIG (ANG), Duluth Intl, MN 55811 DSN 825-7265.	Same as Originating Activity	1400-0500Z++ daily, 0500-1400Z++ allowable	682
VR615	183 FW/OSF, Capital Airport, Springfield, IL 62707 DSN 892-8202.	Same as Originating Activity	Daylight hours	167

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### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR619	181 TFG (ANG), Hulman Regional Airport, Terre Haute, IN 47803 DSN 724-1234.	Same as Originating Activity	Sunrise-Sunset Tue-Sun, OT by NOTAM	135
VR634	Alpena CRTC/OTM (ANG), 5884 A. Street, Alpena, MI 49707-8125 DSN 741-3509/3226.	Same as Originating Activity	Continuous	180
VR664	Alpena CRTC/OTM (ANG), 5884 A. Street, Alpena, MI 49707-8125 DSN 741-3509/3226.	Same as Originating Activity	Continuous	181
VR704	DET 1, 193 SOG, 26139 Ammo Road, Annville, PA 17003-5180 C717-861-2475/2912 Toll	Same as Originating Activity	0800 local to Sunset daily	284
VR705	DET 1, 193 SOG, 26139 Ammo Road, Annville, PA 17003-5180 C717-861-2475/2912 Toll	Same as Originating Activity	0800 local-Sunset daily	213
VR707	DET 1, 193 SOG, 26139 Ammo Road, Annville, PA 17003-5180 C717-861-2475/2912 Toll	Same as Originating Activity	0800 local-Sunset daily	286
VR708	175 FG (ANG), Baltimore, MD 21220-2899 DSN 243-6375.	Same as Originating Activity	Sunrise-Sunset	126
VR724	174th FW, 6001 E. Molloy Rd, Syracuse, NY 13211-7099 DSN 489-9217.	174 FW, Det 1, Ft. Drum, NY 13608 DSN 772-5990/2835, C315-772-5990.	0800-Sunset daily, OT by NOTAM	141
VR725	174th FW, 6001 E. Molloy Rd, Syracuse, NY 13211-7099 DSN 489-9217.	174 FW, Det 1. Ft. Drum, NY 13608 DSN 772-5990/2835, C315-772-5990.	0800-Sunset daily, OT by NOTAM	114
VR840	104 FW, Barnes ANGB, Westfield, MA 01085-1385 DSN 636-9228/9229, C413-568-9151 e	Same as Originating Activity	0800 local-Sunset daily	175
VR841	104 FW, Barnes ANGB, Westfield, MA 01085-1385 DSN 636-9228/9229, C413-568-9151 e	Same as Originating Activity	0800 local-Sunset daily	97
VR842	104 FW, Barnes ANGB, Westfield, MA 01085-1385 DSN 636-9228/9229, C413-568-9151 e	Same as Originating Activity	0800 local-Sunset daily	87
VR931	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	69
VR932	611 AOG/CC, 9480 Pease Ave., Ste 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-4	3 OSS/OSOS, Elmendorf AFB, AK 99506-2130 DSN 317-552-2406, C907-552-2406.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	69
VR933	611 AOG/CC, 9480 Pease Ave., Ste 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-4	3 OSS/OSOS, Elmendorf AFB, AK 99506-2130 DSN 317-552-2406, C907-552-2406.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	216
VR934	611 AOG/CC, 9480 Pease Ave., Ste 102, Elmendorf AFB, AK 99506-2100 DSN 317-552-4	3 OSS/OSOS, Elmendorf AFB, AK 99506-2130 DSN 317-552-2406, C907-552-2406.	Normal use 0800-2000 local Mon-Fri, Not available 2200-0700 local	216

\* 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 0413 (effective: December 23, 2004 through January 19, 2005)).

### Military Training Route Inventory

MTR	Originating Agency*	Scheduling Agency*	Effective Times	Length** (NM)
VR935	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	253
VR936	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	231
VR937	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	221
VR938	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	177
VR940	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	114
VR941	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	114
VR954	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	398
VR955	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	288

\* 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 0413 (effective: December 23, 2004 through January 19, 2005).



**APPENDIX C: INVENTORY OF AIR FORCE RANGE COMPLEXES  
IN THE UNITED STATES**

## Appendix C: Inventory of Ranges in the United States

Table C-1: Air Force Ranges Within the United States

MAJCOM	Range Name	Associated Installation	Responsible Unit	State	Total Acreage	Acreage Controlled by USAF	Acreage Controlled by Others
ACC	Avon Park	MacDill AFB	347 RQW	FL	106,073	106,073	0
ACC	Belle Fourche ESS	Ellsworth	28 BW	SD	183	12	171
ACC	Dare County Ranges <sup>1</sup>	Shaw AFB	4FW	SC	46,621	46,621	0
ACC	Grand Bay <sup>2</sup>	Moody AFB	347 RQW	GA	6,000	6,000	0
ACC	Holloman <sup>2</sup>	Holloman AFB	49 FW	NM	207,800	20	207,780
ACC	Melrose	Cannon AFB	27 FW	NM	66,033	66,033	0
ACC	Mountain Home Ranges <sup>3</sup>	Mountain Home AFB	366 FW	ID	120,844	120,844	0
ACC	Nevada Testing and Training Range	Nellis AFB	98 RANW	NV	2,919,890	2,919,890	0
ACC	Lone Star ESS	Dyess AFB	7 BW	TX	90	90	0
ACC	Poinsett	Shaw AFB	20 FW	SC	12,521	12,521	0
ACC	Snyder ESS	Dyess AFB	7 BW	TX	90	90	0
ACC	Utah Testing and Training Ranges <sup>4</sup>	Hill AFB	388 FW	UT	1,712,000	953,887	758,113
AETC	Barry M. Goldwater Range <sup>5</sup>	Luke AFB	5 FW	AZ	1,607,018	1,046,000	561,018
AFMC	Edwards Ranges <sup>6</sup>	Edwards AFB	AFFFTC	CA	50,080	50,080	0
AFMC	Eglin Ranges <sup>7</sup>	Eglin AFB	AFMC	FL	463,360	463,360	0
AFRC	Claiborne <sup>8</sup>	Barksdale AFB	917 BW	LA	7,800	0	7,800
AFRC	Falcon	Fort Sill	301 FW	OK	5,200	0	5,200
AFRC	Shoal Creek	Fort Hood		TX	17,540	0	17,540
AFSPC	Cape Canaveral	Patrick AFB	45 SW	FL	N/A	N/A	N/A
AFSPC	Vandenberg	Vandenberg AFB	30 SW	CA	N/A	N/A	N/A
ANG	Adirondack	Fort Drum	174 FW	NY	75,000	25,000	50,000
ANG	Airburst	Fort Carson	140 FW	CO	4257	3115	1152
ANG	Atterbury	Camp Atterbury	HQ Indiana ANG Det. 1	IN	18,500	650	17,850
ANG	Bollen	Fort Indiantown Gap	193 SOW	PA	10,657	0	10,657
ANG	Cannon	Fort Leonard Wood	131 FW	MO	4600	4405	195
ANG	Grayling	Camp Grayling	Alpena CRTC	MI	145,025	25	145,000
ANG	Hardwood	Camp Douglas	Volk Field CRTC	WI	7,263	7,263	0
ANG	Jefferson	Jefferson Proving Ground	HQ Indiana ANG Det. 2	IN	50,000	1,033	48,967
ANG	McMullen	Lackland AFB	149 FW	TX	2,800	0	2,800

**Table C-1: Air Force Ranges Within the United States**

MAJCOM	Range Name	Associated Installation	Responsible Unit	State	Total Acreage	Acreage Controlled by USAF	Acreage Controlled by Others
ANG	Razorback	Fort Chaffe	188 FW	AR	5760	177	5,583
ANG	Shelby Ranges <sup>9</sup>	Camp Shelby	CRTC Gulfport	MS	26,676	20	26,656
ANG	Smoky Hill	Fort Riley	184 BW	KS	33,875	33,875	0
ANG	Townsend	CRTC Savannah	CRTC Savannah	GA	5,183	0	5,183
ANG	Warren Grove	Atlantic City	177 FW	NJ	9,416	9,416	0
PACAF	Blair Lake	Eielson	353 CTS	AK	2,560	2,560	0
PACAF	Oklahoma	Eielson	353 CTS	AK	25,600	26,600	0
PACAF	Yukon	Eielson	353 CTS	AK	25,600	25,600	0
<b>Total</b>							
Notes:			<sup>5</sup> Comprised of the Barry M. Goldwater Range (East) and Barry M. Goldwater Range (West) ranges. <sup>6</sup> Comprised of the Edwards East and West ranges. <sup>7</sup> Information on Eglin land ranges only. An additional 20,830,030 acres of charted ranges extend over the Gulf of Mexico, plus 35,984,000 of uncharted acreage. <sup>8</sup> Claiborne range is expected to be increased from 3,267 acres to 7,800 acres in October 2003. Larger area reported. <sup>9</sup> Comprised of Shelby East and West ranges.				
Key: BW = Bomb Wing    FW = Fighter Wing    SOW = Special Operations Wing    CTS = Combat Training Squadron CRTC = Combat Training Center    ESS = Electronic Scoring Site							

**Table C-2: Capabilities of USAF Ranges in the United States**

Name of Range	Air Force Aircraft Supported by Range	Live Ordnance	Training Ordnance	Inert Ordnance	Laser Guided Bomb Use	Strafe	Chaff Use	Flare use	Emitters	IADS	Sensors	Supersonic	Other (See Notes)
Avon Park	A-10, OA-10, F-16BLK 25/32	●	●	●	●	●	●	●	○	○	○	○	○
Belle Fourche ESS	B-1B, B-52H	○	○	○	○	○	○	○	●	●	○	○	● <sup>1</sup>
Dare County Ranges	F-15E, A-10, OA-10	○	●	●	●	●	●	●	●	○	○	○	○
Grand Bay	B-1B, F-16BLK 40	●	●	●	○	●	●	●	○	○	○	○	○
Holloman Ranges	F-16BLK40, F-117	● <sup>2</sup>	●	●	●	●	● <sup>3</sup>	●	●	● <sup>3</sup>	○	○	○
Melrose	F-16BLK 30/40, B-1B	○	●	●	●	●	●	●	●	○	○	○	○
Mountain Home Ranges	A-10, OA-10, F-16BLK30/52, F-15CD/E, B-1B	○	●	○	●	●	● <sup>4</sup>	●	●	●	●	●	○
Nevada Testing and Training Range	A-10/OA-10, B-1B, B-2, B-52H, F15C/D/E, F-16, F-117	●	●	●	●	●	●	●	●	●	●	●	○
Lone Star ESS	B-1B, B-52H	○	○	○	○	○	○	○	●	○	●	○	● <sup>5</sup>
Poinsett	F-16BLK50/52	○	●	●	○	●	○	●	●	○	●	○	○
Snyder ESS	B-1B, B-52H	○	○	○	○	○	○	○	●	○	●	○	● <sup>5</sup>
Utah Testing and Training Ranges	A-10, OA-10, B-1B, B-2, B-52H, F15C/D/E, F-16, F-117	●	●	●	●	●	●	●	●	○	●	●	● <sup>6</sup>
Barry M. Goldwater Ranges	A-10, OA-10, F-16 ALL BLKS	●	●	●	●	●	●	●	● <sup>7</sup>	●	○	●	●
Edwards Range	A-10, OA-10, B-1B, B-2, B-52H, F15C/D/E, F-16, F-117, plus aircraft and weapons in testing	●	●	●	●	●	●	●	●	●	●	●	● <sup>8</sup>
Eglin Ranges	A-10, OA-10, B-1B, B-2, B-52H, F15C/D/E, F-16, F-117, plus aircraft and weapons in testing	●	●	●	●	●	●	●	●	●	●	●	○
Claiborne	A-10, OA-10, B-52H	○	●	●	○	●	●	●	●	○	○	○	○
Falcon	F-16	○	○	○	○	●	●	○	○	○	○	○	○
Shoal Creek	-	○	●	●	●	●	●	●	●	○	○	○	○
Adirondack	A-10, OA-10, F-16BLK25/30	●	●	●	●	●	●	●	●	●	●	○	● <sup>9</sup>
Airburst	A/OA-10, F-117, C-130, UH-60, MH60, MH-47, MH-6F-16BLK30/40	● <sup>10</sup>	●	●	○	●	○	●	●	○	●	○	● <sup>11</sup>
Atterbury	F-16BLK30/40	○	●	●	●	●	●	●	●	●	●	○	● <sup>13</sup>
Bollen	A-10, OA-10, F-16BLK15/25/30	○	●	●	○	●	○	●	●	○	●	○	● <sup>12</sup>
Cannon	A-10, OA-10, F-16BLK25/30	○	●	●	● <sup>14</sup>	●	○	●	●	●	●	○	● <sup>15</sup>

**Table C-2: Capabilities of USAF Ranges in the United States**

Name of Range	Air Force Aircraft Supported by Range	Live Ordnance	Training Ordnance	Inert Ordnance	Laser Guided Bomb Use	Strafe	Chaff Use	Flare use	Emitters	IADS	Sensors	Supersonic	Other (See Notes)
Grayling	A-10, OA-10, F-16BLK25/30/42	●	●	●	●	●	●	●	○	○	●	○	● <sup>16</sup>
Hardwood	A-10, OA-10, F-16BLK15/25/30	○	●	●	●	●	●	●	●	●	●	○	● <sup>17</sup>
Jefferson	-	○	●	●	●	●	●	●	●	○	●	○	● <sup>18</sup>
McMullen	F-16BLK15/25/30	○	●	●	○	●	●	●	●	○	●	○	● <sup>19</sup>
Razorback	A-10, OA-10, F-16BLK15/25/30	○	●	●	●	●	●	●	●	○	●	○	● <sup>20</sup>
Shelby	A-10, OA-10, F-16BLK15/25/30	● <sup>21</sup>	●	●	● <sup>22</sup>	●	○	●	●	○	●	○	● <sup>23</sup>
Smoky Hill	A-10, OA-10, F-16BLK15/25/30, B-1B, B-2, B-52, F-15E	○	●	● <sup>24</sup>	○	●	●	●	●	●	●	○	● <sup>25</sup>
Townsend	A-10, OA-10, F-16BLK15/25/30/40/50, F-15E, S-3, EA-6B, F/FA-18, C-130, C-17, UH-60, HH-60, AH-64, CH-47, CH-53, E-8	○	●	●	●(LG TR)	●	●	○	○●	●	●	○	● <sup>26</sup>
Warren Grove	A-10, OA-10, F-16BLK15/25/30	○	●	●	○	●	●	●	●	○	●	○	● <sup>27</sup>
Blair Lake	-	○	●	●	○	●	●	●	○	○	○	○	○
Oklahoma	-	●	●	●	●	●	●	●	●	●	●	○	● <sup>28</sup>
Yukon	A-10, OA-10, B-1B, B-2, B-52H, F15C/D/E, F-16, F-117	●	●	●	●	●	●	●	●	●	●	●	● <sup>28</sup>

Key: ● = fully supported. ● = partially supported, usually one subrange does not have capability. ○ = not supported.  
 ESS = electronic scoring site LGB = laser guided bomb. IADS = integrated air defense systems.

**Table C-2: Capabilities of USAF Ranges in the United States**

Name of Range	Air Force Aircraft Supported by Range	Live Ordnance	Training Ordnance	Inert Ordnance	Laser Guided Bomb Use	Strafe	Chaff Use	Flare use	Emitters	IADS	Sensors	Supersonic	Other (See Notes)
<p>Notes:</p> <p><sup>1</sup> Belle Fourche ESS has a drop scoring system.</p> <p><sup>2</sup> Red Rio range only.</p> <p><sup>3</sup> Red Rio and Oscura ranges only.</p> <p><sup>4</sup> Strafe at Saylor Creek range only.</p> <p><sup>4</sup> Has Mini-Multiple Threat Emitter System (Mini-MUTES) and Multiple Threat Emitter Systems (MUTES).</p> <p><sup>5</sup> Mini-MUTES, MUTES, Seek Score.</p> <p><sup>6</sup> UTTR supports use of JDAM and cruise missiles.</p> <p><sup>7</sup> There are unmanned emitters present on BMGR, but these emitters are not used by USAF.</p> <p><sup>8</sup> Supports UAV, directed energy weapons, high-powered microwave.</p> <p><sup>9</sup> Night vision goggle use permitted.</p> <p><sup>10</sup> Some limited capability for use of live ordnance at Fort Carson ranges.</p> <p><sup>11</sup> Night vision goggle use and use of laser marking systems permitted.</p> <p><sup>12</sup> Night vision goggle use permitted. Airdrop capability available.</p> <p><sup>13</sup> Night vision goggle use permitted.</p>				<p><sup>14</sup> Limited laser guided bomb use capability at Cannon range.</p> <p><sup>15</sup> Night vision goggle use permitted. Cannon is a certified laser range.</p> <p><sup>16</sup> Night vision goggle use and use of laser marking systems permitted.</p> <p><sup>17</sup> Night vision goggle use permitted.</p> <p><sup>18</sup> Night vision goggle use permitted.</p> <p><sup>19</sup> Night vision goggle use permitted.</p> <p><sup>20</sup> Night vision goggle use and use of laser markers permitted. Heated targets available.</p> <p><sup>21</sup> Live ordnance use at Shelby West range only.</p> <p><sup>22</sup> Laser guided bomb use at Shelby West range only.</p> <p><sup>23</sup> Night vision goggle use permitted.</p> <p><sup>24</sup> BDU-33, -38, -50, and -56, and MK-76 use permitted.</p> <p><sup>25</sup> CAF/GFAC present. Night vision goggle use permitted</p> <p><sup>26</sup> Night vision goggle use and use of laser marking systems permitted. Heated targets available.</p> <p><sup>27</sup> Night vision goggle use and use of laser markers permitted.</p> <p><sup>28</sup> Use of rockets and missiles permitted.</p>									

**Table C-3: Capabilities of USAF Ranges in the United States**

Name of Range	Air Force Aircraft Supported by Range	IR Targets	Radar Targets	Conventional Bomb Circles	Vertical Targets	Multiple Attack Axes	Tactical Arrays	Weapons Scoring	High Altitude Tactics	Laser Spot Scoring
Avon Park	A-10, OA-10, F-16BLK 25/32	4	4	4	4	●	66	●	●	●
Belle Fourche ESS	B-1B, B-52H	0	3	0	0	●	0	●	●	○
Dare County Ranges	F-15E, A-10, OA-10	4	4	1	2	●	31	●	●	○
Grand Bay	B-1B, F-16BLK 40	5	0	1	1	○	5	○	●	○
Holloman Ranges	F-16BLK40, F-117	9	84	5	10	●	101	●	●	●
Melrose	F-16BLK 30/40, B-1B	4	79	1	1	●	1	●	●	○
Mountain Home Ranges	A-10, OA-10, F-16BLK30/52, F-15CD/E, B-1B	13	6	2	3	●	5	●	●	●
Nevada Testing and Training Range	A-10/OA-10, B-1B, B-2, B-52H, F15C/D/E, F-16, F-117	4	182	3	8	●	182	●	●	●
Lone Star ESS	B-1B, B-52H	0	5	0	0	●	0	●	●	○
Poinsett	F-16BLK50/52	5	1	5	1		3		●	○
Snyder ESS	B-1B, B-52H	-	-	-	-	-	-	-	-	-
Utah Testing and Training Ranges	A-10, OA-10, B-1B, B-2, B-52H, F15C/D/E, F-16, F-117	10	300	2	20	●	5	●	●	●
Barry M. Goldwater Ranges	A-10, OA-10, F-16 ALL BLKS	0	8	4	2	●	21	●	●	○
Edwards Range	A-10, OA-10, B-1B, B-2, B-52H, F15C/D/E, F-16, F-117, plus aircraft and weapons in testing	-	-	-	-	-	-	-	-	-
Eglin Ranges	A-10, OA-10, B-1B, B-2, B-52H, F15C/D/E, F-16, F-117, plus aircraft and weapons in testing	-	-	-	-	-	-	-	-	-
Claiborne	A-10, OA-10, B-52H	1	1	4	1	●	10	●	●	○
Falcon	F-16	-	-	-	-	-	-	-	-	-
Shoal Creek	-	-	-	-	-	-	-	-	-	-
Adirondack	A-10, OA-10, F-16BLK25/30	2	0	3	0	●	4	●	●	●
Airburst	F-16BLK30/40	15	20	1	1	●	6	●	●	●
Atterbury	F-16BLK30/40	3	0	2	1	●	13	●	●	○
Bollen	A-10, OA-10, F-16BLK/25/30	1	20	1	19	●	22	●	○	○
Cannon	A-10, OA-10, F-16BLK25/30	9	10	1	3	●	25	●	●	○
Grayling	A-10, OA-10, F-16BLK25/30/42	5	0	1	0	●	6	●	●	●

**Table C-3: Capabilities of USAF Ranges in the United States**

Name of Range	Air Force Aircraft Supported by Range	IR Targets	Radar Targets	Conventional Bomb Circles	Vertical Targets	Multiple Attack Axes	Tactical Arrays	Weapons Scoring	High Altitude Tactics	Laser Spot Scoring
Hardwood	A-10, OA-10, F-16BLK15/25/30	3	2	1	0	●	2	●	○	○
Jefferson	-	1	10	1	0	●	7	●	●	●
McMullen	F-16BLK15/25/30	0	3	1	0	●	2	●	○	○
Razorback	A-10, OA-10, F-16BLK15/25/30	20	20	1	0	●	1	●	○	○
Shelby	A-10, OA-10, F-16BLK15/25/30	0	5	1	0	●	2	●	○	○
Smoky Hill	A-10, OA-10, F-16BLK15/25/30, B-1B, B-2, B-52, F-15E	5	1	2	0	○	3	●	●	○
Townsend	A-10, OA-10, F-16BLK15/25/30/40/50, F-15E, S-3, EA-6B, F/FA-14, F/A-18, C-130, C-17, UH-60, HH-60, AH-64, CH-47, CH-53, E-8	3	2	1	2	●	3	●	○	●
Warren Grove	A-10, OA-10, F-16BLK15/25/30	2	0	1	4	●	1	●	○	○
Blair Lake	-	-	-	-	-	-	-	-	-	-
Oklahoma	-	-	-	-	-	-	-	-	-	-
Yukon	A-10, OA-10, B-1B, B-2, B-52H, F15C/D/E, F-16, F-117	-	-	-	-	-	-	-	-	-

Key: ● = fully supported. ○ = not supported. - = No data. ESS = electronic scoring site



**Table C-4: Capacities of USAF Ranges in the United States**

Name of Range	Number of Aircraft that Can Use Range of Airspace Simultaneously				Simultaneous or Sequential Use		Number of Aircraft that Can Use Communications Infrastructure Simultaneously				Simultaneous or Sequential Use	
	Four Aircraft or Less	More than Four Aircraft	Force Package	Large Force	Sequential Usage	Simultaneous Usage	Four Aircraft or Less	More than Four Aircraft	Force Package	Large Force	Sequential Usage	Simultaneous Usage
Avon Park	-	-	-	X	-	X	-	-	-	X	-	X
Belle Fourche ESS	-	-	-	X	X	-	-	-	X	-	X	-
Dare County Ranges	-	X	-	-	X	-	-	X	-	-	X	-
Grand Bay	X	-	-	-	X	-	X	-	-	-	X	-
Holloman Ranges	-	-	-	X	-	X	-	-	-	X	-	X
Melrose	-	-	-	X	-	X	-	-	-	X	-	X
Mountain Home Ranges	-	-	-	X	-	X	-	-	-	X	-	X
Nevada Testing and Training Range	-	-	-	X	-	X	-	-	-	X	-	X
Lone Star ESS	X	-	-	-	-	X	X	-	-	-	X	-
Poinsett	X	-	-	-	-	X	X	-	-	-	X	-
Snyder ESS	X	-	-	-	-	X	X	-	-	-	-	X
Utah Testing and Training Ranges	-	-	-	X	-	X	-	-	-	X	-	X
Barry M. Goldwater Ranges	-	-	-	X	-	X	-	-	-	X	-	X
Edwards Range	-	-	-	X	-	X	-	-	-	X	-	X
Eglin Ranges	-	-	-	X	-	X	-	-	-	X	-	X
Claiborne	X	-	-	-	X	-	X	-	-	-	X	-
Falcon	X	-	-	-	X	-	-	-	-	X	-	X
Shoal Creek	-	-	-	-	-	-	-	-	-	-	-	-
Adirondack	-	-	-	X	-	X	-	-	-	X	-	X
Airburst	-	-	X	-	-	X	-	-	X	-	-	X
Atterbury	-	X	-	-	-	X	-	X	-	-	-	X
Bollen	-	X	-	-	-	X	-	X	-	-	-	X
Cannon	-	X	-	-	-	X	-	X	-	-	-	X
Grayling	-	X	-	-	X	X	-	-	-	X	X	-
Hardwood	-	-	-	X	-	X	-	-	-	X	-	X
Jefferson	-	X	-	-	-	X	-	X	-	-	-	X

**Table C-4: Capacities of USAF Ranges in the United States**

Name of Range	Number of Aircraft that Can Use Range of Airspace Simultaneously				Simultaneous or Sequential Use		Number of Aircraft that Can Use Communications Infrastructure Simultaneously				Simultaneous or Sequential Use	
	Four Aircraft or Less	More than Four Aircraft	Force Package	Large Force	Sequential Usage	Simultaneous Usage	Four Aircraft or Less	More than Four Aircraft	Force Package	Large Force	Sequential Usage	Simultaneous Usage
McMullen	-	-	X	-	X	-	-	X	-	-	X	-
Razorback	-	-	-	X	-	X	-	-	-	X	-	X
Shelby	-	-	-	X	-	X	-	-	-	X	-	X
Smoky Hill	-	-	-	X	-	X	-	-	-	X	-	X
Townsend	-	-	-	X	-	X	-	-	-	X	-	X
Warren Grove	-	-	-	X	-	X	-	-	-	X	-	X
Blair Lake	X	-	-	-	X	-	X	-	-	-	X	-
Oklahoma	-	-	X	-	X	-	-	-	X	-	X	-
Yukon	-	-	-	X	-	X	-	-	-	X	-	X

**Table C-5: US Air Force Owned or Operated Ranges Outside the United States**

<b>MAJCOM</b>	<b>Range Name</b>	<b>Country</b>	<b>Live Ordnance</b>	<b>Training Ordnance</b>	<b>Inert Ordnance</b>	<b>LGB</b>	<b>Strafe</b>	<b>Chaff Use</b>	<b>Flare use</b>	<b>Emitters</b>
USAFE	Polygone	France/ Germany	○	○	○	-	○	●	●	●
USAFE	Siegenberg	Germany	○	●	○	-	○	○	○	○
PACAF	Ripsaw	Japan	○	●	○	-	●	○	○	●
PACAF	Torishima	Korea	●	●	●	-	●	○	○	○
PACAF	Koon-Ni	Korea	○	●	○	-	●	○	○	●
PACAF	Pilsung	Korea	●	●	●	-	●	○	○	●

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## **APPENDIX D: ALPHABETICAL LIST OF ACRONYMS**

## 366 REPORT (FY05) LIST OF ABBREVIATIONS AND ACRONYMS

AAAV	Advanced Amphibious Assault Vehicle
AAW	Air to Air Weapons
AAW	Anti-Air Warfare
ACC	Areas of Critical Concern
ACC	Air Combat Command
ACSIM	Assistant Chief of Staff for Installation Management
AETC	Air Education and Training Command
AFB	Air Force Base
AFCEE	Air Force Center of Environmental Excellence
AFI	Air Force Instruction
AFMC	Air Force Materiel Command
AF/XOO	Deputy Chief of Staff, Air and Space Operations Directorate of Operations and Training
AGS	Advanced Gun System
AI	Active/Inactive
AICUZ	Air Installation Compatibility Use Zone
AIRLANT	Commander, Naval Air Forces Atlantic
AMRP	Army Master Range Plan
AMW	Amphibious Warfare
AN/AQS	Organic Mine Countermeasures System
ANG	Air National Guard
AOC	Air Operations Center
AOPA	Aircraft Owners and Pilots Association
AR	Army Regulation
ARID	Army Range Inventory Database
ARNG	Army National Guard
ARRM	Army Range and Training Land Program Requirements Model
ARSIC	Army Range Sustainment Integration Council
ASIO	Air, Space, and Information Operation
ASIP	Army Stationing and Installation Plan
ASU	Antisurface Ship Warfare
ASW	Antisubmarine Warfare
ATC	Air Traffic Controller
ATCAA	Air Traffic Control Assigned Airspace
AUTEC	Atlantic Undersea Test and Evaluation Center
A2C2	Army Airspace, Command and Control
BASH	Bird Aircraft Strike Hazard
BCT	Brigade Combat Team
BCT/UA	Brigade Combat Team/Unit of Action
BDU	Bomb-Dummy Unit
BEA	Business Enterprise Architecture
BES	Budget Estimate Submission
BMMP	Business Management Modernization Program
BMSI	Business Modernization and Systems Integration
BOMBEX	Bombing Exercise
BRAC	Base Realignment and Closure
BT	Business Transformation
CAF-MSP	Combat Air Force Mission Support Plan
CALFEX	Combines Arms Live fire Exercise
CASEX	Close Air Support Exercise

CE	Civil Engineering Squadron (Air Force)
CEV	Civil Engineering and Environmental Management Flight (AF)
CFFC	Commander, Fleet Forces Command
CHPPM	Center for Health Promotional and Preventive Medicine
CMR	Combat Mission Ready
CMTC	Combat Maneuver Training Center
CMWG	Configuration Management Working Group
CNA	Center for Naval Analysis
CNAP	Commander Naval Air Forces Pacific
COMPTUEX	Composite Training Unit Exercise
CONUS	Continental United States
CORRS	Commanding Officers Readiness Reporting System
COTS	Commercial Off The Shelf
CPOA	Cherry Point Operating Area
CRST	Common Range Scheduling Tool
CSAR	Combat Search and Rescue
CSE	Center Scheduling Enterprise
CSG/ESG	Carrier Strike Group/Expeditionary Strike Group
CTC	Combat Training Center
CVNX	Aircraft Carrier, Nuclear, Experimental
CY	Calendar Year
C2	Command and Control
C2W	Command and Control Warfare
DARPA	Defense Advance Research Projects Agency
DC I&L	Deputy Commandant for Installations and Logistics
DDX	Multi-Mission Surface Combatant
DFAO	Defense Facilities Administration Office
DISDI	Defense Installations Spatial Data Infrastructure
DoD	Department of Defense
DODD	Department of Defense Directive
DOPAA	Description of Proposed Actions and Alternatives
DPG	Defense Planning Guidance
DPTM	Director of Plans, Training, and Mobilization (Army)
DPW	Department of Public Works
EA/BA	Environmental and Biological Assessment
ECP	Engineering Change Proposal
EESD	Eglin Enterprise Spatial Database
EIMS	Environmental Information Management System
EIS	Environmental Impact Statement
ELW	Electronic Warfare
EMS	Environmental Management System
EMW	Expeditionary Maneuver Warfare
EO	Executive Order
EOD	Explosive Ordnance Disposal
ERGM	Extended Range Guided Munition
ESD	Eglin Enterprise Spatial Database
ESOHCAMP	Environmental Safety and Occupational Health Compliance Assessment and Management Program
ESOP	Environmental Support for Operational Planning
ETWG	Environmental Training Working Group (NATO)
EU	European Union
EW	Electronic Warfare

FAA	Federal Aviation Administration
FACSFAC	Fleet Air/Area Control and Surveillance Facility
FASCFAC	Fleet Aviation Surveillance Control Facility
FDM	Farallon de Medinilla
FDNF	Forward Deployed Naval Forces
FGDC	Federal Geographic Data Committee
FIT	Footprint Impact Tool
FRMAP	Future Range Mission Analysis Process
FRTC	Fallon Range Training Complex
F RTP	Fleet Readiness Training Plan (Navy)
FUDS	Formerly Used Defense Sites
FWS	Fish and Wildlife Service
FY	Fiscal Year
FYDP	Future Year Defense Program
GAO	Government Accountability Office
GeoNET	Geospatial Data Network
GIS	Geographic Information System
GISR	GIS Repository
GOMEX	Gulf of Mexico
GSTF	Global Strike Task Force
GUNEX	Gun Exercise
GSU	Geographically Separated Unit
HARM	Homing Anti-Radiation Missile
HQ ACC/DOT	Headquarters, Air Combat Command/ Directorate of Training
HQDA	Headquarters, Department of the Army
HQMC	Headquarters, Marine Corps
HV BCT/UA	Heavy Brigade Combat Team Unit of Action
IADS	Integrated Air Defense System
I&E	Installation and Environment
ICRMP	Integrated Cultural Resource Management Plans
IDRC	Inter-Deployment Readiness Cycle
IGPBS	Integrated Global Posture and Basing Strategy
IGI&S	Installation Geospatial Information and Services (Army)
IMA	Installation Management Agency
INRMP	Integrated Natural Resource Management Plans
IPT	Integrated Product Team
ISR	Intelligence, Surveillance, and Reconnaissance
IT	Information Technology
ITAM	Integrated Training Area Management
JASDF	Japan Air Self Defense Force
JDAM	Joint Direct Attack Munition
JFACC	Joint Force Air Component Command
JFCOM	Joint Forces Command
JFOB	Joint Forward Base
JFOL	Joint Forward Operating Location
JFWC	Joint War Fighting Center
JLUS	Joint Land Use Study
JMOB	Joint Main Operating Base
JNTC	Joint National Training Capability
JSF	Joint Strike Fighter
JSOW	Joint Stand-Off Weapon
JTFEX	Joint Task Force Exercise



LANTFLT	Atlantic Fleet
LCS	Littoral Combat Ship
LEE	Large Force Exercise
LF-TIS	Live Fire Training Investment Strategy
LOG	Logistics
LSF	Laser Safety Footprint
LTA	Local Training Areas
LVC	Live, Virtual, and Constructive
M&S	Modeling and Simulation
MACOM	Major Command (Army)
MAGIC	Military Activity GIS Interface Concept
MAGTF	Marine Air Ground Task Force
MAJCOM	Major Command
MAP	Mission Area Plan
MCAGCC	Marine Corps Air Ground Combat Center
MCAS	Marine Corps Air Station
MCB	Marine Corps Base
MCCDC	Marine Corps Combat Development Command
MCRD	Marine Corps Recruit Depot
MCTL	Marine Corps Task List
MCX	Mandatory Center of Expertise
MDS	Mission Design Series
MEB	Marine Expeditionary Brigade
METL	Mission Essential Task List
MEU	Marine Expeditionary Unit
MILCON	Military Construction
MILPERS	Military Personnel
MINEX	Aircraft Mine Exercise
MISSILEX	Missile Exercise
MIW	Mine Warfare
MOA	Military Operation Area
MRA	Marine Resource Assessment
MRTFB	Major Range and Test Facility Base
MSDD	Marine Species Density Data
MTA	Major Training Areas
MTR	Military Training Route
NAB	Naval Amphibious Base
NAEC	National Airspace/Range Executive Council
NAF	Naval Air Facility
NAS	Naval Air Station
NATO	North Atlantic Treaty Organization
NAVAIR	Naval Air Systems Command
NDAA	National Defense Authorization Act
NEPA	National Environmental Policy Act
NexRI	Next Range Instrumentation
NIMEP	Natural Infrastructure Management and Encroachment Preservation
NM	Nautical Mile
NMRIS	Navy and Marine Corps Range Information System
NPS	National Park Service
NRMS	Navy Range Management System
NSW	Naval Special Warfare
NOAA	National Oceanic and Atmospheric Administration

O&M	Operations & Maintenance
OCONUS	Outside Continental U.S.
ODCS	Office of the Deputy Chief of Staff
OIF	Operation Iraqi Freedom
OPAREA	Range and Operating Area
OPFOR	Opportunistic Opposing Force
OPNAV	Office of the Chief of Naval Operations
ORC	Operational Range Clearance
ORD	Operational Requirements Document
OSD	Office of the Secretary of Defense
OT&E	Operational Test and Evaluation
PMAP	Protective Measures Assessment Protocol
PM ITTS	Program Manager Instrumentation, Targets, and Threat Simulators
PM TRADE	Program Manager Training Devices
POM	Program Objective Memorandum
PPBE	Planning, Programming, Budgeting and Execution
PPBES	Planning, Programming, Budgeting and Execution System
PTR	Primary Training Range
QA	Quality Assurance
QDR	Quadrennial Defense Review
RAICUZ	Range Air Installation Compatibility Use Zone
RAP	Ready Aircrew Program
RC	Reserve Component
RCA	Range Capabilities Assessment
RCD	Required Capabilities Document
RCM	Resource Capability Model
RCMD	Resource Capability Model Database
RCMP	Range Complex Master Plan
RCMP	Range Complex Management Plan
RD	Resource Deficiency
RDP	Range Development Plan
RDT&E	Research, Development, Test and Evaluation
RDX	Royal Demolition Explosive
RETS	Remote Engagement Target System
RFMSS	Range Facility Management Support System
RIM	Range Instrumentation
RIM	Range Interface and Mapping
RMS	Range Management System
RMTK	Range Managers Toolkit
ROK	Resource Opportunity
ROK	Republic of Korea
RR	Resource Ready
RR	Resource Rating
RRPB	Requirements Review and Prioritization Board
RRPI	Range Readiness Preservation Initiative
RRS	Regional Range Study
RSC	Regional Support Center
RSEPA	Range Sustainability and Environmental Program Assessment
RTAM	Range and Training Area Management Division
RTAM	Range Training Area Management Division
RTLPL	Range and Training Land Program
RV	Resource Valuation

SAFE	Safety, Ammunition, Fire Protection and Environment
SAMS	Surface to Air Missile
SCORE	Southern California Offshore Range
SCRAMS	Southern California Offshore Range Asset Management System
SCUD	Subsonic Cruise Unarmed Decoy
<b>SDSFIE</b>	<b>Section 2.9.5, Air Force Section</b>
SDZ	Surface Danger Zone
SEAL	Sea, Air, Land
SEW	Space and Electronic Warfare
SF/G	Sidewire/Gunship
SSIRC	San Clemente Island Range Complex
SOCAL	Southern California Complex
SOF	Special Operations Forces
SOS	System of Systems
SPECWARCOM	Naval Special Warfare Command
SR	Sustainable Range
SROC	Senior Readiness Oversight Council
SRP	Sustainable Range Program (Army)
STANAG	Standing NATO Agreement
STOW	Synthetic Theater of War
STW	Strike Warfare
SUA	Special Use Airspace
SURFLANT	Surface Forces Atlantic
SWA	Southwest Asia
T&E	Test and Evaluation
T&R	Training and Readiness
TACOM-RIA	Tank Automotive and Armaments Command, Rock Island Arsenal
TAMIS-R	Training Ammunition Management Information System Redesigned (Army)
TAP	Tactical Training Theater Assessment and Planning Program
TDY	Temporary Duty
TECOM	Training and Education Command
TENA	Test and Training Enabling Architecture
TREIS	Training and Range Encroachment Information System
<b>TRIMS</b>	<b>Section 2.5.4, Navy Section</b>
TRMS	Test Resource Management System
TYCOM	Type Commander
T2	Training Transformation
UAV	Unmanned Aerospace Vehicle
UCAV	Unmanned Combat Aersopace Vehicle
URITS	USAFE Rangeless Interim Training System
USAEC	U.S. Army Environmental Center
USAF	United States Air Force
USAFE	United States Air Force in Europe
USAREUR	U.S. Army Europe
USC	United States Code
USD	Under Secretary of Defense
USDI-BIA	U.S. Department of the Interior, Bureau of Indian Affairs
USDI-BLM	U.S. Department of the Interior, Bureau of Land Management
USD(P&R)	Under Secretary of Defense (Personnel & Readiness)
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USMC	United States Marine Corps

UUV	Mine Countermeasures Unmanned Underwater Vehicle
UV/IR	Ultraviolet/ Infrared
UXO	Unexploded Ordnance
VACAPES	Virginia Capes
VFR	Visual Flight Rule
WAM	Work Plan Analysis Module
WIPT	Working Integrated Product Team
WSFA	Weapon Safety Footprint Area