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DOD Lacks a Comprehensive Plan to Manage Encroachment on Training Ranges

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Contents

Figure

Abbreviation

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The Honorable Dan Burton
Chairman, Committee on Government Reform
House of Representatives

The Honorable Christopher Shays
Chairman, Subcommittee on National Security,
Veterans Affairs, and International Relations
Committee on Government Reform
House of Representatives

Senior Department of Defense and military service officials have testified before Congress that they face increasing difficulties in carrying out realistic training at military installations. According to the officials, there are eight so-called "encroachment"[1] issues that affect or have the potential to affect military training and readiness. The eight encroachment issues are: endangered species habitat on military installations, unexploded ordnance and munitions constituents,[2] competition for radio frequency spectrum, protected marine resources, competition for airspace, air pollution, noise pollution, and urban growth around military installations. Whenever possible, the services work around these issues by modifying the timing, tempo, and location of training, as well as the equipment used. However, defense officials have expressed concern that these workarounds are becoming increasingly difficult and costly and that they compromise the realism essential to effective training.

At your request, we examined (1) the impact that encroachment has had, or is likely to have, on the services' training range capabilities;[3] (2) the

[1] The Department of Defense defines encroachment as the cumulative result of any and all outside influences that inhibit normal military training and testing.

[2] Unexploded ordnance are munitions that have been primed, fused, armed, or otherwise prepared for action, and have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material and remain unexploded either by malfunction, design or any other cause. Munitions constituents consist of such things as propellants, explosives, pyrotechnics, chemical agents, metal parts, and other inert components that can pollute the soil and/or ground water.

[3] We use the term "training ranges" to collectively refer to air ranges, live-fire ranges, ground maneuver ranges, and sea ranges.

effect training range losses have on the services' readiness and costs; and (3) the department's progress in formulating a comprehensive plan for addressing encroachment issues.

This report focuses exclusively on military training ranges in the United States and is our second assessment of encroachment issues and their impact on military training ranges. The first assessment reviewed the effects of encroachment on training ranges outside the continental United States and was performed at the request of the Chairman, Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate.[4] We are also reviewing for your committee how the U.S. Fish and Wildlife Service budgets and allocates its endangered and threatened species (referred to as endangered from here on in the report) program funds and what program activities were emphasized in fiscal year 2001.

In conducting our work, we toured four installations and visited two major commands.[5] We discussed encroachment with officials at each location to hear and observe, first hand, how encroachment had affected their training range capabilities. We also discussed the impact of encroachment on readiness and costs with these officials, and then reviewed key Department of Defense readiness reports, along with cost data from the department's Environmental Quality Program, to further understand how encroachment has affected readiness and costs. Finally, we met with service and Department of Defense officials responsible for developing plans for addressing encroachment issues and discussed with these officials their progress in formulating a comprehensive plan for addressing encroachment issues. A more thorough description of our scope and methodology is in appendix I.

[4] U.S. General Accounting Office, *Military Training: Limitations Exist Overseas but Are Not Reflected in Readiness Reporting*, GAO-02-525 (Washington, D.C.: April 30, 2002).

[5] Installations toured included Fort Lewis, Washington; Marine Corps Base Camp Pendleton, California; Eglin Air Force Base, Florida; and Nellis Air Force Base, Nevada. The major commands reviewed included the U.S. Atlantic Fleet and the U.S. Special Operations Command. These tours were based on recommendations of the service staffs as having conditions representative of the types of encroachment pressures they face. The visit to the U.S. Special Operations Command was included based on the recommendation of the Committee on Government Reform staff because of the command's specialized training requirements and unique encroachment pressures.

We summarized the findings of this review in testimony before the Committee on Government Reform on May 16, 2002.[6]

Results in Brief

Over time, the military services report they have increasingly lost training range capabilities because of encroachment. Each of the four installations and two major commands we visited reported having lost some capabilities in terms of the time training ranges were available or the types of training that could be conducted. For example, Marine Corps Base Camp Pendleton, California, has training limitations related to the use of off-road vehicles and the digging of defensive positions because of the presence of endangered species on its ranges. In addition, Eglin Air Force Base's major target control system suffers from frequency interference from nearby commercial operators, which officials indicate presents a safety issue because the problem can affect data links to weapons. Such constraints limit units' ability to train as they would expect to fight or require workarounds—or adjustments to training events—that can create bad habits and affect performance in combat or, in some instances, prevent training from being accomplished. Service officials believe that population growth around military installations is responsible for much of their past and present encroachment problems, and that higher-than-average population growth around their installations makes further encroachment losses likely.

Despite the loss of some capabilities, service readiness data do not indicate the extent to which encroachment has significantly affected reported training readiness. While encroachment workarounds may affect costs, the services have not documented the overall impact of encroachment on training costs. Training readiness, as reported in official readiness reports, remains high for most units. Our analysis of readiness reports from active duty units in fiscal year 2001 showed that very few units reported being unable to achieve combat-ready status[7] due to inadequate training areas. However, improvements can and should be made to the department's readiness reporting to address training degradation due to encroachment and other factors. At the same time, the

[6] U.S. General Accounting Office, *Military Training: DOD Needs A Comprehensive Plan to Manage Encroachment on Training Ranges*, GAO-02-727T (Washington, D.C.: May 16, 2002).

[7] A unit's readiness is determined by the extent to which it possesses the required resources and training to undertake its wartime missions.

services face difficulties in fully assessing the impact of training ranges on readiness because they have not fully defined their training range requirements and lack information on the training resources available to support those requirements. Service officials also report that encroachment increases training costs, and can provide examples of such costs; however, those costs have not been documented in a comprehensive manner. Funding associated with the Department of Defense's environmental conservation program, which includes activities such as preservation programs and endangered species management, shows only modest gains over the past 6 years, increasing from 1996 to 1998 but then dropping from 1999 to 2001 among all components except for the Army. However, Department of Defense officials acknowledge that budget constraints and other priorities have resulted in a backlog of some activities in this area.

Department of Defense officials recognize the need for a comprehensive plan of administrative actions and legislative proposals to address encroachment issues but have not yet finalized a plan for doing so. The services first presented their encroachment problems to the Senior Readiness Oversight Council[8] in June 2000, but as of April 2002 the department had not yet finalized a comprehensive plan for addressing them due to the transition to the new administration, the events of September 2001, and continuing internal deliberations over how best to address encroachment. Although the department has prepared draft action plans that deal with each encroachment issue separately, the plans are not finalized, and information is not yet available on specific actions planned, time frames for completing them, clear assignment of responsibilities, and funding needed—the elements of a comprehensive plan. The department has also drafted, but has not finalized, an implementing directive meant to serve as the foundation for addressing encroachment issues and one directive each on noise abatement and outreach efforts. In December 2001, the department directed an Integrated Product Team[9] to act as the coordinating body for all encroachment issues, develop a comprehensive set of legislative and regulatory proposals by January 2002, and formulate and manage outreach efforts. A package of legislative proposals, described as clarifications in a department legislative summary, was submitted to the Congress in late April 2002 seeking to modify several specific statutory

[8] Members of the Senior Readiness Oversight Council are identified in appendix II of this report.

[9] Members of the Integrated Product Team are identified in appendix II of this report.

requirements, which Defense Department officials believe will preserve its use of training ranges while protecting the environment. Although time permitted only a cursory consideration of the proposals, they appear to be another step by the department toward developing a comprehensive approach to managing encroachment affecting military training ranges. Progress has also been made in a number of areas by other departmental organizations. For example, the Operational and Environmental Steering Committee for Munitions has been addressing explosive safety and environmental concerns, and the department recently approved a munitions action plan prepared by the committee.

While the Congress considers the department's legislative proposals, we recommend executive action that requires the Department of Defense to finalize a comprehensive plan for managing encroachment issues, develop the ability to report critical encroachment-related training problems, and develop and maintain inventories of its training infrastructure and quantify its training requirements. In comments on a draft of this report, the department substantially concurred with the contents of the report and our recommendations. The department also provided technical clarifications, which we incorporated as appropriate.

Background

The Department of Defense's (DOD) ranges and training areas are used primarily to test weapon systems and train military forces; some facilities are used for both testing and training purposes, while others are limited to one use or the other. This report focuses primarily on facilities used for training purposes. DOD needs ranges and training areas for all levels of training. Required facilities include air ranges for air-to-air, air-to-ground, drop zone, and electronic combat training; live-fire ranges for artillery, armor, small arms, and munitions training; ground maneuver ranges to conduct realistic force-on-force and live-fire training at various unit levels; and sea ranges to conduct ship maneuvers for training.

According to a DOD official, today's concerns about encroachment reflect the cumulative result of a slow but steady increase in problems affecting the use of their facilities. Historically, specific encroachment problems have been addressed at individual ranges, most often on an ad hoc basis. Recently, DOD officials have reported increased limits on and problems with access to and the use of ranges. They believe that the gradual accumulation of these limits and problems increasingly threatens training readiness. DOD officials have identified eight encroachment issues of concern. These issues are:

- The designation of critical habitat under the Endangered Species Act of 1973. DOD believes that critical habitat designations reduce its flexibility to use designated lands for training and put its military mission in jeopardy because, under the act, an agency is required to ensure that its actions do not destroy or adversely modify designated habitat of any endangered species.[10] Currently over 300 federally listed endangered plant and animal species are found on military installations, and more are anticipated. DOD officials maintain that their successful efforts in managing training ranges have resulted in the training ranges becoming havens for at-risk species. According to these officials, some of the finest remaining examples of rare wildlife habitats are now on military lands.

- The application of environmental statutes to military munitions, including unexploded ordnance and munitions constituents. DOD believes that the Environmental Protection Agency could apply environmental statutes to the intended use of military munitions, shutting down or disrupting military training on active ranges. For example, DOD officials note that in 1997 executive action was taken under the Safe Drinking Water Act that essentially terminated live-fire training on the Massachusetts Military Reservation because of unexploded ordnance and munitions constituents leaching into drinking water in the surrounding area. According to DOD officials, uncertainties about future application and enforcement of these statutes limit the department's ability to plan, program, and budget for compliance requirements.

- Competition for frequency spectrum. The growth of consumer communications devices has resulted in pressure from the telecommunications industry for the reallocation of some radio frequency spectrum from federal to non-federal control. According to DOD officials, since 1992 DOD has lost approximately 27 percent of the total frequency spectrum allocated for aircraft telemetry. DOD believes the possible reallocation of spectrum, coupled with an increase in DOD activities that use it, raises concerns about the availability of adequate spectrum to support operations and training. For example, we previously reported that DOD is concerned that an additional reallocation of spectrum in the 1755

[10] The U.S. Fish and Wildlife Service and the National Marine Fisheries Service list species that are at risk of becoming extinct throughout all or a significant portion of their range. For each listed species, the appropriate agency must designate critical habitat for those species. Federal agencies must consult with the agencies on any action that jeopardizes the continued existence of a listed species or could result in the destruction or adverse modification of designated critical habitat.

to 1850 megahertz band could adversely affect space systems, tactical communications, and combat training.[11]

- The requirement to balance ocean resource protection mandates with training needs. DOD officials believe DOD's ability to train can sometimes be limited by marine regulatory laws that require consultation with regulators when a proposed action may affect a protected resource. Defense officials have expressed concern that the process empowers regulators to impose potentially stringent measures to protect the environment from the effects of proposed DOD actions, which can affect DOD's ability to conduct operations and training in the marine environment.

- Competition for airspace. DOD officials have expressed concerns that increased airspace congestion, caused by airline industry demands and the military's need for effective testing and training, limits the ability of pilots to train as they will fight.

- The application of Clean Air Act regulations specifying requirements for air quality. DOD officials believe these regulations can sometimes limit DOD's ability to base equipment and for units to train as they will fight, particularly with smoke, because the act requires controls over emissions commonly generated on defense installations. According to DOD officials, opacity and conformity requirements are the most onerous for the department. DOD officials told us opacity measures the visibility of air emissions and can restrict or prohibit smoke training, mounted maneuvers, and intentional burns to manage vegetation cover. The conformity rules require federal agencies to analyze emissions from proposed projects or activities at federal installations. DOD officials believe that any new or significant change in range operations located in non-attainment areas requires an emissions analysis. If emissions exceed specified thresholds, the increase must be offset by reductions elsewhere.

- The application of environmental laws and regulations mandating noise abatement. DOD officials state that weapon systems are exempt from the Noise Control Act of 1972, but that the department must still assess the impact of noise under the National Environmental Policy Act when

[11] U.S. General Accounting Office, *Defense Spectrum Management: More Analysis Needed to Support Spectrum Use Decisions for the 1755-1850MHz Band*, GAO-01-795 (Washington, D.C.: Aug. 20, 2001).

considering the environmental impact of its activities. As community developments have expanded closer to military installations, concerns over noise from military operations have increased. Defense officials report that pressures from groups at the local, regional, and state levels can serve to restrict or reduce military training.

- Unplanned or incompatible commercial or residential development (urban growth) around training ranges and installations. DOD officials believe encroachment of incompatible civilian activities compromises the effectiveness of their training activities. Incompatible land uses can compromise the health, safety, and welfare of both the military and civilian sectors. DOD officials report that local residents have filed lawsuits because they believe that military operations have impacted their property's value or restricted its use.

  To the extent that encroachment adversely affects training readiness, opportunities exist for the problems to be reported in departmental and military service readiness reports. The Global Status of Resources and Training System is the primary means for units to report readiness against designed operational goals. The system's database indicates, at selected points in time, the extent to which units possess the required resources and training to undertake their wartime missions.

  In 1994, to improve its readiness assessment capabilities, DOD established two forums—the Senior Readiness Oversight Council and the Joint Monthly Readiness Review—to evaluate readiness from a joint and strategic perspective. DOD is also required under 10 U.S.C. 482 to prepare a quarterly readiness report to Congress that describes readiness problems. DOD bases its quarterly report on briefings to the Senior Readiness Oversight Council. The Senior Readiness Oversight Council is assisted by the Defense Test and Training Steering Group,[12] which advises the council on training range issues. In June 2000, the council directed the steering group to investigate encroachment and develop and recommend a comprehensive plan of action.

  The Secretaries of the military departments are responsible for training personnel and for maintaining their respective training ranges and facilities. Within the Office of the Secretary of Defense, the Under

[12] Members of the Defense Test and Training Steering Group are identified in appendix II of this report.

Secretary of Defense for Personnel and Readiness develops policies, plans, and programs to ensure the readiness of the force and provides oversight on training. The Deputy Under Secretary of Defense for Installations and Environment develops policies, plans, and programs for DOD's environmental, safety, and occupational health programs, including compliance with environmental laws, conservation of natural and cultural resources, pollution prevention, and explosive safety. The Director, Operational Test and Evaluation, has oversight responsibility for all major test ranges, manages all joint test and evaluation range investments (including spectrum enhancement), and is also responsible for ensuring that congressionally mandated live-fire test and evaluation is conducted on fully integrated weapon systems.

Encroachment Has Diminished Service Training Range Capabilities

Over time, the impact of encroachment on training ranges has gradually increased. While the effect varies by service and individual installation, in general encroachment has limited the extent to which training ranges are available or the types of training that can be conducted. This limits units' ability to train as they would expect to fight and/or requires units to work around the problem. However, as discussed in the next section, the overall impact on readiness and training costs is not well documented.

Many encroachment issues result from or are exacerbated by population growth and urbanization. DOD is particularly affected because urban growth near 80 percent of its installations exceeds the national average. According to DOD officials, new inhabitants near installations often view military activities as an infringement of their rights, and some groups have organized in an effort to reduce range operations such as aircraft and munitions training. These problems are expected to increase over time.

Examples of How Encroachment Is Affecting Training Capabilities

We visited four installations and two major commands and found that each has lost some capability in terms of (1) the time training ranges were available or (2) the types of activities that could be conducted. We found that the types of encroachment and their impact varied between installations and service organizations.

Marine Corps Base Camp Pendleton, California

Camp Pendleton officials report encroachment problems related to endangered species and their habitat, urbanization, competition for air space, and noise restrictions. As of February 1, 2001, the Fish and Wildlife Service had designated about 10 percent of the installation as critical habitat for endangered species, which limits the use of off-road vehicles and the digging of fighting positions. Restrictions caused by the presence

of endangered species, recreational areas, and topographic and access limitations have reduced the amount of beach available for amphibious assaults and prevented training to doctrinal standards. Airspace restrictions have limited the number of days that weapon systems can be employed, and noise restrictions limit night helicopter operations.

Camp Pendleton officials are trying to limit future constraints imposed by these encroachment issues through an outreach program that maintains open communications with local, state, and national authorities and regulators and local communities to educate them on the military's mission and operations and incorporate their concerns. Also, training events, such as setting up fuel storage areas, are sometimes relocated to other areas of the base when feasible; other exercises, such as bridging operations, have been moved to Marine Corps Air Station Yuma, Arizona.

Fort Lewis and the Yakima Training Center, Washington

Fort Lewis and Yakima Training Center[13] officials report encroachment problems related to noise, air quality, endangered species and their habitat, urbanization, frequency spectrum, and munitions constituents. Due to community noise complaints, Fort Lewis voluntarily ceased certain demolitions training. Air quality regulations have restricted the Army's ability to operate new smoke generators at Fort Lewis. Endangered species habitat considerations have limited off-road vehicle training at Fort Lewis and Yakima and river-crossing operations at Yakima. Maneuvers are restricted in prairie areas at Fort Lewis to preserve an endangered plant and at Yakima to protect western sage grouse habitat. This reduces the types of training that can be conducted by the Interim Brigade Combat Teams[14] based at Fort Lewis. Also, communications equipment used by the teams overlaps with commercial communications networks, creating periodic interference in communications. Finally, although Fort Lewis is situated over an aquifer, and munitions constituents have been found in the water, training has not yet been curtailed at this location.

Fort Lewis officials are trying to mitigate their encroachment problems by (1) developing and maintaining scientifically defensible information that

[13] The Yakima Training Center is a component of Fort Lewis that is used to conduct large-scale maneuver and live-fire operations. Yakima is approximately 180 miles east of Fort Lewis.

[14] Fort Lewis is home to two Interim Brigade Combat Teams being organized around new light armored wheeled vehicles under the Army's Force Transformation program.

can demonstrate the effectiveness of current environmental management; (2) integrating range management with endangered species protection initiatives to preserve critical habitat and training ranges; and (3) conducting an outreach campaign to inform the public of the military's training needs and environmental successes. At Yakima, additional land was purchased recently to increase maneuver space and reduce the environmental impacts of maneuver training on current rangelands. Fort Lewis has moved some demolition training to Yakima. Smoke-generating units must ensure that no smoke can drift off base or obscure Mount Ranier during training. Negotiation between the military and local agencies has alleviated some frequency encroachment problems.

Nellis Air Force Base and the Nevada Test and Training Range, Nevada

Nellis Air Force Base officials report encroachment problems stemming from urbanization and noise. Nellis officials report that because of the tremendous growth south of the base and safety concerns about over-flying urban areas with live munitions, armed aircraft must take off and land from the north. This can cause mission delays for outbound traffic and mission cancellations due to wind effects. They also report that Nellis and the Nevada Test and Training Range[15] together receive about 250 noise-related complaints annually that require adjustments to air operations.

To mitigate encroachment issues, base officials are working to procure 413 acres to avoid safety problems at its live ordnance departure area. To limit the number of noise complaints, base officials said they restrict the use of certain runways, impose speed and altitude restrictions, and require straight-in approaches late at night and early in the morning. They are also strengthening their outreach program to keep the communities around the ranges informed about flight activities.

Eglin Air Force Base, Florida

Eglin Air Force Base officials report encroachment problems involving endangered species habitat, noise restrictions, urban growth, and competition for radio frequency spectrum. Habitat for two endangered species is found on Eglin's ranges, impacting the availability of the ranges during certain times of the year. To help offset complaints about the noise from the explosive ordnance disposal school, smaller bombs may be detonated at certain times. Urban sprawl causes aircraft to change altitudes and direction to avoid commercial towers and noise-sensitive areas. In addition, the base's major target control system suffers from

[15] The Nevada Test and Training Range is a component of the Nellis Range Complex.

frequency interference from nearby commercial operators, presenting a safety issue because the problem can affect data links to weapons.

Eglin officials told us that they have maintained an aggressive encroachment program that has been successful at minimizing training impacts. For example, the base has established an encroachment committee to review requests for use of Eglin land. A very active outreach program meets regularly with local civic leaders to enhance community support for the base. The base has also developed a noise assessment prediction model that can alleviate noise complaints by determining the effects of weather on the noise created by military activities. This allows the base to modify its activities accordingly. To address frequency encroachment, Eglin is trying to narrow the bandwidth of its signals or move to another frequency.

U.S. Atlantic Fleet, Naval Station Norfolk, Virginia

Atlantic Fleet officials report encroachment problems stemming from the presence of endangered species, particularly marine mammals, and airborne noise. Restrictions caused by the presence of marine mammals impact live-fire exercises at sea. Also, no night live-fire training is allowed. Atlantic Fleet officials said that battle group staff must spend large amounts of time consulting with the National Marine Fisheries Service on endangered species mitigation. They noted that Naval Air Station Oceana, Virginia, is the target of frequent noise complaints as a result of aircraft training that includes low-altitude flights and practice carrier landings.

The Atlantic Fleet has a variety of encroachment mitigation programs. The environmental section has developed an extensive report, based on geographic information that shows the ranges of all endangered species in the Virginia-Carolina Exercise Area. This allows the fleet to plan its exercises to avoid harassing the species at risk. Prior to the beginning of live-fire exercises, Navy aircraft and ships must search the training area for 2 hours and then maintain a constant watch for marine mammals during the exercises. If an animal enters the training area, the exercise is suspended until it leaves. The Navy is evaluating construction and location of a Shallow Water Training Range along the east coast of the United States to provide anti-submarine warfare training in a littoral environment. Service officials note that progress has been delayed over an assessment of potential impact to marine mammals related to the definition of "harassment." To reduce noise complaints, the fleet is attempting to establish a training airstrip in a less populated area. The Navy has also established special procedures to deal with noise complaints and damage.

Special Operations Command, MacDill Air Force Base, Florida

The Navy component of the Special Operations Command reports being most directly affected by encroachment from endangered species and urban development. Specifically, a variety of endangered species live on the Navy Special Warfare Command's training areas in California, particularly on Coronado and San Clemente Islands. Due to environmental restrictions, Navy Special Warfare units can no longer practice immediate action drills on Coronado beaches; they cannot use training areas in Coronado for combat swimmer training; and they cannot conduct live-fire and maneuver exercises on much of San Clemente Island during some seasons.

In the past, the Special Operations Command has been able to mitigate deficiencies in local training areas by traveling to alternate training sites. However, recent limitations on the amount of time units can spend away from their home stations have required new solutions. The command is requesting funding for new environmental documentation in its budget to protect assets in California and is integrating its encroachment mitigation efforts with DOD and the services.

Effects of Encroachment Are Expected to Grow

DOD and service officials report that many encroachment issues are related to urbanization around military installations. They noted that most, if not all, encroachment issues such as noise, airspace, endangered species habitat, and air quality, result from population growth and urbanization, and that growth around DOD installations is increasing more than the national average. At the same time, according to a defense official, the increased speed and range of weapon systems are expected to increase training range requirements. For the following reasons, DOD and service officials believe they face increasing encroachment risks in several key areas:

- Critical habitat designation. The Endangered Species Act requires the Fish and Wildlife Service to designate critical habitat for endangered species at the time of listing, or within 12 months if more data about habitat is needed. Defense officials told us that private environmental interest groups have repeatedly challenged the Wildlife Services' failure to designate critical habitat and generally have prevailed, resulting in more and more designations. To illustrate, they noted that the Fish and Wildlife Service recently declined to designate critical habitat for a species at Camp Pendleton, using its authority to exempt land from designation if it finds that the benefits of exclusion outweigh the benefits of designation. They also noted that the Natural Resource Defense Council, a public interest group involved in environmental protection, is currently

challenging the decision in court. Marine Corps officials report that if the Fish and Wildlife Service's position is not upheld, approximately 57 percent of Camp Pendleton's training area could be designated as critical habitat and could face additional restrictions on training. Fish and Wildlife Service officials told us there could be significant increases in habitat designations in coming years.

- Unexploded ordnance and munitions constituents. The application of environmental laws to unexploded munitions and munitions constituents has, to date, affected only one training installation in the continental U.S., the Massachusetts Military Reservation, used primarily by National Guard forces.[16] It remains uncertain whether and to what extent the Environmental Protection Agency will apply the laws to other installations. Environmental Protection Agency officials told us that they were not explicitly monitoring military ranges, but if it were brought to their attention that ordnance was jeopardizing public health and safety at another installation, they would take action to address the situation.

- Frequency spectrum. DOD officials told us that the commercial communications industry has been pressing for access to frequency spectrum currently allocated for federal use, but has stayed its request due to the current national security situation. However, reallocation of some of that spectrum is still under review. An interagency working group, with DOD participation, has been formed and is examining options, including sharing the spectrum and moving DOD operations to other bands. The outcome of these efforts could affect DOD missions, including combat training and satellite operations.

- Airspace congestion. Commercial air traffic growth is expected to result in an increase in passengers from 600 million to an estimated one billion by 2010, increasing the overall demand for airspace volume. Military use of airspace will also increase with the next generation of high-performance weapon systems, standoff munitions, and unmanned aerial vehicles. In many instances, the military's use of airspace is tied directly to its ground infrastructure, which cannot be changed easily. The Federal Aviation Administration is in the process of redesigning the nation's airways to accommodate this growth. DOD is participating in the process to ensure

[16] DOD officials told us that a second installation outside the continental U.S., Fort Richardson, Alaska, is currently subject to a suit alleging environmental violations that, if successful, could severely limit live-fire training.

that its requirements are known early. There is no schedule for completing the redesign, and until the redesign is completed, DOD cannot be certain how its training will be affected.

- Air quality. The Clean Air Act requires federal agencies to analyze the potential effect of proposed projects or activities on air quality. According to DOD officials, installations located in areas that have not met, or have only recently met, the National Ambient Air Quality Standards must work with state or local regulatory agencies to offset any potential emission increases from training activities. This ensures that the air quality of the entire area is not significantly degraded.[17] This may create conflicts with commercial development and could constitute a major impact as competition for air emissions budgets and offsets increases.

- Noise. Noise problems are directly related to the degree that there are people, wildlife, and noise-sensitive land uses (national parks, wilderness, primitive areas, etc.) near military lands and low-level flying routes. Expanding population near military installations, increased use of public lands adjacent to military installations, training with more powerful weapons, and increased night operations could all contribute to a growing number of restrictions on DOD's operations.

Impact of Encroachment on Readiness and Training Costs Is Not Well Reflected in DOD's Reported Data

Service readiness data do not indicate to what extent encroachment has significantly affected training readiness or costs, even though officials in congressional testimonies and other forums cited examples of encroachment at times preventing the services from training as they would like to. At the same time, fully assessing the impact may be difficult because the services lack information on (1) their training range requirements and (2) the training range assets available to support these requirements. Similarly, the services have very limited data indicating the effect of encroachment on operating costs. Even though some service officials point to increasing costs because of training workarounds related to encroachment, the services' data systems do not capture these costs in any comprehensive manner. DOD data, on the other hand, show fluctuations in total budget costs for environmental conservation efforts, with an overall drop in obligations since 1999, except for the Army. DOD

[17] U.S. General Accounting Office, *Air Pollution: Status of Implementation and Issues of the Clean Air Act Amendments of 1990*, GAO/RCED-00-72 (Washington, D.C.: Apr. 17, 2000).

officials acknowledge, however, that budget constraints and other priorities have resulted in a backlog of some projects in this area.

Service Reports Do Not Report the Effects of Encroachment on Training Readiness

DOD's primary readiness reporting system should identify units that cannot train to standards because of inadequate training ranges. Yet it is not showing a problem in this area and rarely cites training range limitations at all. Similarly, DOD's quarterly reports to the Congress, which should identify specific readiness problems, rarely mention encroachment as an issue.

Each month, or whenever a change in readiness occurs, units report their readiness status through the Global Status of Resources and Training System. Units report their status in four resource areas, one of which is training.[18] Whenever a unit is not at the highest readiness level, it must identify the reasons from a list (which includes inadequate training areas). We analyzed monthly system data from active duty units in fiscal year 2001 and found that training readiness remains high for most units. There are few instances of units reporting lower training readiness, and even when they did so, they rarely cited the lack of adequate training ranges, areas, or airspace. Commanders may also include narrative comments in their readiness assessments. We reviewed comments on readiness reports for fiscal year 2001 but found that training range limitations were not frequently cited.

Our recent assessment of training constraints outside the continental United States (which are often greater than those found stateside) found that units abroad rarely report lower training readiness in spite of concerns cited by service officials that training constraints sometimes

[18] The other three resource areas are equipment and supplies on hand, equipment condition, and personnel. A unit's training readiness status is determined by the present level of training of assigned personnel compared with the standards for a fully trained unit as defined by joint and service directives.

require workarounds.[19] We have long reported on limitations in DOD's readiness reporting system and the need for improvements.[20]

DOD's quarterly readiness reports to the Congress also identify few problems from encroachment. DOD is required to report quarterly to Congress describing readiness problems. We reviewed all reports submitted between April 1999 and December 2001 and found two citations: in the April-June 1999 report, the Navy expressed concerns that encroachment was precluding employment of high-altitude delivery tactics at the Naval Strike Air Warfare Center, Fallon, Nevada; in the October-December 2000 report, DOD noted that the Senior Readiness Oversight Council had convened in June 2000 to address encroachment issues. There was no further mention of encroachment as a readiness problem in reports submitted through December 2001.

Full Assessment of Readiness Impact Limited by Lack of Data on Training Requirements and Inventory of Available Resources

A full assessment of the effects of encroachment on readiness will be limited without better information on the services' training range requirements and on the range resources available to support those requirements. The information is needed to establish a baseline for measuring losses or shortfalls. Each service has, to varying degrees, assessed its training range requirements. But none of them has comprehensively reviewed available range resources to determine whether assets are adequate to meet needs, and none has incorporated an assessment of the extent that other types of training, such as virtual or constructive training,[21] could help offset shortfalls. A DOD report on training lands recognizes the importance of incorporating both approaches to training in their plans.[22]

[19] See GAO-02-525.

[20] See U.S. General Accounting Office, *Military Readiness: Congress Needs Better tools for Effective Oversight*, GAO/Tl-NSIAD-98-124 (Washington, D.C.: Mar. 18, 1998); U.S. General Accounting Office, *Military Readiness: Improved Assessment Measures Are Evolving*, GAO/T-NSIAD-95-117 (Washington, D.C.: Mar. 16, 1995); and U.S. General Accounting Office, *Military Readiness: DOD Needs to Develop a More Comprehensive Measurement System*, GAO/NSIAD-95-29 (Washington, D.C.: Oct. 27, 1994).

[21] Virtual training uses simulation to replicate weapon systems and settings. Constructive training uses simulation to replicate units, weapon systems, and terrain.

[22] Department of Defense, *The Need for Ranges and Training Areas* (Mar. 1999).

Each service is responsible for determining its own resource needs for training personnel. According to DOD, the process for identifying range and training area needs is a "top-down" process in which military planners project the amount of training required to achieve military readiness. Planners then formulate training plans using a "strategies-to-tasks" relationship. Once planners have promulgated the guidance, installation commanders establish a "bottom-up" process to ensure that requisite training can be supported at locally available ranges and training areas or, in case of a shortfall, to take action to acquire other assets. When there is not enough rangeland to support the training, the commander examines other training options, such as training aids, devices, simulators, and simulation, or the commander may examine how to conduct live training on the area available to the unit. The impact of a training range shortfall on a unit's training is the commander's judgment. The process is functionally similar among services but keyed to each service's unique mission requirements. Below are short descriptions of the assessments each service carried out to determine its training range requirements.

Air Force

In 2001, the Air Force completed an assessment it had begun 5 years earlier to determine whether it had appropriate training space to ensure readiness. The Air Force believed better resourcing decisions could be made if both the requirements and current asset capabilities were stated more explicitly, with resourcing decisions based on a rigorously derived assessment of gaps. According to the assessment, in order to be defensible, infrastructure requirements must be linked firmly to training requirements, which, in turn, must be linked to operational requirements. To accomplish its assessment, the Air Force identified its aircrew training requirements and compared them to its existing range and airspace capabilities.

The Air Force study found that, nationwide, it has sufficient access to air-to-ground training ranges, albeit with some localized shortages. For example, Pope Air Force Base, North Carolina, home of the 23d Fighter Group, has no local range, and Moody Air Force Base, Georgia, home of the 347th Rescue Wing, has insufficient capacity on its local ranges. This does not mean, however, that the Air Force does not have encroachment issues that need to be dealt with to preserve its air space. As already noted, the Air Force's major training facility, the Air Warfare Center at Nellis Air Force Base, Nevada, has problems with urbanization that restrict aircraft takeoffs with live ordnance.

Navy

The Navy began an assessment of its training range needs in 2001 and hopes to complete the process late in fiscal year 2004. According to Navy officials, the new database should quantify total range capability requirements and each range's contribution to readiness. The officials believe that this should establish a link between training requirements and readiness; formalize the process used to determine training range requirements; better articulate the Navy's training range strategy to DOD, Congress, and the public; and better manage the effects of encroachment.

Marine Corps

In January 2002, the Marine Corps completed an analysis of the extent to which Camp Pendleton's training facilities could support the training requirements of two types of units (a light armored reconnaissance platoon and an artillery battery) and two military specialties (a mortar man and a combat engineer). The analysis identified to what extent the training tasks for each unit or specialty could be conducted to standards in a "continuous" operating scenario (e.g., an amphibious assault and movement to an objective) or in a fragmented manner (tasks completed anywhere on the camp). The analysis found that from 60 to 69 percent of "continuous" tasks and from 75 to 92 percent of the other training tasks could be conducted to standards. A second analysis of four other types of units or military specialties should be completed in June 2002. We were told that the Marine Corps is planning to expand this effort to other installations.

Army

The Army has not conducted a complete analysis of its training requirements, but it did conduct a training capacity analysis of its installations, starting in 1997, that compared available assets and requirements as defined by military planners ("doctrinal" standards). According to the analysis, updated in 2002, many active duty installations do not have sufficient land to support training to doctrinal standards. For example, only 22 percent of active duty stateside installations have enough land to support their light maneuver training needs, and only 42 percent of active duty installations have enough land to support their heavy maneuver training needs.[23] These installations are expected to use workarounds to meet training standards.

[23] Training on light maneuver areas is limited to small units or units having only wheeled vehicles; on heavy maneuver areas training is unrestricted and covers all types of vehicles and equipment, including tracked vehicles.

Other Options Not Considered in the Services' Studies

Although information gleaned from the studies is valuable for planning purposes, we do not believe that the studies provide a complete picture of the service's training range needs. While live training may be preferred, other options also need to be considered. We believe an analysis based solely on live training may overstate an installation's problems and does not provide a complete basis for assessing training range needs or the effects of encroachment.

A more complete assessment of training resources should include assessing the potential for using virtual or constructive simulation technology to augment live training. These alternatives sometimes allow units to train to standards. And while they cannot replace live training and cannot fully eliminate the impact of encroachment, they may help mitigate some training range limitations. By increasing their investments in and use of virtual and constructive simulation training, the services could also mitigate some of the restrictions imposed on live training. In fact, the Army's own guidance recommends doing so and states that a commander's analysis should consider using virtual training or constructive training to partially offset live training requirements (and thus the requirements for land). This is a longstanding issue, one where we have previously cited the need to identify the appropriate mix of live training and simulation technology.[24]

No Shared Inventory of Training Ranges

To the extent that inventories of training ranges do exist, they are not routinely shared with other services (or other organizations such as the Special Operations Command). While DOD officials acknowledge the potential usefulness of such data, there is no directory of DOD-wide training areas, and commanders sometimes learn about capabilities available outside their own jurisdiction by chance. All this makes it extremely difficult for the services to leverage adequate assets that may be available nearby, increasing the risk of inefficiencies, lost time and opportunities, delays, added costs, and reduced training opportunities.

[24] See U.S. General Accounting Office, *Army Training: Various Factors Create Uncertainty About Need for More Land*, GAO/NSIAD-91-103 (Washington, D.C.: Apr. 22, 1991); U.S. General Accounting Office, *Army Training: Computer Simulations Can Improve Common Training in Large Scale Exercises*, GAO/NSIAD-91-67 (Washington, D.C.: Jan. 30, 1991); and U.S. General Accounting Office, *Operation Desert Storm: War Offers Important Insights Into Army and Marine Corps Training Needs*, GAO/NSIAD-92-240 (Washington, D.C.: Aug. 25, 1992).

Although there are examples of services sharing training ranges, these arrangements are generally made through individual initiatives, not through a formal or organized process that easily and quickly identifies all available infrastructure. Navy Special Operations forces only recently learned, for example, that some ranges at the Army's Aberdeen Proving Grounds are accessible from the water—a capability that is a key requirement for Navy team training. Given DOD's increasing emphasis on joint capabilities and operations, having an inventory of defense-wide training assets on all ranges, training or test, would seem to be a logical step toward a more complete assessment of training range capabilities and shortfalls that may need to be addressed.

DOD officials acknowledge that having a DOD-wide database of training assets would also allow a more accurate measurement of Defense-wide restrictions on training and of the cumulative effects of encroachment on training readiness. In fact, an internal study group has suggested developing assessment criteria that could be used to make a programmatic assessment of the complete effects of encroachment on training readiness—something DOD has not done.

Effects on Training Costs Not Well Defined, While Environmental Conservation Costs Have Fluctuated

Encroachment can increase the costs of conducting military training. However, the services have not documented the overall impact of encroachment on training costs. At the same time, DOD's overall environmental conservation funding, which would cover such things as endangered species management, has fluctuated, rising between fiscal years 1996 and 1998 and declining between fiscal years 1999 and 2001, except for the Army.

Impact on Overall Training Costs Not Documented

Officials at each of the locations we visited cited increasing workarounds among the effects of encroachment on training, and many provided examples of additional costs and actions associated with these workarounds. However, none of the officials could provide composite data on the direct or indirect costs they had incurred as a result of encroachment and workarounds. For example, to protect marine mammals during naval gunfire exercises, the Navy uses aircraft and surface vessels to observe the training area and hires marine biologists to help crews spot and protect marine mammals. Marine Corps officials also said that Camp Pendleton units are increasingly using the Marine Corps Air Ground Combat Center, Twentynine Palms, California, to work around training restrictions, and the officials provided estimates of additional travel costs. But again, they could not provide us with aggregate data showing how much their costs had increased. According to DOD officials,

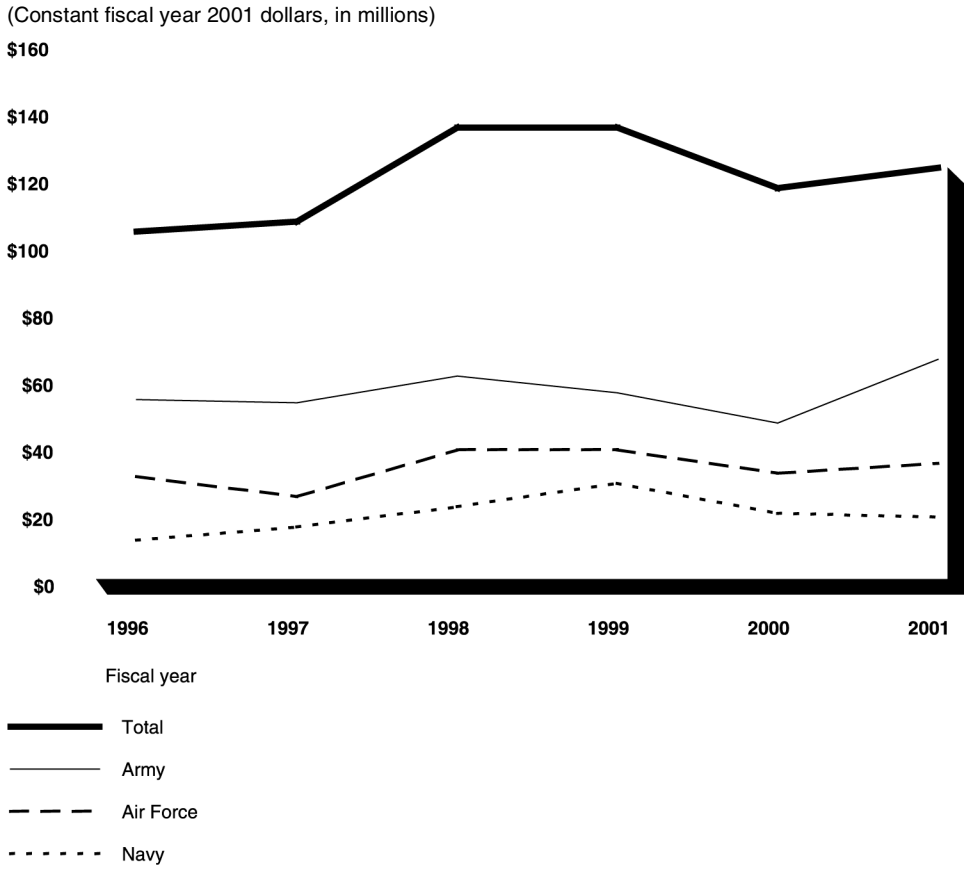
training expenses are paid with operations and maintenance funds, and expenses specifically caused by encroachment are not identified separately from other training expenses.

Environmental Conservation Costs Have Fluctuated, but Without Significant Increase

We examined the services' environmental conservation program obligations for fiscal years 1996-2001 and did not find any large or consistent increases in spending.[25] As shown in figure 1, DOD's spending on this program shows only modest gains over the past 6 years, increasing in 1996-98 but then dropping among all components except for the Army.

[25] DOD's Environmental Conservation Program funds numerous activities, including management and preservation of endangered species, control of invasive species, and inventories of natural and cultural resources.

Figure 1: DOD Environmental Conservation Program Obligations, Fiscal Years 1996-2001



Note: DOD agencies are not shown but are included in the total.

Source: DOD data.

Total DOD conservation program obligations fluctuated, increasing from $105 million in fiscal year 1996 to $136 million in fiscal years 1998 and 1999 and then decreasing to $124 million in fiscal year 2001.[26] Endangered species management and preservation are a part of DOD's conservation program. If the services are performing additional conservation projects, then the additional costs should be reflected in their environmental

[26] For fiscal year 2003, DOD has requested $4 billion for its environmental programs, which consist of environmental restoration, compliance, cleanup at base closure sites, pollution prevention, environmental technology, and conservation.

conservation program obligations. DOD documents attribute the fluctuations in conservation program obligations to increased costs from preparing Integrated Natural Resource Management Plans. An Army environmental official also said that the increase in Army program obligations that occurred between fiscal years 2000 and 2001 was due to the increased costs of preparing the plans. According to DOD officials, the plans are required by the Sikes Act and assist base commanders in conserving and rehabilitating natural resources. DOD officials also acknowledge that budget constraints and other priorities have resulted in some funding backlogs in this area.

Comprehensive Plan for Addressing Encroachment Not Finalized, but Some Action Has Been Taken

DOD officials recognize the need for a comprehensive plan of administrative actions and legislative proposals to address encroachment issues but, except for a package of legislative proposals in late April 2002, have not yet finalized such a plan. In June 2000, the services first presented their encroachment problems to the Senior Readiness Oversight Council, which recognized the need for a comprehensive plan to address encroachment issues. However, as of April 2002, DOD was still developing a plan of administrative actions. The task was first given to a group of subject matter experts, who drafted plans of action for addressing the eight encroachment issues, but the plans are not yet finalized and they contain few implementing details. DOD is also drafting some policy and implementation directives. In December 2001, DOD appointed an Integrated Product Team to coordinate its encroachment mitigation efforts, develop a comprehensive set of legislative and regulatory proposals, and formulate and manage outreach efforts. The team agreed on a tentative set of legislative proposals that could become part of its comprehensive plan. Those legislative proposals were submitted to the Congress in late April 2002 seeking to modify several statutes. The proposed changes, in DOD's view, would preserve its training ranges and protect the environment. Other DOD organizations are also involved in addressing encroachment issues, and they have made some progress.

Actions Needed for a Comprehensive Plan Have Not Been Completed

DOD's Senior Readiness Oversight Council took up the issue of encroachment in June 2000 and tasked its Defense Test and Training Steering Group with investigating the problem and developing a comprehensive plan of action. The steering group formed a Sustainable Range Working Group, comprised of subject matter experts who identified eight encroachment issues and drafted separate action plans for each issue. The plans outlined recommended courses of action, but they did not provide detailed implementation data. The plans were briefed to the

Senior Readiness Oversight Council in November 2000. The council approved the working group's overall findings and recommendations and directed the Test and Training Steering Group to take a number of actions, including coordinating the plans with the services and appropriate agencies and forwarding the results to the council by January 2001. The working group continued its work on encroachment through 2001 but did not forward its results to the council until late November 2001. DOD officials said that the transition to the new administration, the events of September 2001, and continuing internal deliberations delayed their efforts. They also said that formulating possible legislative solutions for some of the problems was difficult and consumed much of their time during 2001.

The working group focused on the eight encroachment issues identified in this report. The group's draft action plans included an overview and analysis of an individual issue and current actions being taken, as well as short-, mid-, and long-term strategies and actions to address the issue. Examples of the types of future strategies and actions identified in the draft plans include the following:

- Enhancing outreach efforts to build and maintain effective working relationships with key stakeholders by making them aware of DOD's need for ranges and airspace, its need to maintain readiness, and its need to build public support for sustaining training ranges. This was an overarching issue for each of the encroachment issues.

- Clarifying the requirements of environmental and natural resource statutes as they apply to DOD training and operations. One proposed action advocates modifying the Sikes Act to permit installations managed under approved Integrated Natural Resource Management Plans to be excluded from critical habitat designations. Another would seek clarification of the term "harassment" as used in the Marine Mammal Protection Act.

- Developing assessment criteria to identify all restrictions and determine the cumulative effect these restrictions are having on readiness training. The criteria would be appropriate for installations, special-use airspace, at-sea training areas, and other military operating areas. The draft plan noted that while many examples of endangered species/critical habitat and land use restrictions are known, a programmatic assessment of the effect these restrictions pose on testing and readiness training has never been done.

- Developing a coordinated plan to obtain data, assess current range conditions, and estimate the environmental impacts of current munitions

use on ranges. DOD would develop range clearance guidance and management procedures on the basis of operational safety and environment constraints associated with the hazards of unexploded ordnance, munitions scrap, target debris, and other associated range scrap.

- Ensuring that any future base realignment and closure decisions thoroughly scrutinize and consider the potential encroachment impact and restrictions on operations and training of recommended base realignment actions.

- Improving coordinated and collaborative efforts between the military and local communities in managing urban growth. Encouraging new and expanded cooperative working relationships between base officials and city planners and other local officials.

A more detailed overview of the working group's recommended courses of action and strategies for addressing each encroachment area is included in appendix III. However, as noted, at the time we ended our review, the draft action plans had not been finalized to provide a comprehensive plan for addressing encroachment. DOD officials told us they consider the plans to be working documents and stressed that many of their concepts remain under review and may be dropped, altered, or deferred, while other proposals may be added. No details were available on overall actions planned, clear assignment of responsibilities, measurable goals and timeframes for accomplishing planned actions, or identification of funding requirements—information that would be needed in a comprehensive plan.

Effective management of encroachment issues on military training ranges has been hindered by the divided management roles, responsibilities, and accountability that exist among several different levels within the military services and the Office of the Secretary of Defense. As discussed previously, the Secretaries of the military departments are responsible for training personnel and for maintaining their respective training ranges and facilities. Within the Office of the Secretary of Defense, the Under Secretary of Defense for Personnel and Readiness, the Deputy Under Secretary of Defense for Installations and Environment, and the Director, Operational Test and Evaluation, are responsible for different aspects of overseeing training ranges and addressing encroachment issues.

DOD's Legislative Proposals to Address Encroachment Issues

In December 2001, the Deputy Secretary of Defense established a senior-level Integrated Product Team to act as the coordinating body for encroachment efforts and to develop a comprehensive set of legislative and regulatory proposals by January 2002. The team agreed on a set of possible legislative proposals for clarifying some encroachment issues, and, after internal coordination deliberations, the proposals were submitted in late April 2002 to the Congress for its consideration.

According to DOD, its legislative proposals seek to clarify the relationship between military training and a number of provisions in various conservation statutes, including the Sikes Act, the Endangered Species Act, the Migratory Bird Treaty Act, and the Marine Mammal Protection Act. Specifically, DOD's proposals would, among other matters:

- Preclude designation under the Endangered Species Act of critical habitat on military lands for which Sikes Act Integrated Natural Resources Management Plans have been completed. At the same time, the Endangered Species Act requirement for consultation between DOD and other agencies on natural resource management issues would be continued.

- Permit DOD to take migratory birds under the Migratory Bird Treat Act without action by the Secretary of the Interior where the taking is in connection with readiness activities. Also, they would require DOD to minimize the taking of migratory birds to the extent practicable without diminishment of military training or other capabilities, as determined by DOD.

- Modify the definition of "harassment" under the Marine Mammal Protection Act as it applies to military readiness activities.[27]

- Modify the conformity provisions of the Clean Air Act. The proposal would maintain the department's obligation to conform its military readiness activities to applicable state implementation plans, but would give DOD

[27] The Marine Mammal Protection Act's definition of "harassment" has been a source of confusion. According to DOD, the statute defines "harassment" in terms of "annoyance" or the "potential to disturb," standards that DOD asserts are difficult to interpret. The statute, 10 U.S.C. 1362, defines the term as any act of pursuit, torment, or annoyance which has the potential to injure or disturb a marine mammal by causing disruption to behavioral patterns such as migration, nursing, breeding, feeding, and sheltering.

3 years to demonstrate conformity. In the meantime, DOD could continue military readiness activities.

- Change the definition of solid waste under the Solid Waste Disposal Act to generally exclude explosives, unexploded ordnance, munitions, munition fragments, or constituents when they are used in military training, research, development, testing and evaluation; when not removed from an operational range; when promptly removed from an off-range location; or when recovered, collected, and destroyed on range at operational ranges. Solid waste would not include buried unexploded ordnance when burial was not a result of product use.

- Provide that "release" under the Comprehensive Environmental Restoration, Compensation, and Liability Act would not include explosives, unexploded ordnance, munitions, munitions fragments, or constituents deposited on an operational range incident to their normal and expected use. The proposal explicitly preserves the President's authority under the act to address an imminent and substantial endangerment to the public health, welfare, or the environment.

- Authorize the military departments to enter into agreements with private conservation organizations concerning lands in the vicinity of military installations to limit incompatible uses or preserve habitat so as to eliminate or relieve environmental restrictions that might potentially restrict or interfere with their military activities.

- Authorize the military departments to convey certain surplus real property having conservation value to state and local governments or nonprofit conservation organizations. In general, transferees would be required to use and maintain the property for conservation purposes in perpetuity.

While time permitted only a cursory consideration of the proposals, they appear to be another step by DOD toward developing a comprehensive approach to managing encroachment affecting military training ranges.

Other Actions Underway

Although DOD has not yet finalized a comprehensive plan of administrative actions for addressing encroachment issues, it has made progress in several areas, in addition to its legislative proposals. It is drafting a directive that establishes the department's policy on Sustainment of Ranges and Operating Areas to serve as the foundation for addressing range sustainability issues. The directive, currently in coordination within DOD, would outline a policy framework for the

services to address encroachment on their ranges. According to a DOD official, this directive will establish range sustainment as a planning and management requirement for all operational ranges and will also direct increased emphasis on outreach and coordination efforts with local communities and stakeholders. In addition, a DOD official reports that the department is currently preparing separate policy directives to establish a unified noise abatement program for the department and to specify the outreach and coordination requirements highlighted in the sustainable ranges directive.

DOD has involved several other defense organizations in the range sustainability issue. Several of these organizations were already addressing specific encroachment issues prior to the services' initial presentation of encroachment problems in June 2000. The Sustainable Ranges Working Group incorporated the strategies already being implemented by these organizations into its plans, and these organizations have continued working on their original mandates. The organizations include the following:

- The DOD Operational and Environmental Executive Steering Committee for Munitions is taking a life-cycle approach to DOD's management and use of munitions. The committee addresses issues associated with the removal of unexploded ordnance at former ranges and the development of weapon systems that avoid environmental problems. This committee recently completed work on a DOD Munitions Action Plan to help the services address safety and environmental concerns related to munitions.

- The Clean Air Act Services Steering Committee reviews emerging regulations and works with the Environmental Protection Agency and the Office of Management and Budget to protect DOD's ability to operate. The committee works to obtain changes in final regulations to accommodate military issues. It has a number of subcommittees that address Clean Air Act issues that impact ranges.

- The DOD Environmental Noise Working Group coordinates technical and policy issues within DOD. The group is responsible for addressing aircraft and ordnance-related environmental noise issues that have a bearing on DOD's ability to carry out its mission requirements.

DOD is also working to place national-level liaisons with key federal agencies that have the potential to affect its range operations. For example, a military officer has been assigned to the Office of the Secretary of the Interior for two years, and DOD would like to assign liaisons at the

Environmental Protection Agency, the Department of Commerce, and the Department of Agriculture. According to DOD officials, these liaisons would represent DOD's interests and would, it is hoped, be able to address and solve range sustainability issues before they become problems.

Conclusions

DOD and the military services have lost training range capabilities and can be expected to experience increased losses in the future absent efforts to mitigate encroachment. The fact that DOD and service officials in congressional testimonies and other forums cite the adverse effects of encroachment on training, while commanders are not reporting any adverse effects, suggests that additional steps are needed to improve the reporting process. Our recent report on training limitations overseas recommended that DOD make improvements in reporting training shortfalls.[28] At the same time, a full assessment of the impact of encroachment on training and readiness will be difficult without more complete data concerning training requirements and available resources. Factors making such assessments difficult include the lack of complete data on training range requirements, failure to consider the potential for alternative training technologies to augment live training, and inadequate inventories of facilities. While the Army, Navy, and Marine Corps are at various stages in collecting this data, DOD needs to ensure that these efforts continue to receive appropriate management attention and are funded and staffed sufficiently to ensure success. The information would also allow DOD to better defend its resource requirements, focus and prioritize its efforts based on the relative importance of land to the services' missions, make better stationing and base closure decisions, and write more effective training plans. DOD has taken some initial steps toward developing a comprehensive plan for addressing encroachment issues. Of particular note are DOD's recently submitted legislative proposals. However, the proposals are only a piece of the comprehensive plan DOD is working toward developing. A plan for other, administrative actions to address encroachment issues remains to be finalized. In finalizing its comprehensive plan, it is important that the department clearly establishes goals and milestones for tracking progress, identifies needed funding to accomplish the tasks, and assigns responsibility for managing and coordinating the department's efforts.

[28] See GAO-02-525.

Recommendations for Executive Action

While the Congress considers the department's legislative proposals, we recommend that the Secretary of Defense (1) require the services to develop and maintain inventories of their training ranges, capacities, and capabilities, and fully quantify their training requirements considering complementary approaches to training; (2) create a DOD data base that identifies all ranges available to the department and what they offer, regardless of service ownership, so that commanders can schedule the best available resources to provide required training; (3) finalize a comprehensive plan for administrative actions that includes goals, timelines, projected costs, and a clear assignment of responsibilities for managing and coordinating the department's efforts to address encroachment issues on military training ranges; and (4) develop a reporting system for range sustainability issues that will allow for the elevation of critical training problems and progress in addressing them to the Senior Readiness Oversight Council for inclusion in Quarterly Readiness Reports to the Congress as appropriate.

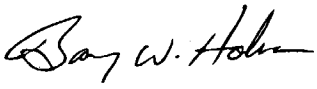
Agency Comments and Our Evaluation

In commenting on a draft of this report, the Deputy Under Secretary of Defense (Readiness) substantially concurred with the substance of the report and recommendations. He indicated that actions were underway or were planned to deal with most of our recommendations. However, he suggested that we modify the focus of our last recommendation pertaining to the development of a reporting system for range sustainability issues. He said that our recommendation should focus on operational readiness degradations (impacts on combat capabilities) that result from encroachment and not merely on the elevation of critical training problems and on the progress in addressing them to the Congress. As noted elsewhere in this report, we recently completed a companion report on training constraints overseas that recommended improvements in readiness reporting; this goes to the heart of the issue raised by DOD. We agree that DOD should give increased attention to how encroachment issues affect operational readiness, and we would expect the department to emphasize this issue in improving its readiness reporting system. The recommendation in this report, however, goes beyond DOD's readiness reporting system. Given the department's often-voiced concerns over the impact of encroachment on its training capabilities, our recommendation in this report addresses the need for a system to foster periodic reporting on critical training problems, such as those resulting from encroachment, and on the progress in addressing them to the Senior Readiness Oversight Council. This would enable the council to report critical training problems, as appropriate, in its Quarterly Readiness Reports to the Congress. Accordingly, we have not changed this recommendation.

The Deputy Under Secretary's comments are included in this report in appendix IV. He also provided technical clarifications, which we incorporated as appropriate.

Unless you publicly announce its contents earlier, we plan no further distribution of this report until 5 days after its issue date. At that time, we will send copies of this report to the appropriate congressional committees; the Secretaries of Defense, the Army, the Navy, and the Air Force; and the Director, Office of Management and Budget. We also will make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at http://www.gao.gov.

Please contact me on (202) 512-8412 if you or your staffs have any questions concerning this report. In addition, Mark Little, Glenn Furbish, James Reid, John Lee, Jason McMahon, John Van Schaik, and Stefano Petrucci contributed to this report.



Barry W. Holman, Director
Defense Capabilities and Management

Appendix I: Scope and Methodology

To identify the impact encroachment has had, or is likely to have, on the military service's training range capabilities in the continental United States, we visited four installations and two major commands. At each installation or command we conducted field interviews and evaluated available data on encroachment issues and how they impact training now, as well as the potential for impacts to increase in the future. The installations we visited were Fort Lewis, Washington; Marine Corps Base Camp Pendleton, California; Eglin Air Force Base, Florida; and Nellis Air Force Base, Nevada. The major commands we visited were the U.S. Atlantic Fleet, Norfolk, Virginia, and the U.S. Special Operations Command, MacDill Air Force Base, Tampa, Florida. The four installations and the U.S. Atlantic Fleet were selected by the service staffs as having conditions representative of the types of encroachment pressures they face, and the U.S. Special Operations Command was selected at the request the Committee on Government Reform staff as having unique encroachment pressures due to its specialized training requirements.[1] We also interviewed officials and received briefings at the service headquarters from officials who are responsible for training and training area management. We discussed their processes for identifying their respective training area needs, and the resources available to support those needs. These officials include the Range and Training Area Management Division, Training and Education Command, Marine Corps Combat Development Command, Quantico, Virginia; the Land Use and Military Construction Branch, Facilities and Services Division, Installations and Logistics Department, Headquarters, U.S. Marine Corps, Arlington, Virginia; Bases and Units Branch, Air Force Office of Civil Engineering, Washington, D.C.; the U.S. Army Forces Command, Fort McPherson, Georgia; Training Directorate, Office of the Army Deputy Chief of Staff for Operations and Plans, Washington, D.C.; and the Fleet Readiness Division, Office of the Deputy Chief of Naval Operations for Logistics, Crystal City, Virginia.

To determine the effect training range losses have on the services' training readiness and costs, we assessed DOD's and the services' training ranges requirements processes and their processes for identifying and managing training readiness problems. Specifically, we gathered data on how the services identify their training area needs, their processes for identifying gaps between their training area needs and available resources, and the

[1] Our review did not include Vieques (Atlantic Fleet Weapons Training Facility), Puerto Rico, because the training constraints involving Vieques are well known.

views of each of these officials on the impact of encroachment on training. This includes officials from the Office of the Under Secretary of Defense for Personnel and Readiness, Washington, D.C.; the Office of the Assistant Under Secretary of Defense for Environmental Quality, Washington, D.C.; the Range and Training Area Management Division, Training and Education Command, Marine Corps Combat Development Command, Quantico, Virginia; the Land Use and Military Construction Branch, Facilities and Services Division, Installations and Logistics Department, Headquarters, U.S. Marine Corps, Arlington, Virginia; the Bases and Units Branch, Air Force Office of Civil Engineering, Washington, D.C.; the U.S. Army Forces Command, Fort McPherson, Georgia; the Training Directorate, Office of the Army Deputy Chief of Staff for Operations and Plans, Washington, D.C.; and the Fleet Readiness Division, Office of the Deputy Chief of Naval Operations for Logistics, Crystal City, Virginia. We reviewed fiscal year 2001 data from the Global Status of Resources and Training System for the Army, Navy, Air Force, and Marine Corps to determine the extent that commanders identify training readiness problems caused by inadequate training ranges. For units that reported low training readiness levels, we examined the specific reasons cited for the lowered training readiness and also reviewed commanders' comments to ascertain whether they attributed any of their training readiness shortfalls to encroachment. We also analyzed cost data from the DOD's Environmental Quality Program for fiscal years 1996 through 2001 to determine if the services were incurring higher costs as a result of environmental encroachment issues. We obtained this data from the Office of the Assistant Deputy Under Secretary of Defense for Environmental Quality. Finally, at each of the installations and major commands we visited, we discussed costs associated with working around encroachment issues and whether these costs, either direct or indirect, are captured in their respective financial data systems.

To determine DOD's progress in formulating a comprehensive plan for addressing encroachment issues, we met with the members of the Sustainable Ranges Working Group who are responsible for drafting DOD's Sustainable Ranges Action Plans. These include officials from the Office of the Under Secretary of Defense for Personnel and Readiness, Washington, D.C.; the Office of the Assistant Under Secretary of Defense for Environmental Quality, Washington, D.C.; the Directorate of Operational Test and Evaluation, Washington D.C.; the Land Use and Military Construction Branch, Facilities and Services Division, Installations and Logistics Department, Headquarters, U.S. Marine Corps, Arlington, Virginia; the Civil Aviation Division, Air Force Directorate of Operations and Training, Washington, D.C.; the Bases and Units Branch,

Air Force Office of Civil Engineering, Washington, D.C.; the Training Directorate, Office of the U.S. Army Deputy Chief of Staff for Operations and Plans, Washington, D.C.; the Office of Conformity and National Environmental Protection Act Documentation, Operational Environmental Compliance and Planning for the Chief of Naval Operations, Washington, D.C.; the Office of Environmental Planning, Chief of Naval Operations, Washington, D.C.; and the Facilities and Services Division, Installations and Logistics Department, Headquarters, U.S. Marine Corps, Arlington, Virginia. We discussed with these officials their analyses of the individual issues, their rationale for selecting each action, milestones or timetables that may exist, if any, and specific budgets for accomplishing each task. To gain the perspective of the regulatory agencies responsible for DOD's proposed action plans, we conducted interviews with senior officials of the Office of Enforcement and Compliance Assurance, Environmental Protection Agency, Washington, D.C., and the Fish and Wildlife Service, Arlington, Virginia.

We performed our review from May 2001 through April 2002 in accordance with generally accepted government auditing standards.

Appendix II: Membership of DOD Encroachment-Related Groups

Table 1: Members of the Senior Readiness Oversight Council

Membership
The Deputy Secretary of Defense
The Chairman, Joint Chiefs of Staff
Chief of Staff, Air Force
The Secretary of the Air Force
Chief of Staff, Army
The Secretary of the Army
Chief of Naval Operations
Commandant of the Marine Corps
The Secretary of the Navy
Under Secretary of Defense for Acquisition, Technology and Logistics
Under Secretary of Defense for Personnel and Readiness
The Under Secretary of Defense Policy
Under Secretary of Defense (Comptroller)

Source: DOD.

Table 2: Members of the Defense Test and Training Steering Group

Membership
Director of Operational Test and Evaluation Directorate
Deputy Under Secretary of Defense (Readiness)
Deputy Under Secretary of Defense (Installations and Environment)
Director of Defense Research and Engineering Directorate
Deputy Director of Development Test and Evaluation for Strategic and Tactical Systems Directorate
Principal Director of Interoperability for Defense Information Systems Agency
Senior Advisor for Defense Threat Reduction Agency
Deputy of Test, Simulation, and Evaluation for Missile Defense Agency
Chief of Technology Assessment Group for Defense Intelligence Agency
Deputy Director of Force Structure Resources and Assessment (J-8) for Joint Staff
Deputy Under Secretary of the Army (Operations Research)
Director of Navy Test, Evaluation and Technology Requirements
Director of Air Force Test and Evaluation Directorate
Executive Director of United States Marine Corps Systems Command
Director of Training Directorate for Office of the Army Deputy Chief of Staff Operations and Plans
Head of Aviation Manpower and Training Programs Branch for Chief of Naval Operations (N789)
Director of Operations and Planning for Deputy Chief of Staff of Air Force for Air and Space Operations
Commanding General of United States Marine Corps Training and Education Command
Deputy Director of Resources and Ranges for Operational Test and Evaluation Directorate
Director of Readiness and Training for Deputy Under Secretary of Defense (Readiness)

Source: DOD.

Table 3: Members of the Integrated Product Team

Membership
Under Secretary of Defense for Personnel and Readiness
Deputy Under Secretary of Defense (Installations and Environment)
Director of Operational Test and Evaluation Directorate
Assistant Secretary of the Army for Installations and Environment
Assistant Secretary of the Navy for Installations and Environment
Assistant Secretary of the Air Force for Installations, Environment, and Logistics
Director of the Army Training Directorate
Director of the Navy Fleet and Battle Group Training Branch
Director of the Air Force Directorate of Operations and Training
Principal Deputy Assistant Secretary of Defense for Legislative Affairs
DOD Deputy General Counsel for Environment and Installations

Source: DOD.

Appendix III: DOD's Draft Sustainable Ranges Action Plans for Addressing Encroachment Issues

Between June 2000 and November 2001, DOD drafted sustainable ranges action plans for addressing range sustainability issues associated with endangered species habitat on military installations, environmental legislation covering unexploded ordnance and munitions, competition for the radio frequency spectrum, protected marine resources, competition for airspace, air pollution, noise pollution, and urban growth around military installations. Each action plan provides an overview and analysis of its respective encroachment issue, along with potential strategies and actions to address the issue. In December 2000, the plans were presented to DOD leadership, who approved the overall findings and recommendations and directed that the proposals be coordinated with the services and appropriate agencies. As of April 2002, the proposals continued to be reviewed and refined within DOD and the services. Consequently, DOD considers these plans working documents and many of the concepts proposed in them may be dropped, altered, or deferred, and other proposals may be added. A short description of each draft action plan, as of August 2001, follows.

Endangered Species Act Action Plan

To address problems related to the presence of endangered species on DOD lands and the requirement to designate critical habitat, the proposed strategy of the draft Endangered Species Act Action Plan was to (1) prevent military training ranges from becoming a home for threatened and endangered species; (2) improve DOD's knowledge of endangered species and the impacts of military activities on those species and species at risk; (3) cultivate better partnerships with the Fish and Wildlife Service and the National Marine Fisheries Service for managing endangered species; (4) negate the need for critical habitat designation; and (5) seek legislative clarification of laws where appropriate. To implement this strategy, the plan proposes to seek clarification of species and habitat issues in the Endangered Species Act. In addition, it proposes working with the Fish and Wildlife Service to implement a policy that Integrated Natural Resource Management Plans qualify as special management plans that negate the need for critical habitat designation. It also proposes establishing a forum for information exchange between DOD, the services, the Fish and Wildlife Service, and the Department of the Interior to improve communication and coordination on endangered species issues; conducting a programmatic assessment of the effect endangered species restrictions have on military testing and training; matching installation mission requirements to endangered species recovery priorities so that installations with lesser mission priorities have greater recovery burdens; and working proactively to prevent the listing of at-risk species. It further proposes to build and expand upon existing partnerships that integrate

DOD biodiversity planning with regional planning so that defense lands do not become a home for threatened and endangered species, improve available information on the impacts to endangered species from military training, and develop policies on the use of land outside installations to meet conservation requirements.

Unexploded Ordnance and Munitions Constituents Action Plan

To address problems related to the application of environmental statutes to unexploded ordnance and munitions constituents on active ranges, the draft Unexploded Ordnance and Munitions Constituents Action Plan proposes a strategy to improve and integrate requirements to develop, test, and use munitions, while ensuring explosives safety and protecting human health, safety, and the environment. To implement this strategy, the plan proposes to develop a DOD munitions expenditure database, work with the regulatory community to develop consistent responses to the environmental issues of unexploded ordnance, and identify funding and resource requirements for the unexploded ordnance mitigation program. This proposal would include a consistent risk assessment methodology to deal with munitions and their constituents on closed, transferring, and transferred ranges; a sustainable range management program that integrates training requirements with environmental and explosive safety requirements; a munitions acquisition plan to minimize undesirable environmental and explosives safety impacts; and a tailored legislative clarification of laws that could apply to military munitions. In addition, the plan proposes to implement public relations efforts to inform the Congress, regulators, and the public about the military's munitions requirements and develop community outreach and educational tools that inform stakeholders and monitor the success of stakeholder involvement. Another proposal calls for collecting scientific data and developing new technologies to identify and reduce the environmental impact of munitions, supporting the assessment of the environmental and human health effects of ordnance disposal, and focusing on the development of bullets and munitions with fewer environmental effects than current ammunition.

Radio Frequency Spectrum Action Plan

To deal with problems caused by the increasing demand and competition for radio frequency spectrum, the draft Radio Frequency Spectrum Action Plan proposes a strategy of policy management and technological innovation. The policy strategy proposes to engage the Congress in developing new laws and policies that maintain DOD's spectrum, while supporting the implementation of the laws that currently protect reserved bandwidth, and to increase funding for the Central Test and Evaluation

Investment Program to leverage existing technologies to improve the use of current bandwidth. Proposed technological innovations include increasing the efficiency of spectrum use by developing new systems to operate at higher spectrum, scheduling of current band usage, and developing band-sharing technologies.

Maritime Sustainability Action Plan

To sustain maritime training capability, the draft Maritime Sustainability Action Plan proposes a strategy of (1) engagement with regulators and legislators, (2) collection of data on marine species and mitigation costs, and (3) legislative and policy changes. Actions proposed include (1) engaging regulators and legislators to further define and enforce marine environmental laws, (2) developing a clearer definition of harassment of endangered species to be applied to DOD activities, (3) initiating an outreach program aimed at ensuring that members of Congress understand the need for continued military training in offshore operating areas and the military's previous record of environmental stewardship, (4) initiating data collection efforts to increase the amount of scientific data available about marine species and their habitats and to gather data on the fiscal and operational impacts of compliance with maritime environmental regulations, (5) incorporating scientific data into exercise planning to minimize impacts on endangered species, (6) developing an acquisition policy that new weapons system use mature technologies to reduce the environmental impacts of testing and training, (7) investigating the use of closed environments (i.e., not the open ocean) for ordnance testing, and (8) minimizing, to the maximum extent possible, the impact of new acoustic sensors and explosives on the marine environment.

National Airspace Redesign Action Plan

To address airspace problems associated with the increased requirements of new generations of weapons and systems and the growing competition with the commercial aviation industry, the draft National Airspace Redesign Action Plan proposes a strategy to ensure that DOD requirements are included in the national airspace redesign process by engaging the Federal Aviation Administration in the process. The objectives of the national airspace redesign process are to maintain system safety; to decrease system delay; and to increase system flexibility, predictability, and user access. DOD's proposed actions to implement this strategy are to form (1) a senior-level policy board on federal aviation to review the scope and progress of DOD activities and develop guidance and processes for the future and (2) an oversight group for DOD and Federal Aviation Administration national airspace system integration.

Air Quality Action Plan

To address air quality issues at the federal, state, and local levels, the draft Air Quality Action Plan proposes a tiered strategy that consists of reviewing emerging regulations and working to obtain changes to final regulations to accommodate military issues. The action plan recommendations rely on engagement and outreach on the part of DOD and the services to prevent future adverse impact on the use of training ranges. The elements of these actions include approaching each specific issue from a position of knowledge, starting at the local level with sound positions and working up through major command and headquarters with federal and state regulators to seek resolution; employing modeling and simulation as necessary; and exploring science and technology initiatives to facilitate future equipment and processes that emit fewer pollutants than legacy equipment.

Airborne Noise Action Plan

To respond to noise encroachment, the draft Airborne Noise Action Plan proposes a strategy that will engage other agencies and organizations when they propose restrictions or programs that could impact DOD missions. DOD believes that self-imposed restrictions and concessions by installations often jeopardize their ability to accomplish their training missions. Consequently, it identified actions that would result in two goals: (1) developing a comprehensive integrated noise program and (2) factoring noise into the development and acquisition process.

Urban Growth Action Plan

To address encroachment from urban growth, the draft Urban Growth Action Plan proposes a strategy that will try to influence state and local governments to adopt, implement, and enforce local encroachment prevention plans and programs so that future incompatibilities between civilian growth and military training needs might be avoided. The strategy relies on a series of actions related to public relations and coordinated land use programs to engage local communities. It includes (1) forming a coordinated effort within DOD to build and expand upon existing urban development encroachment partnerships; (2) ensuring installations have effective public outreach plans; (3) requiring each installation and range to implement a comprehensive planning process; (4) expanding the Joint Land Use Study program to address range encroachment; (5) working with local authorities to implement appropriate land use zoning near military installations; and (6) having regional environmental coordinators monitor and advocate for DOD on emerging land use issues.

Appendix IV: Comments from the Department of Defense

UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-4000

PERSONNEL AND READINESS

29 MAY 2002

Mr. Barry W. Holman
Director, Defense Capabilities and Management
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Holman:

This is the Department of Defense (DoD) response to the General Accounting Office Draft Report GAO-02-614, "MILITARY TRAINING: DoD Lacks a Comprehensive Plan to Manage Encroachment on Training Ranges," April 25, 2002 (GAO Code 350075).

The Department appreciates the opportunity to comment on this draft, and substantially concurs with the contents of the report and the recommendations offered within. The Department offers adjustments to the GAO draft recommendations along with several general and specific comments in the enclosure, and has provided additional technical comments separately to GAO for inclusion.

Sincerely,

for Paul W. Mayberry
Deputy Under Secretary of Defense
(Readiness)

Enclosure:
As stated

GAO CODE 350075 / GAO-02-614

"MILITARY TRAINING: DOD LACKS A COMPRHENSIVE PLAN TO MANAGE ENCROACHMENT ON TRAINING RANGES"

DEPARTMENT OF DEFENSE COMMENTS TO THE RECOMMENDATIONS

See p. 31.

RECOMMENDATION 1: The GAO recommended that the Secretary of Defense require the Services to develop and maintain inventories of their training ranges, capacities, and capabilities, and fully quantify their training requirements considering complimentary approaches to training. (Page 30/Draft Report)

DoD RESPONSE: Concur. The services have already been tasked with compiling inventories and have made substantial progress in that effort. The services have met and are developing a statement of work in order to contract a firm capable of delivering an enterprise level web-enabled system that will allow cross-service as well as intra-service training use of this inventory data.

See p. 31.

RECOMMENDATION 2: The GAO recommended that the Secretary of Defense create a DoD data base that identifies all ranges available to the Department and what they offer, regardless of Service ownership, so that commanders can schedule the best available resources to provide required training. (Page 30/Draft Report)

DoD RESPONSE: Concur. The enterprise level web-enabled system described above will incorporate this capability. Business rules will be developed in accordance with the needs of each service to maximize the flexibility to utilize other service ranges.

See p. 31.

RECOMMENDATION 3: The GAO recommended that the Secretary of Defense finalize a comprehensive plan for administrative actions that includes goals, timelines, projected costs, and a clear assignment of responsibilities for managing and coordinating the Department's efforts to address encroachment issues on military training ranges. (Page 30/Draft Report)

DoD RESPONSE: Concur. The Department agrees with the need to develop a definitive program to counter encroachment.

See p. 31.

RECOMMENDATION 4: The GAO recommended that the Secretary of Defense develop a reporting system for range sustainability issues that will allow for the elevation of critical training problems and progress in addressing them to the Senior Readiness Oversight Council for inclusion in Quarterly Readiness Reports to the Congress as appropriate. (Page 30/Draft Report)

2

DoD RESPONSE: Partially Concur. The GAO recommendation should read: "develop a reporting system with sufficient granularity to routinely capture operational readiness degradations (impacts on combat capabilities) that result from encroachment, not merely documenting instances of encroachment limitations on training. This system will allow for the elevation of critical training problems and progress in addressing them to the Senior Readiness Oversight Council for inclusion in Quarterly Readiness Reports to the Congress as appropriate." The impact on readiness is the critical issue here and not merely the existence of encroachment. While measuring that impact is not a simple process, including it here keeps the readiness focus and supports DoD comment on ongoing readiness reporting improvement efforts.

3

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