United States Government Accountability Office

Report to Congressional Committees

June 2015

MILITARY TRAINING

DOD's Annual Sustainable Ranges Report Addressed Statutory Reporting Requirements

GAO-15-537

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE **JUN 2015**	2. REPORT TYPE	3. DATES COVERED **00-00-2015 to 00-00-2015**
4. TITLE AND SUBTITLE **Military Training: DOD's Annual Sustainable Ranges Report Addressed Statutory Reporting Requirements**		5a. CONTRACT NUMBER
		5b. GRANT NUMBER
		5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)		5d. PROJECT NUMBER
		5e. TASK NUMBER
		5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **U.S. Government Accountability Office,441 G Street NW,Washington,DC,20548**		8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)
12. DISTRIBUTION/AVAILABILITY STATEMENT **Approved for public release; distribution unlimited**		
13. SUPPLEMENTARY NOTES		
14. ABSTRACT		
15. SUBJECT TERMS		

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**Same as Report (SAR)**	**27**	

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std Z39-18

June 2015

MILITARY TRAINING

DOD's Annual Sustainable Ranges Report Addressed Statutory Reporting Requirements

GAO Highlights

Highlights of GAO-15-537, a report to congressional committees

Why GAO Did This Study

DOD relies on its training ranges within the United States and overseas to help prepare its forces for combat or complex missions around the globe.

Section 366 of the Bob Stump National Defense Authorization Act for Fiscal Year 2003 (as amended) ("the Act") required DOD to submit a comprehensive plan on its efforts to address training constraints caused by limitations on the use of military lands, airspace, and marine areas available in the United States and overseas for training, and requires DOD to provide annual reports on its efforts to implement the plan and address training constraints. The Act also includes a provision for GAO to submit evaluations of DOD's reports to Congress within 90 days of receiving them from DOD.

This is GAO's12th report evaluating DOD's annual report. GAO assessed the extent to which DOD's 2015 Sustainable Ranges Report met the statutory reporting requirements in that it described its progress in implementing its sustainable ranges plan and described any actions taken or to be taken in addressing training constraints caused by limitations on the use of military lands, marine areas, or airspace. To conduct this work, GAO compared DOD's 2015 report to statutory reporting requirements and interviewed cognizant DOD officials.

GAO is not making recommendations in this report. DOD agreed with GAO's report.

View GAO-15-537. For more information, contact Brian Lepore at (202) 512-4523 or leporeb@gao.gov.

What GAO Found

The Department of Defense's (DOD) 2015 Sustainable Ranges Report met the statutory reporting requirements in that it described its progress in implementing its sustainable ranges plan and described any actions taken or to be taken in addressing training constraints caused by limitations on the use of military lands, marine areas, or airspace. DOD's 2015 report provides updates to several elements of the plan required by the Act, including: (1) proposals to enhance training range capabilities and address any shortfalls in current resources; (2) goals and milestones for tracking planned actions and measuring progress in the implementation of DOD's training range sustainment plan; and (3) projected funding requirements for implementing its planned actions.

First, DOD's report included proposals to enhance training range capabilities and to address shortfalls in current resources. DOD developed these proposals by evaluating current and future training range requirements and the ability of current DOD resources to meet these requirements. For example, in the report, the Marine Corps identified several training shortfalls that it is working to remedy, such as the capability to fully exercise a large Marine Air-Ground Task Force in a realistic training scenario. The area currently being used is not large enough to accommodate a full-scale, live-fire Marine Expeditionary Brigade exercise. To address this shortfall, DOD was authorized to expand this training area by approximately 103,000 acres exclusively for military use and an additional 50,000 acres for joint military and recreational use. Efforts are under way to acquire this land. DOD also included in its report the results of a capability and encroachment assessment of its training ranges that evaluated the services' ability to support assigned training missions. In that section, the services described any planned or ongoing actions to remedy shortfalls identified during the assessment.

Second, DOD's report identified goals and milestones for tracking planned actions and measuring progress in the implementation of DOD's training range sustainment plan. DOD's report identified seven shared goals in support of its plan: (1) mitigate encroachment pressures on training activities from competing operating space; (2) mitigate frequency spectrum competition; (3) meet military airspace challenges; (4) manage increasing military demand for range space; (5) address effects from new energy infrastructure and renewable energy effects; (6) anticipate climate change effects; and (7) sustain excellence in environmental stewardship. Also, the report included discussion of each military service's milestones and needed actions for reaching those milestones, using these goals as a common framework.

Third, DOD's report identified projected funding requirements for each of the military services to implement their planned actions. DOD's report delineated four funding categories to be used by the services to project their range sustainment requirements: (1) modernization and investment, (2) operations and maintenance, (3) environmental, and (4) encroachment. DOD identified a total of approximately $1.68 billion in funding requirements across the services for fiscal year 2015 for these categories.

Contents

Letter 1

DOD's 2015 Sustainable Ranges Report Met Statutory Reporting Requirements 4

Agency Comments 13

Appendix I Section 366 of the Bob Stump National Defense Authorization Act for Fiscal Year 2003 15

Appendix II Comments from the Department of Defense 18

Appendix III GAO Contact and Staff Acknowledgments 19

Related GAO Products 20

Table

Table 1: Service Training Range Sustainment Requested Funding, Fiscal Years 2015 through 2019 12

Figures

Figure 1: Description of Capability Attributes and Encroachment Factors Used by DOD to Assess Military Ranges 7

Figure 2: Military Services Capability and Encroachment Assessment Summary 9

Abbreviations

The Act	Bob Stump National Defense Authorization Act for Fiscal Year 2003, as amended
DOD	Department of Defense

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
441 G St. N.W.
Washington, DC 20548

June 17, 2015

Congressional Committees

The Department of Defense (DOD) relies on access to military land, airspace, and sea space to provide its forces with a realistic training environment; to that end, its training ranges within the United States and overseas help prepare forces to face combat or complex missions around the globe. As DOD seeks to provide training on its ranges to sustain military readiness, challenges related to range capabilities and encroachment[1] continue to grow, new challenges emerge, and dynamic conditions and events exacerbate existing challenges. According to DOD's 2015 Sustainable Ranges Report, range capability challenges include insufficient resources and outdated equipment and systems that are needed to complete training requirements. Encroachment challenges include incompatible development and use of land adjacent to DOD training activities, reallocation of electromagnetic spectrum,[2] and foreign investment located in proximity to military training areas. Further, another challenge identified in DOD's report is the implementation of the Budget Control Act of 2011,[3] which reduced funding of DOD's readiness accounts and continues to negatively affect range capability by hindering range modernization, among other issues. According to DOD's 2015 Sustainable Ranges Report, DOD anticipates that the department's ability to take action on encroachment challenges will also be limited because of funding. To respond to these challenges and increase the long-term sustainability of its military range resources, DOD has launched a number of efforts aimed at preserving its training ranges and at addressing the

[1]DOD defines range "encroachment" as external, as well as internal, DOD factors and influences that constrain or have the potential to inhibit the full access or operational use of the live training and test domain. Examples include, but are not limited to, endangered species and critical habitat, unexploded ordnance and munitions, radio frequency spectrum, maritime or airspace restrictions, air quality, airborne noise, urban growth, physical obstructions, and renewable energy projects.

[2]Electromagnetic spectrum is defined as the range of frequencies of electromagnetic radiation from zero to infinity. According to DOD officials, it includes visible light, microwave, radio, and infrared wave lengths.

[3]The Budget Control Act of 2011, Pub. L. No. 112-25 (2011) required DOD and the military services to reduce their discretionary spending budget.

effects of its training activities on the environment. The efforts include the issuance of policy, the establishment of programs, and proactive partnering at the federal, state, and local levels.

Section 366 of the Bob Stump National Defense Authorization Act for Fiscal Year 2003 (as amended) ("the Act") required DOD to submit to Congress a comprehensive plan for using existing authorities available to the department to address training constraints caused by limitations on the use of military lands, marine areas, and airspace in the United States and overseas for training of the Armed Forces. The Act required submission of the plan at the same time as the President submitted his budget for fiscal year 2004.[4] Further, section 366, as amended, requires the Secretary of Defense to submit an annual progress report to Congress each year through fiscal year 2018 that describes the progress made in implementing the training range sustainment plan and any additional actions taken, or to be taken, to address training constraints caused by limitations on the use of military lands, marine areas, and airspace. Additionally, the Act includes a provision that GAO submit evaluations of DOD's reports to Congress within 90 days of receiving a report.[5] Appendix I contains the text of section 366 of the Act.

Since 2004, DOD has submitted annual sustainable ranges reports. Also, since that time, we have submitted our evaluations of DOD's reports. Most of our reviews of DOD's 2004–2011 reports found that DOD's reports either did not fully address certain statutory reporting requirements mandated by section 366 or that improvements were needed in the reports. However, our review of DOD's 2012–2014 reports found that DOD addressed the reporting requirements that it describe the

[4]Pub. L. No. 107-314 (2002). Section 366 originally required reports for fiscal years 2005 through 2008. However, this requirement was extended through 2013 by section 348 of the John Warner National Defense Authorization Act for Fiscal Year 2007, Pub. L. No. 109-364 (2006), and extended through 2018 by section 311 of the National Defense Authorization Act for Fiscal Year 2013, Pub. L. No. 112-239 (2013). Additionally, section 1063(c)(2) of the National Defense Authorization Act for Fiscal Year 2008, Pub. L. No. 110-181 (2008), and section 1075(g)(2) of the Ike Skelton National Defense Authorization Act for Fiscal Year 2011, Pub. L. No. 111-383 (2011), made clerical amendments to section 348 of Pub. L. No. 109-364.

[5]Section 366 originally required GAO to submit its report to Congress within 60 days of receiving the original report from DOD, but this was extended to 90 days by section 348 of the John Warner National Defense Authorization Act for Fiscal Year 2007, Pub. L. No. 109-364 (2006).

progress made in implementing its training range sustainment plan and any additional actions taken, or to be taken, to address training constraints caused by limitations on the use of military lands, marine areas, and airspace.[6] Further, we found that the reports provided updates to several elements of the plan that the Act required DOD to include in its annual progress reports, including (1) proposals to enhance training range capabilities and address any shortfalls in current resources; (2) goals and milestones for tracking planned actions and measuring progress in the implementation of its training range sustainment plan; and (3) projected funding requirements for implementing its planned actions. In July 2013, we reported that DOD had implemented all 13 recommendations made to improve its Sustainable Ranges Reports and range assessments.[7]

This review is our 12th annual report that evaluates DOD's latest Sustainable Ranges Report. In this review, we evaluated the extent to which DOD's 2015 Sustainable Ranges Report met the statutory reporting requirements contained in section 366, as amended. Specifically, this report focuses on the extent to which DOD's report described its progress in implementing its sustainable ranges plan and described any actions taken or to be taken in addressing training constraints caused by limitations on the use of military lands, marine areas, or airspace. We also reviewed any updates to the elements of the plan required by the Act to be included in DOD's original report in 2004. These elements included: (1) proposals to enhance training range capabilities and address any shortfalls in current DOD resources identified pursuant to DOD's assessment and evaluation; (2) goals and milestones for tracking planned actions and measuring progress in the implementation of its training range sustainment plan; and (3) projected funding requirements for implementing planned actions.

To determine the extent to which DOD's 2015 Sustainable Ranges Report met the reporting requirements specified in section 366(a)(5) of

[6]GAO, *Military Training: DOD Met Annual Reporting Requirements and Improved Its Sustainable Ranges Report,* GAO-12-879R (Washington, D.C.: Sept. 12, 2012); *Military Training: DOD Met Annual Reporting Requirements and Continued to Improve Its Sustainable Ranges Report*, GAO-13-648 (Washington, D.C.: July 9, 2013); *Military Training: DOD Met Annual Reporting Requirements for Its 2014 Sustainable Ranges Report*, GAO-14-517 (Washington, D.C: May 9, 2014).

[7]GAO-13-648.

the Bob Stump National Defense Authorization Act for Fiscal Year 2003 (as amended), we reviewed the report and compared it with the statutory requirements in the Act. We also reviewed the memorandum that the Office of the Secretary of Defense sent to each of the military services to request data for the Sustainable Ranges Report to determine what differences, if any, there were in the types of information that were requested for the report this year from each of the military services and the capability and encroachment range assessments conducted by each of the services. Finally, we met with officials from the Office of the Deputy Assistant Secretary of Defense for Readiness and the military services to discuss changes, if any, to the services' submission of information on training ranges to DOD for its 2015 report and opportunities, if any, for improving future sustainable ranges reports. The intent of our review was not to comprehensively evaluate the data presented in the 2015 Sustainable Ranges Report, but rather to determine the extent to which the report met the mandated statutory requirements.

We conducted this performance audit from February 2015 to June 2015 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

DOD's 2015 Sustainable Ranges Report Met Statutory Reporting Requirements

DOD's 2015 Sustainable Ranges Report met the statutory reporting requirements to describe DOD's progress in implementing its training range sustainment plan and to describe any actions taken or to be taken in addressing training constraints caused by limitations on the use of military lands, marine areas, or airspace. DOD also provided updates to several elements of the plan required by the Act including: (1) proposals to enhance training range capabilities and to address any shortfalls in current DOD resources identified pursuant to DOD's assessment and evaluation; (2) goals and milestones for tracking planned actions and measuring progress in the implementation of its training range sustainment plan; and (3) projected funding requirements for implementing planned actions.

DOD Reported on Proposals to Enhance Range Capabilities and to Address Shortfalls

In our review of DOD's 2015 Sustainable Ranges Report, we found that DOD reported on its proposals to enhance training range capabilities and to address any shortfalls in resources. DOD developed these proposals by evaluating current and future training range requirements and the ability of current DOD resources to meet these requirements. To do so, DOD updated the report sections pertaining to each military service's issues related to range capability and encroachment and special interests, included a section in its report on evolving challenges that could affect the sustainability of ranges, and reported on the results of a training range assessment. In conducting the training range assessment, the Marine Corps, for example, identified several training shortfalls that it is working to remedy, such as the capability to fully exercise a large Marine Air-Ground Task Force in a realistic training scenario. The area currently being used is not large enough to accommodate a full-scale, live-fire Marine Expeditionary Brigade exercise. To address this shortfall, DOD was authorized to expand this training area by approximately 103,000 acres exclusively for military use and an additional 50,000 acres for joint military and recreational use. Efforts are under way to acquire this additional land.

Additionally, the 2015 report identified seven emerging challenges to the military services' training ranges. The seven challenges are: (1) budget reductions affecting range capability, (2) foreign investment and national security, (3) threatened and endangered and candidate species, (4) demand for electromagnetic spectrum, (5) continued growth in domestic use of Unmanned Aerial Systems, (6) early coordination with renewable energy industry, and (7) offshore oil and gas development. In December 2014, we reported on the risks to DOD ranges and installations from foreign investment encroachment and on the department's ability to address these risks.[8] In that review, we found that DOD had not conducted a risk assessment that included prioritizing test and training ranges based on mission criticality and assessing the degree to which foreign encroachment could pose a threat to the mission of the range, among other things. We also reported that DOD had not obtained sufficient information on commercial activity being conducted near test and training ranges in the level of detail that officials said they needed to determine whether specific transactions on federally owned or managed

[8]GAO, *Defense Infrastructure: Risk Assessment Needed to Identify if Foreign Encroachment Threatens Test and Training Ranges*, GAO-15-149 (Washington, D.C.: Dec. 16, 2014).

land in proximity to ranges pose a threat to the range. We made two recommendations to DOD: (1) develop and implement guidance for conducting a risk assessment on foreign encroachment and (2) collaborate with other federal agencies to obtain additional information on transactions near ranges. According to DOD's 2015 Sustainable Ranges Report, the department remains focused on the issue of foreign investment in industries located in proximity to military training and testing areas because of potential surveillance and collection capabilities provided to foreign entities that invest in these assets. DOD concurred with the recommendations and is continuing to develop strategies designed to mitigate the effects on training from foreign investment and national security encroachment. DOD is also working with agencies with land and airspace management authority to obtain information related to foreign investment and transactions in proximity to DOD activities.

As part of the preparation for input into the 2015 Sustainable Ranges Report, DOD tasked the military services to conduct an assessment of current and future training range capabilities to support its assigned training mission and an evaluation of the adequacy of current range resources to meet its mission. In its 2015 report, DOD updates the critical range and training issues identified by the military services and provides a comprehensive update to the individual training range capability and encroachments assessments for all four military services.[9]

According to DOD's report, the military services assessed the ranges' assigned training mission areas[10] against a common set of 13 capability attributes and 12 encroachment factors to evaluate their ability to support assigned training missions. These capability attributes and encroachment factors were developed by DOD and the services in 2008 and help DOD create a unified reporting and analytical framework that integrates data from each of the services conducting assessments. Figure 1 describes

[9]DOD began annual assessments of the adequacy of ranges to support required training as well as the actual effects of encroachment in 2007. Beginning with its 2013 report, DOD began conducting full range capability and encroachment assessments every 3 years rather than annually, and to validate those assessments in the years between evaluations. The next planned full range and capability assessment is to be included in DOD's 2018 Sustainable Ranges Report.

[10]The mission areas for each of the military services vary but include areas such as movement and maneuver (Army), strike warfare (Navy), strategic attack (Air Force), and individual-level training (Marine Corps).

the 13 capability attributes and 12 encroachment factors that the services used in their assessments.

Figure 1: Description of Capability Attributes and Encroachment Factors Used by DOD to Assess Military Ranges

Capability attributes

Airspace
Physical volume of airspace that has the necessary features, such as types of use, configuration, proximity, capacity, and amount

Collective ranges
Ranges that provide proficiency at the team or unit level for battlefield operations

Infrastructure
Buildings, structures, or linear structures (e.g., roads, rail lines, pipelines, fences, pavement

Landspace
Physical land area that has the necessary features, such as topography, vegetative cover, configuration, proximity, capacity, usability, and acreage

Military Operations in Urban Terrain facilities
Terrain complexes that replicate urban environments

Range support
Personnel, software, and hardware that support such functions as daily range operations, maintenance (including range clearance), and communication networks[a] for command and control, scheduling, and range safety

Scoring and feedback systems
Equipment that provides information for training event reconstruction, debriefing, and replay, whether virtual or live, through the collection and storage of time and space position information, weapons accuracy, systems and operator accuracy, assessment and monitoring of operator performance, and command, control, communications, computers and intelligence network information flow

Seaspace
Physical sea-surface area that has the necessary features, such as types of use, configuration, proximity, capacity, and amount

Small arms ranges
Ranges that accommodate weapons systems firing rounds up through 40mm and produce duds

Suite of ranges
A nominal make-up of range attributes, intended to provide the baseline requirement for each level of training. The elements include various types of ranges such as maneuver or training area, impact areas, live fire ranges, aviation ranges, and Military Operations in Urban Terrain complexes that must be coordinated to conduct required training events

Targets
Various land, air, sea, and undersea presentations designed for live or simulated weapons engagement

Threats
Various physical and simulated threat presentations, such as emitters, opposing adversary forces, and battlefield effect simulators

Underseaspace
Physical volume of underseaspace that has the necessary features, such as ocean bottom type, depth, types of use, configuration, proximity, capacity, and amount

Encroachment factors

Adjacent land use
Constraints placed on training due to incompatible development in proximity to military training areas

Air quality
Constraints placed on training due to regulatory requirements or military service guidance to maintain air quality

Airspace
Constraints placed on training due to the availability of airspace

Cultural resources
Constraints placed on training due to legal or regulatory requirements or military service guidance to manage and maintain cultural resources

Maritime sustainability
Constraints placed on training due to regulatory requirements or military service guidance to protect and sustain the maritime environment, including marine mammals and sonar issues

Munitions restrictions[b]
Constraints placed on training due to regulatory requirements or military service guidance on munitions use, munitions constituents, or residue, to include range clearance

Noise restrictions
Constraints placed on training as a result of mitigation measures for unwanted sound generated from the operations of military weapons or weapon systems that affect people, animals (domestic or wild), or structures on or in proximity to military training areas

Range transients
Constraints placed on training due to the unannounced or unauthorized presence of individuals, livestock, aircraft, or watercraft transiting range

Spectrum
Constraints placed on training due to unavailability of or interference with required electromagnetic spectrum

Threatened and endangered species
Constraints placed on training due to regulatory requirements or military service guidance to manage at-risk, threatened, or endangered species or associated habitat

Water quality/supply
Constraints placed on training due to legal or regulatory requirements or military service guidance to manage water quality and supply

Wetlands
Constraints placed on training due to legal or regulatory requirements or military service guidance to manage wetlands

Source: GAO analysis of military services data. | GAO-15-537

[a]Communications networks include: inter- and intrarange systems; point-to-point; range support networks; fiber optic and microwave backbones; information protection systems (e.g., encryption, radio, data link); and instrumentation frequency management systems.

[b]Restrictions placed on munitions use due to weapon safety footprint requirements are assessed as capability attributes under Landspace, Airspace, Seaspace, and Underseaspace. Other constraints from munitions use that have an encroachment factor available, such as noise, air quality, water quality, and transients, are assessed under those factors.

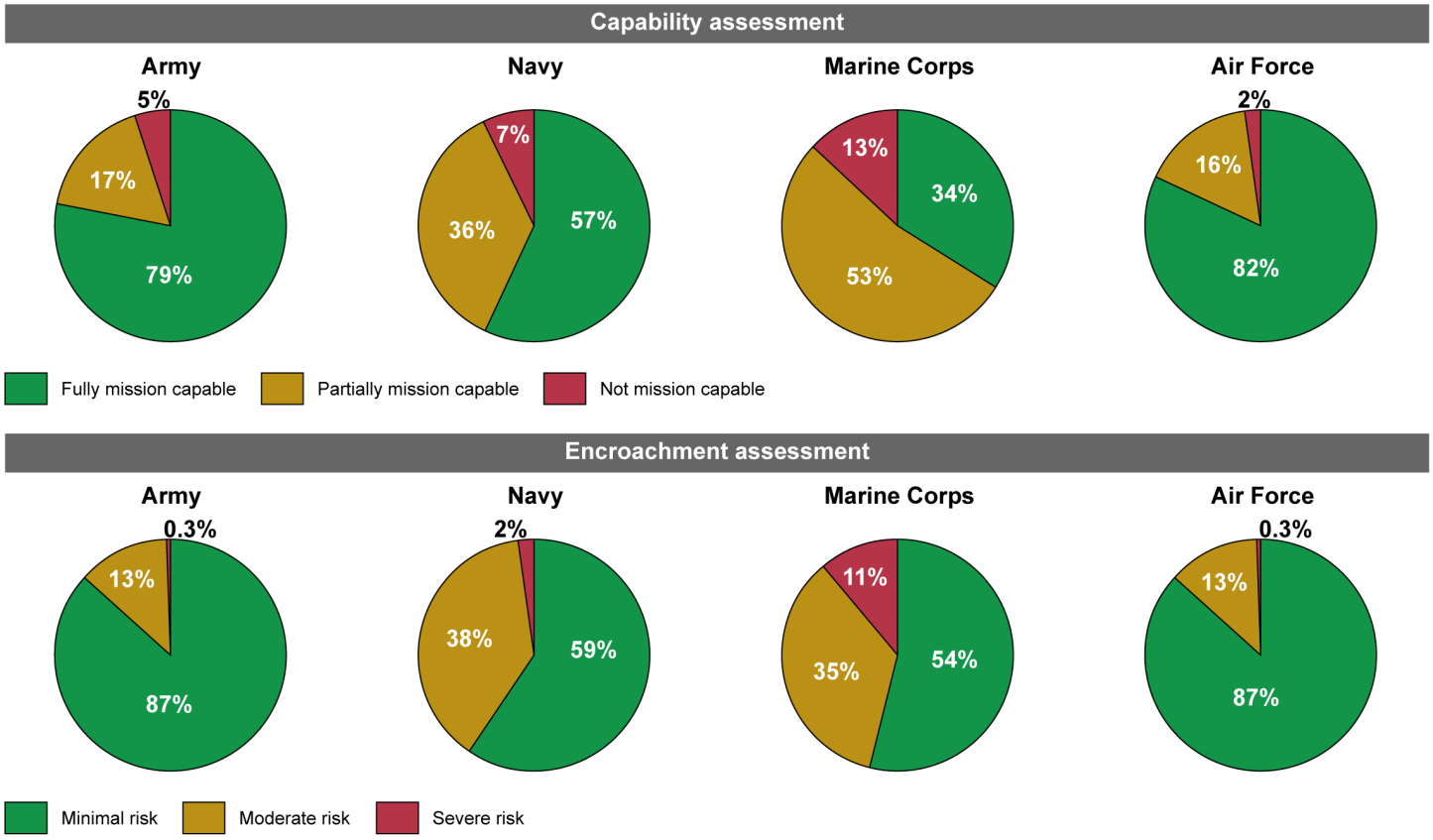
For its 2015 report, DOD evaluated 15 Army ranges, 10 Marine Corps ranges, 21 Navy ranges, and 36 Air Force ranges.[11] The military services assigned a rating to each capability and encroachment item—indicated as red, yellow, or green[12]—to convey the severity of the effects of the constraints on the ranges' ability to support their assigned training mission requirements.

DOD summarized its results of the assessments in a section of the report entitled *Historical Information, Results, and Future Projections* that provided a qualitative assessment of each range by presenting overall rating scores from prior years as well as comments on whether the capabilities or encroachment pressures have been improving or degrading over the years and the outlook for the future. The results of the capability and encroachment assessment for fiscal year 2015 are in figure 2.

[11]In the 2015 report, each service identified the number of ranges in its inventory as well as its rationale for excluding certain ranges from its capability and encroachment assessments. For example, the Army did not include many small individual ranges that are managed through local Army National Guard state agreements and policies.

[12]For the capability attributes, the military services assess the ability of a range to support required training tasks for a given mission area. Red means the range is not mission capable; yellow indicates partially mission capable; and green indicates fully mission capable. For the encroachment factors, the military services assess the effect of the range's ability to support assigned training missions due to constraints. Red means the encroachment factor has a severe effect or poses a high risk to the range's ability to support its assigned training mission; yellow indicates a moderate effect or poses a medium risk; and green is minimal effect or poses a low risk.

Figure 2: Military Services Capability and Encroachment Assessment Summary



Source: GAO analysis of military services data. | GAO-15-537

Further, following the assessment details for each range, the military services provided observations that included explanations of how any capability and encroachment shortfalls rated severe or moderate risk were affecting training at a specific range. The services also described any planned or ongoing actions to remedy the shortfalls. For example, according to DOD's 2015 Sustainable Ranges Report:

- The Army identified training areas at Fort Stewart, Georgia, as being partially mission capable because there was a shortfall of landspace to conduct light and heavy maneuver training. As a result of limited landspace, units were not able to have realistic training. Currently, the Army had no actions or plans to increase the landspace.
- The Marine Corps was prohibited from conducting live-fire individual- and unit-level training using artillery and other munitions at Marine

Corps Base Hawaii. Due to landspace, airspace, and munitions restrictions, units were forced to train at other military services ranges in Hawaii.

- The Navy identified two assigned training missions as being partially mission capable as a result of adjacent land use at Naval Air Station Fallon, Nevada. Specifically, power lines and telecommunications towers affected low-altitude helicopter training and tactics. This encroachment prohibited training events, reduced realism of segments of the training, constrained flight altitudes, and complicated all-weather training. The Navy did not have a solution to resolve these issues.
- The Air Force identified several training areas as being partially mission capable because of limited access to needed airspace. At Holloman Air Force Base, New Mexico, training has been limited because the Air Force shares the Army's airspace. Air Force training is a low priority for Army airspace, and daily coordination of schedules is needed in order to gain access to it.

Finally, the Army and Navy provided additional information and perspectives on any areas of special interest that affect or may affect its training capabilities and encroachment situation. In the 2015 Sustainable Ranges Report, for example, the Army discussed the effect of force structure reductions on aging infrastructure, stating that it needed additional authorizations through the Base Realignment and Closure process to reduce excess infrastructure. Also, the Navy discussed its efforts to allow at-sea training while minimizing adverse effects to marine mammals. A key challenge identified by the Navy was endangered species and critical habitat encroachment that has resulted in excluding or reducing training events. We have previously reported that highlighting the services' most pressing range sustainability issues helps DOD officials prioritize the department's actions to address range issues in the most efficient and effective manner.

DOD Used Goals and Milestones to Update Its Progress in Implementing Its Training Range Sustainment Plan

In its 2015 Sustainable Ranges Report, DOD identified goals and milestones to help address the statutory requirements to describe its progress in implementing its training range sustainment plan. DOD has seven shared goals in support of this plan. The goals are: (1) mitigate encroachment pressures on training activities from competing operating space; (2) mitigate frequency spectrum competition; (3) meet military airspace challenges; (4) manage increasing military demand for range space; (5) address effects from new energy infrastructure and renewable

energy effects; (6) anticipate climate change effects;[13] and (7) sustain excellence in environmental stewardship. Each military service has developed its own milestones and needed actions for reaching those milestones, using these goals as a common framework. In the 2015 Sustainable Ranges Report, each service provided updates to its milestones and actions. For example:

- The Army has partially completed actions to execute training land acquisitions to offset the shortfall of nearly 5 million acres in training land assets. While the Army has purchased over 32,500 acres of land, it has postponed other purchases due to delays and costs associated with endangered species management and mitigation and Army force structure decisions.
- The Navy has ongoing actions to meet its milestones of updating encroachment action plans and using Navy Community Plans and Liaisons Officers to engage communities where there is potential encroachment of installations and land ranges.
- The Marine Corps has ongoing actions to analyze and assess frequency spectrum issues that potentially could affect training capabilities at range complexes.
- The Air Force has met its milestone of incorporating frequency spectrum as a key and quantifiable factor in the Air Force corporate basing process.

According to the 2015 Sustainable Ranges report, these goals and milestones will be reviewed and updated annually to ensure that DOD continues to address future training requirements and constraints.

[13]We have also reported on certain limits on the use of some training ranges and limitations on accessibility of the ranges due to climate change effects. For more information see GAO, *Climate Change Adaptation: DOD Can Improve Infrastructure Planning and Processes to Better Account for Potential Impacts*, GAO-14-446 (Washington, D.C.: May 30, 2014).

DOD Reported Its Projected Funding Requirements for Implementing Planned Actions

In its 2015 Sustainable Ranges Report, DOD met the statutory requirement to track its progress in implementing the training range sustainment plan by identifying the funding requirements needed to accomplish its goals. Requested funding for fiscal years 2015 through 2019 are identified in table 1.

Table 1: Service Training Range Sustainment Requested Funding, Fiscal Years 2015 through 2019

Dollars in millions

Service	2015	2016	2017	2018	2019
Army	$983.8	$872.7	$939.2	$975.2	$1,032.7
Navy	289.4	297.1	301.5	310.7	316.9
Marine Corps	104.2	104.3	114.3	115.5	118.7
Air Force	306.1	357.1	350.4	363.7	392.3
Total	**$1,683.5**	**$1,631.2**	**$1,705.4**	**$1,765.1**	**$1,860.6**

Source: GAO analysis of Department of Defense (DOD) data. | GAO-15-537

Note: Table does not include funding request for the Readiness and Environmental Protection Integration Program. Data are from DOD's 2015 Sustainable Ranges Report.

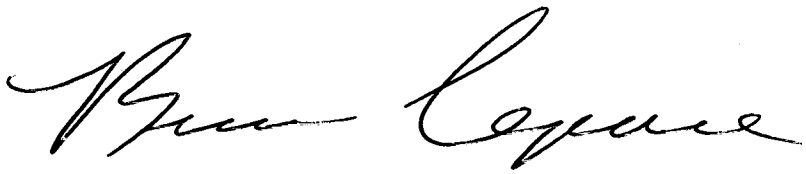
DOD has delineated four funding categories to be used by the services to project their range sustainment requirements: (1) modernization and investment, (2) operations and maintenance, (3) environmental, and (4) encroachment. The funding requirements section included descriptions and specific examples for each funding category. For instance, DOD described the environmental funding category as funds dedicated to the environmental management of ranges, including range assessments, response actions, and natural and cultural resource-management planning and implementation. Examples of the environmental funding category include conducting range assessments and environmental mitigation costs associated with range modernization and range construction. The funding requirement section of DOD's report also provides an explanation of any fluctuations in the funding categories occurring over the requested 5-year funding period covered in the report. For example, the Army's requested funding for the modernization and investment category increased from $18.8 million in fiscal year 2015 to $121.1 million in fiscal year 2019. The Army attributes these fluctuations to range construction project delays and related adjustments in target requirements.

Agency Comments

We are not making any recommendations in this report. We received written comments on a draft of this report from the Office of the Deputy Assistant Secretary of Defense for Readiness. In its written response, DOD agreed with our report. We also received technical comments to clarify our draft report, which we incorporated as appropriate. DOD's written response is reprinted in its entirety in appendix II.

We are sending copies of this report to the appropriate congressional committees; the Secretary of Defense; the Deputy Assistant Secretary of Defense for Readiness; the Secretaries of the Army, Navy, and Air Force; and the Commandant of the Marine Corps. In addition, the report is available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have questions concerning this report, please contact me at (202) 512-4523 or leporeb@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix III.



Brian J. Lepore
Director
Defense Capabilities and Management

List of Committees

The Honorable John McCain
Chairman
The Honorable Jack Reed
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Thad Cochran
Chairman
The Honorable Richard J. Durbin
Ranking Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Mac Thornberry
Chairman
The Honorable Adam Smith
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable Rodney Frelinghuysen
Chairman
The Honorable Pete Visclosky
Ranking Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives

Appendix I: Section 366 of the Bob Stump National Defense Authorization Act for Fiscal Year 2003

SEC. 366. Training Range Sustainment Plan, Global Status of Resources and Training System, and Training Range Inventory.

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

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

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

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

(3) The plan shall include the following:

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

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

(C) Projected funding requirements for implementing planned actions.

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

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

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

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

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

(5) At the same time as the President submits to Congress the budget for each of fiscal years 2005 through 2008,[1] the Secretary shall submit to Congress a report describing the progress made in implementing the plan and any additional actions taken, or to be taken, to address training constraints caused by limitations on the use of military lands, marine areas, and airspace.

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

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

(A) to identify all available operational training ranges;

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

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

[1]This requirement was extended through 2013 by section 348 of the John Warner National Defense Authorization Act for Fiscal Year 2007, Pub. L. No. 109-364 (2006), and extended through 2018 by section 311 of the National Defense Authorization Act for Fiscal Year 2013, Pub. L. No. 112-239 (2013). Additionally, section 1063(c)(2) of the National Defense Authorization Act for Fiscal Year 2008, Pub. L. No. 110-181 (2008), and section 1075(g)(2) of the Ike Skelton National Defense Authorization Act for Fiscal Year 2011, Pub. L. No. 111-383 (2011), made clerical amendments to section 348 of Pub. L. No. 109-364.

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

(d) GAO EVALUATION———The Secretary of Defense shall transmit copies of each report required by subsections (a) and (b) to the Comptroller General. Within 60 days after receiving a report, the Comptroller General shall submit to Congress an evaluation of the report.[3]

(e) Armed Forces Defined.--In this section, the term ``Armed Forces'' means the Army, Navy, Air Force, and Marine Corps.

[2]Id.

[3]This requirement was extended to 90 days by section 348 of the John Warner National Defense Authorization Act for Fiscal Year 2007, Pub. L. No. 109-364 (2006).

Appendix II: Comments from the Department of Defense

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-4000

READINESS AND FORCE MANAGEMENT

JUN 05 2015

Mr. Brian J. Lepore
Director, Defense Capabilities and Management
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Mr. Lepore:

This is the Department of Defense (DoD) response to the Government Accountability Office Draft Report GAO-15-537, "Military Training: DoD's Annual Sustainable Ranges Report Addressed Statutory Reporting Requirements," dated May 14, 2015 (GAO Code 352018). The DoD appreciates the opportunity to work with the GAO to continually improve reporting on the ability of our training ranges to meet the needs of the warfighter. The Department agrees with the report and has no specific comments.

Sincerely,

Daniel P. C. Feehan
Deputy Assistant Secretary of Defense
Readiness

Enclosure:
As stated

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Brian J. Lepore, (202) 512-4523 or leporeb@gao.gov

Staff Acknowledgments

In addition to the contact named above, Harold Reich (Assistant Director), Richard Powelson, Michael Silver, Amie Steele, Sonja Ware, and Alexander Welsh made key contributions to this report.

Related GAO Products

Defense Infrastructure: Risk Assessment Needed to Identify If Foreign Encroachment Threatens Test and Training Ranges. GAO-15-149. Washington, D.C.: December 16, 2014.

Climate Change Adaptation: DOD Can Improve Infrastructure Planning and Processes to Better Account for Potential Impacts. GAO-14-446. Washington, D.C.: May 30, 2014.

Military Training: DOD Met Annual Reporting Requirements for Its 014 Sustainable Ranges Report. GAO-14-517. Washington, D.C.: May 9, 2014.

Military Training: DOD Met Annual Reporting Requirements and Continued to Improve Its Sustainable Ranges Report. GAO-13-648. Washington, D.C.: July 9, 2013.

Military Training: DOD Met Annual Reporting Requirements and Improved Its Sustainable Ranges Report. GAO-12-879R. Washington, D.C.: September 12, 2012.

Military Training: DOD's Report on the Sustainability of Training Ranges Meets Annual Reporting Requirements but Could Be Improved. GAO-12-13R. Washington, D.C.: October 19, 2011.

Military Training: DOD Continues to Improve Its Report on the Sustainability of Training Ranges. GAO-10-977R. Washington, D.C.: September 14, 2010.

Military Training: DOD's Report on the Sustainability of Training Ranges Addresses Most of the Congressional Reporting Requirements and Continues to Improve with Each Annual Update. GAO-10-103R. Washington, D.C.: October 27, 2009.

Improvement Continues in DOD's Reporting on Sustainable Ranges, but Opportunities Exist to Improve Its Range Assessments and Comprehensive Plan. GAO-09-128R. Washington, D.C.: December 15, 2008.

Military Training: Compliance with Environmental Laws Affects Some Training Activities, but DOD Has Not Made a Sound Business Case for Additional Environmental Exemptions. GAO-08-407. Washington, D.C.: March 7, 2008.

Improvement Continues in DOD's Reporting on Sustainable Ranges, but Opportunities Exist to Improve Its Range Assessments and Comprehensive Plan. GAO-08-10R. Washington, D.C.: October 11, 2007.

Improvement Continues in DOD's Reporting on Sustainable Ranges but Additional Time Is Needed to Fully Implement Key Initiatives. GAO-06-725R. Washington, D.C.: June 20, 2006.

Military Training: Funding Requests for Joint Urban Operations Training and Facilities Should Be Based on Sound Strategy and Requirements. GAO-06-193. Washington, D.C.: December 8, 2005.

Some Improvements Have Been Made in DOD's Annual Training Range Reporting but It Still Fails to Fully Address Congressional Requirements. GAO-06-29R. Washington, D.C.: October 25, 2005.

Military Training: Actions Needed to Enhance DOD's Program to Transform Joint Training. GAO-05-548. Washington, D.C.: June 21, 2005.

Military Training: Better Planning and Funding Priority Needed to Improve Conditions of Military Training Ranges. GAO-05-534. Washington, D.C.: June 10, 2005.

Military Training: DOD Report on Training Ranges Does Not Fully Address Congressional Reporting Requirements. GAO-04-608. Washington, D.C.: June 4, 2004.

Military Training: Implementation Strategy Needed to Increase Interagency Management for Endangered Species Affecting Training Ranges. GAO-03-976. Washington, D.C.: September 29, 2003.

Military Training: DOD Approach to Managing Encroachment on Training Ranges Still Evolving. GAO-03-621T. Washington, D.C.: April 2, 2003.

Military Training: DOD Lacks a Comprehensive Plan to Manage Encroachment on Training Ranges. GAO-02-614. Washington, D.C.: June 11, 2002.

Military Training: DOD Needs a Comprehensive Plan to Manage Encroachment on Training Ranges. GAO-02-727T. Washington, D.C.: May 16, 2002.

Military Training: Limitations Exist Overseas but Are Not Reflected in Readiness Reporting. GAO-02-525. Washington, D.C.: April 30, 2002.

GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's website (http://www.gao.gov). Each weekday afternoon, GAO posts on its website newly released reports, testimony, and correspondence. To have GAO e-mail you a list of newly posted products, go to http://www.gao.gov and select "E-mail Updates."

Order by Phone

The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's website, http://www.gao.gov/ordering.htm.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

Connect with GAO

Connect with GAO on Facebook, Flickr, Twitter, and YouTube. Subscribe to our RSS Feeds or E-mail Updates. Listen to our Podcasts. Visit GAO on the web at www.gao.gov.

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Website: http://www.gao.gov/fraudnet/fraudnet.htm
E-mail: fraudnet@gao.gov
Automated answering system: (800) 424-5454 or (202) 512-7470

Congressional Relations

Katherine Siggerud, Managing Director, siggerudk@gao.gov, (202) 512-4400, U.S. Government Accountability Office, 441 G Street NW, Room 7125, Washington, DC 20548

Public Affairs

Chuck Young, Managing Director, youngc1@gao.gov, (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, DC 20548

Please Print on Recycled Paper.