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## STRENGTHENING NATIONAL DEFENSE:

*Countering Encroachment through  
Military-Community Collaboration*



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*A Report of a Panel of the*

**NATIONAL ACADEMY OF  
PUBLIC ADMINISTRATION**

*For the U.S. Department of Defense, Office of Economic Adjustment*

September 2009

## **STRENGTHENING NATIONAL DEFENSE:**

### ***Countering Encroachment through Military-Community Collaboration***

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The views expressed in this report are those of the Panel. They do not necessarily reflect the views of the Academy as an institution.

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## FOREWORD

As population growth and development have accelerated around America's military bases, the interests of these installations and the communities adjacent to them have continued to collide. Clearly, there is a legitimate need for the military to train personnel and to test weapons systems to ensure readiness. At the same time, safety and quality of life in proximate civilian communities must be protected.

The Joint Land Use Study program (JLUS) provides funds and technical assistance to bring the military and surrounding communities together in developing land use policies that balance the needs of both. In 2007, the Defense Department's Office of Economic Adjustment, which administers the JLUS program, asked the National Academy to perform an independent review and evaluation of the Program, the first such evaluation since it was created more than two decades ago.

After extensive interviews with military and civilian officials, visits to six defense communities and a comprehensive review of relevant DOD documents and studies, the National Academy Panel concluded that despite efforts by the DOD, the challenges to military readiness created by nearby civilian communities are significant and growing. The Panel's recommendations are straightforward and specific. Among them is the recommendation for increased collaboration among key stakeholders—local and state governments, non-profit organizations, the Military Services and installations, and other federal agencies—in order to creatively and effectively address these complex and critical issues.

Each of the eight Panel members was intensively involved in the study's field work and the preparation of this report. They were supported by an excellent staff. The National Academy hopes that Congress, the Department of Defense, and state and local governments use this work to further support and strengthen the nation's defense readiness posture.



Jennifer L. Dorn  
President  
National Academy of Public Administration



## EXECUTIVE SUMMARY

Maintaining the ability of military installations and ranges to carry out their missions is vital to the preservation of national security. However, the nation's military forces face serious training and readiness challenges that have the potential to reduce mission readiness and adversely impact national security. **Encroachment**—including incompatible civilian development near military facilities and the expansion of military operations into civilian areas—is increasingly reducing the military's ability to train its fighting forces and execute its missions.

The Joint Land Use Study program (JLUS), administered by the Department of Defense (DoD) Office of Economic Adjustment (OEA), is the only federal government program that provides assistance to communities to help them work with the military to prevent and mitigate encroachment. However, DoD and the Military Departments also have undertaken several other efforts to help address encroachment challenges. One, the Department's Sustainable Ranges Initiative, directly addresses the need to ensure long-term sustainability of military testing and training ranges. Another, the Readiness and Environmental Protection Initiative, or REPI, provides federal funds in support of the purchase of conservation land or easements on lands around military installations and ranges to restrict land uses that would be incompatible with military missions. Beyond encroachment, DoD provides funds to assist communities to adjust to the impacts of significant increases or decreases in the defense presence, including changes resulting from Base Realignment and Closure (BRAC) decisions.

OEA asked the National Academy of Public Administration (Academy) to appoint an expert Panel to study the JLUS program in the context of related DoD efforts and identify ways to improve the program so it can meet current and future encroachment concerns.

The Panel believes that the encroachment challenges facing DoD and the Military Departments are significant and growing. Encroachment takes many forms. Military operations, among other effects, can (1) create intense noise that extends into communities, (2) increase risks of airplane crashes or exposure to unexploded ordnance, (3) contaminate the environment and damage ecosystems, (4) endanger protected species, (5) stress public infrastructure and services, and (6) generate citizen complaints. At the same time, civilian communities can, among other effects, (1) expand development or other activities in ways that constrict the use of military training areas, (2) permit development that can present obstacles to low-flying aircraft, (3) interfere with night-time training through light pollution, (4) degrade electronic navigation and communication frequencies used by the military, (5) fail to support needed public infrastructure for DoD activities, and (6) through development, force the migration of endangered species onto military property.

To meet these challenges, the Panel recommends that the prevention and mitigation of encroachment be given higher priority within DoD. The challenges of addressing encroachment would be better met if existing DoD programs were organized and implemented in a more cohesive, proactive, and inclusive manner at both the headquarters and community levels. The JLUS program has made it possible for DoD and local communities to address numerous concerns at the local and regional levels. The Sustainable Ranges Initiative has enabled progress

in assessing and addressing encroachment on ranges. The REPI program has produced a growing number of mitigation successes.

These steps are not sufficient; DoD needs to do more. It needs a better system to identify risks proactively, target resources to mitigate the greatest risks, and assess progress toward maintaining mission capability through reduced encroachment. The programs that the Panel reviewed, including JLUS, can only go so far toward success without a better overall system.

In addition, the Panel believes that DoD needs a better approach to achieve active and sustained collaboration between military installations and surrounding communities. The Panel's review concluded that collaboration was a vital factor in successful encroachment mitigation and prevention. Too often, the Panel also found that strong obstacles prevented effective collaboration. One such obstacle is the lack of resources in both DoD and the communities. A second obstacle is the lack of mutual understanding on each side about the other side's goals, needs, and processes. A third obstacle is that each of the existing DoD programs to mitigate encroachment, including the JLUS program, is essentially a "one time, as needed" effort. The Panel found that efforts are not institutionalized, that they do not exert long-term influence, and that DoD does not monitor the overall outcomes or impacts of encroachment mitigation efforts.

The Panel believes that strong military and community leadership will be required to overcome these obstacles and to provide the impetus and resources to ensure successful collaborative processes that support installation mission readiness needs. Collaboration works better when it is part of a continuous process. Such a process enables mutual trust and understanding, can support ways to identify emerging problems, and can enable stakeholders to act in a timely manner when specific issues do appear. Finally, both the Military Departments and the local communities have access to additional resources which could be leveraged to address encroachment issues. Many other stakeholders—federal agencies, states, regional organizations, and non-profits—can, and should, be more extensively involved in supporting encroachment mitigation and prevention efforts.

The Panel's specific findings can be summarized as follows:

1. Encroachment is a serious national security issue that has affected and can continue to affect military training, readiness, and test and evaluation missions.
2. Congress, DoD, and the Military Departments have been addressing the encroachment challenge, but progress from these efforts has been insufficient.
3. There is no DoD-wide system to identify encroachment risks, assess priorities, set requirements, provide standards, communicate objectives, or effectively coordinate resources for encroachment mitigation and prevention.
4. Collaboration is a vital factor in successful encroachment mitigation.
5. Strong military and community leadership is required to address encroachment.
6. There is a need for a reliable, continuing process to maintain encroachment mitigation and prevention activities between the installation and the community.



The Panel recommends the following six major actions be taken to improve the JLUS program and to address the encroachment concerns alluded to above.

1. **The Secretary of Defense, through a directive to the Military Departments, should increase the emphasis on activities related to the analysis, prioritization, and mitigation and prevention of encroachment issues on installations, training ranges, and test and evaluation ranges.** These activities should focus on both current and future encroachment challenges and should provide dedicated on-site installation staff to work with communities, training for base and range commanders and their staff on how to work more constructively and proactively with communities, and a procedure to share information on both community and military proposals that might have encroachment impacts.
2. **The Congress should require DoD to combine the annual reports on Sustainable Ranges and REPI and integrate them with an annual report on the JLUS program.** This congressional requirement is needed to support an expanded DoD focus on the breadth of encroachment assessments and on setting encroachment risk priorities proactively across all major DoD facilities. Congressional reporting requirements would encourage assessments and priorities by requiring comprehensive information on encroachment risks and on progress being made toward mitigating them. This information should be reported in a consolidated and expanded annual report that would replace the existing separate reports on Sustainable Ranges and REPI.
3. **The Secretary of Defense should strengthen coordination among the groups that deal with encroachment issues.** Several mechanisms already exist in DoD that can help to improve encroachment mitigation and prevention planning and coordination. There are at least four key groups, DoD's Sustainable Ranges Integrated Product Team, Land Use Inter-Service Working Group, and Senior Readiness Oversight Council, along with the Economic Adjustment Committee, that should be better integrated and utilized. OEA's expertise and experience working at the military-community interface and its leadership role in existing coordination groups should be used to sustain a stronger community-based voice in developing and implementing DoD-wide strategies for maintaining the installations' essential contributions to the nation's military readiness.
4. **The Secretary of Defense should redefine and strengthen the roles of OEA in facilitating military-community relationships.** DoD should make OEA, in coordination with the Military Departments and Services, the main bridge between the Department and its civilian partners, with clearly defined roles for bringing community viewpoints into DoD's and the Military's encroachment mitigation and prevention analysis and planning. The unifying theme to OEA's mission should be sustainment, mission sustainment for military installations and ranges and sustainment of economic viability and quality of life for the communities that support them. To enhance these roles, the Panel recommends establishing a new OEA advisory committee to link DoD better to the many state, local, and non-profit stakeholders that can play an important role in sustainability efforts. This group should build on the many successful ad hoc relationships that already exist with OEA and other DoD and Military Department headquarters and field offices to link DoD more systematically and productively to its non-federal civilian partners.

5. **Congress should consider reshaping the financial assistance mechanisms in which the military and surrounding communities partner in support of military missions. The funds now available for DoD-wide programs could be consolidated into a single, flexible program to provide continuous funding to communities and states associated with military installations.** Funding for OEA’s JLUS and economic adjustment programs and REPI should be managed by a single organization. This could be accomplished administratively by DoD initially. The Panel believes that it is possible that a stronger program could be achieved legislatively. Therefore, Congress should consider consolidating these programs into a single, flexible program designed to support an on-going, institutionalized, and sufficiently resourced local-level collaborative process that would identify problems and systematically prioritize and select the actions best suited to address them.
  
6. **The Director of OEA should strengthen OEA’s emphasis on the JLUS program.** While the Panel believes that Congress should consider consolidating the OEA and REPI programs, it also believes that the JLUS program itself can and should be improved. The JLUS program has contributed significantly to improved military-community relations as well as to reduced encroachment. This capability can be further enhanced by OEA’s taking steps to focus more on following up on the implementation of JLUS recommendations, assessing program outcomes, working to increase state support, and encouraging the use of a broader range of encroachment mitigation and prevention tools.

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The Panel believes that the program enhancements recommended above are all feasible and essential. They can be instrumental in making great strides toward improving military readiness, enhancing national security, and sustaining more livable civilian communities.

**The Panel observes that federal action will not be sufficient, by itself, to reduce encroachments to levels acceptable to both the military and civilian communities.** The Panel believes states and local communities share, with the federal government, inherent responsibilities to support national defense, and the recommendations above should lay a solid foundation for strengthening their engagement with DoD and the Military Departments in supporting military readiness. Since the Panel’s study did not include a full assessment of state and local government resources for, or incentives and disincentives to, support military readiness, the Panel believes it would be useful for DoD to initiate a national dialogue with regard to shared defense responsibilities and roles and to develop a better understanding of the need for state and local governments to play a stronger role in supporting DoD missions.

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## ACRONYMS

<b>Academy</b>	National Academy of Public Administration
<b>AICUZ</b>	Air Installation Compatible Use Zone
<b>BLM</b>	Bureau of Land Management
<b>BRAC</b>	Base Realignment and Closure
<b>DoD</b>	Department of Defense
<b>JLUS</b>	Joint Land Use Study
<b>LUIWG</b>	The Land Use Inter-service Working Group
<b>OEA</b>	Office of Economic Adjustment
<b>OIPT</b>	Overarching Integrated Product Team
<b>ONMP</b>	Operational Noise Management Program
<b>RAICUZ</b>	Range Air Installation Compatible Use Zone
<b>REPI</b>	Readiness and Environmental Protection Initiative
<b>SRI</b>	Sustainable Ranges Initiative
<b>SROC</b>	Senior Readiness Oversight Council
<b>WIPT</b>	Working Integrated Product Team



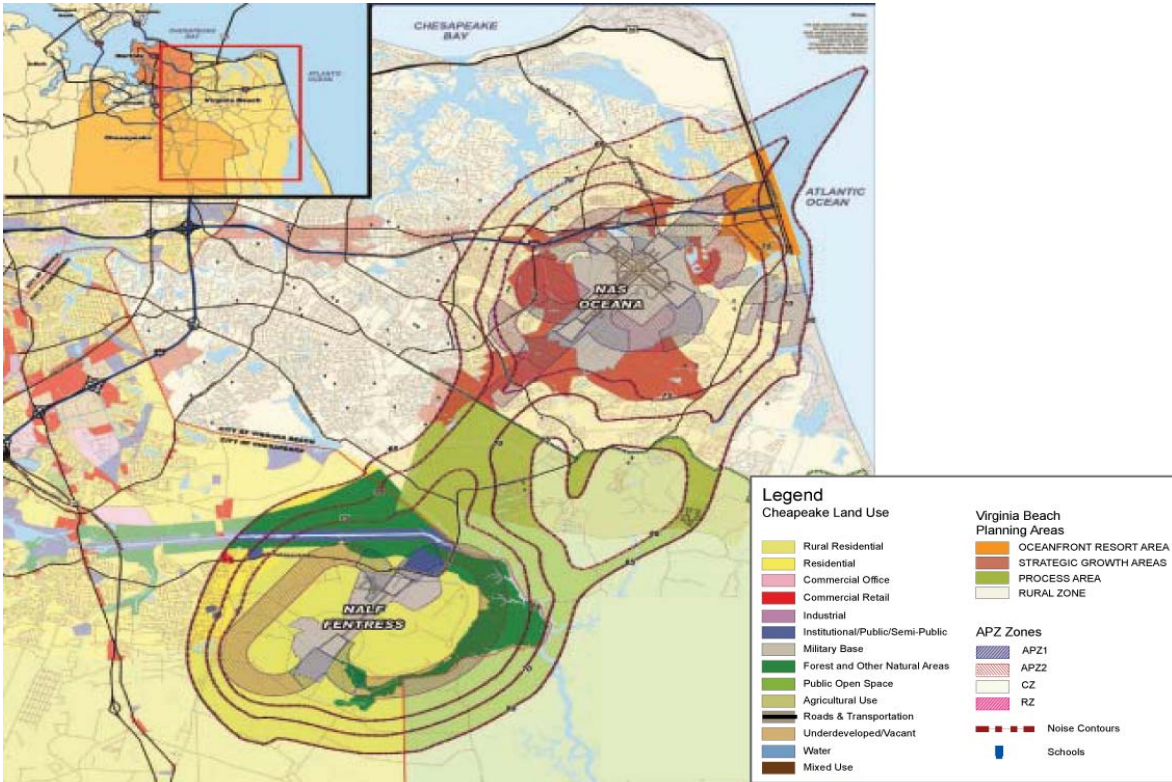
## INTRODUCTION

In late 2007, the Department of Defense (DoD) Office of Economic Adjustment (OEA) asked the National Academy of Public Administration (Academy) to provide an independent outside evaluation of the Joint Land Use Study (JLUS) program and recommend any improvements that might be needed from the viewpoints of military and community stakeholders and for the purpose of improving the implementation of JLUS recommendations. The evaluation began in September 2007 and was completed in June 2009. The Panel's evaluation focused on three broad areas: (1) developing an OEA/JLUS program vision for 2010 and beyond; (2) improving the implementation and enforcement of JLUS compatible-land-use recommendations; and (3) enhancing the relationship of OEA to other DoD encroachment management organizations and programs.

The JLUS program, administered by OEA, was initiated in 1985 as a cooperative land use planning effort between military installations and the surrounding communities, and it was reengineered in 1998. It is now one of several tools being used by DoD to address community encroachments on the operations of military installations, including both installations and the testing and training ranges associated with them. It also addresses the encroachment of military operations on civilian communities.

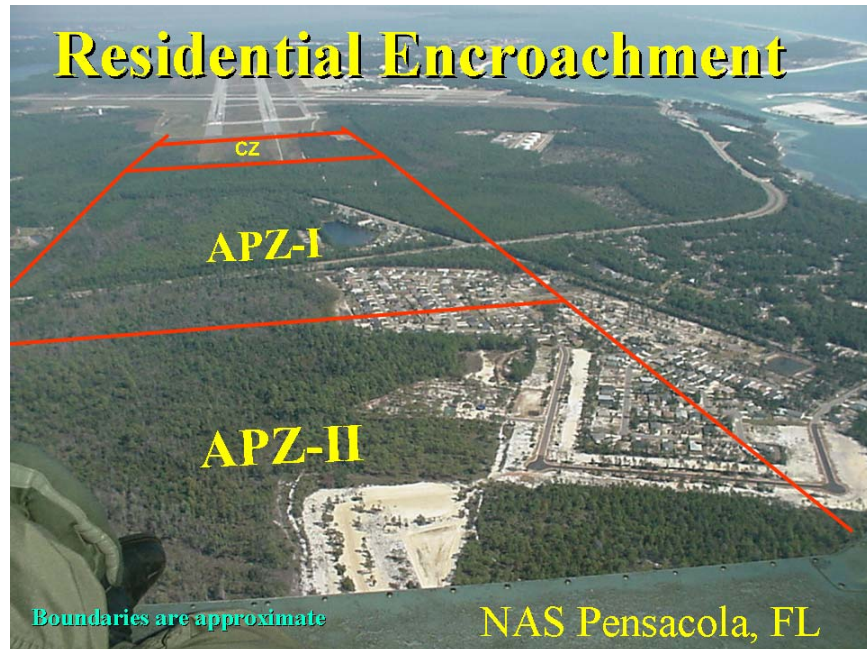
In recent years, DoD has become increasingly concerned about the negative impacts of encroachment on its ability to maintain readiness. Incompatible civilian development, a major concern, includes, for example, development near installation boundaries so that noise from the installation becomes objectionable to residents or air operations near the boundary become no longer feasible because safety zones extend into the community. Figure 1 shows a typical noise contour map super-imposed on existing urban development, and Figure 2 shows the potential crash zone and glide path protection zones at the end of one military runway. Together, these maps create an Air Installation Compatible Use Zone (AICUZ). Since the mid-1970s DoD has been providing these types of maps, along with suggested compatible land uses, for local planners to use in planning, including applying zoning overlay restrictions and noise attenuation ordinances.

**Figure 1. Illustration: Air Installation Compatible Use Zone**



Source: Hampton Roads presentation to Panel, September 16 and 17, 2008

**Figure 2. Illustration of Potential Crash Zones and Glide Path Protection Zones**



Source: OEA

CZ – Clear Zone  
APZ – Accident Potential Zone



More recently many other types of encroachment have created increasing concern. For example, in the current era of technology-supported warfare, community interference with military communications (electromagnetic spectrum) and training equipment (such as night vision equipment) present significant challenges. DoD is also concerned about limitations on use of land and sea ranges resulting from environmental protection requirements. Figures 3 and 4 on the following pages illustrate and describe several types of military encroachment on civilian communities and civilian encroachment on military installations and ranges.

Encroachment prevention is one key element in DoD efforts to ensure sustainability of testing and training ranges, installations, and military operations. While the military once looked only “inside the fence” to sustain its readiness, it has increasingly recognized that sustainability also relies on factors “outside the fence,” where it must address issues related to the local economy and community livability. These include the impacts of base realignments, closures, and growth on the communities; community planning and growth; preservation of natural and cultural resources; and the quality of life in neighboring communities. OEA is the only DoD entity that provides funding to state and local governments to undertake their own compatible use planning.

Early in the Panel’s study it became clear that much has happened in DoD since 1985 when the JLUS program was created. Especially since 2001, encroachment’s increasing potential to limit readiness has sparked expanded efforts and interest by DoD and the Military Departments.<sup>1</sup> For these reasons, the Academy Panel and OEA agreed that the JLUS program would be evaluated within the context of all the encroachment mitigation and prevention programs now being pursued by other offices within the Office of the Secretary of Defense, the four Military Services, and other DoD components. Consequently, the Panel’s findings and recommendations for improving encroachment mitigation and prevention programs address a broad range of issues.

This report and the Panel’s findings and recommendations were developed after: (1) extensive meetings with officials in the Office of the Secretary of Defense, OEA, the Military Departments, and other experts; (2) review of pertinent documents; and (3) visits to selected defense communities, where Panel members met with both installation and community officials.<sup>2</sup> The evolution of the findings and recommendations is documented in several research papers prepared throughout the study and in the minutes of 12 Panel meetings held throughout the almost 2-year duration of the study. All of these materials were provided to OEA during the course of the study. Appendix A provides brief biographical sketches of the Academy Panel members who conducted this study and the study staff. Appendix B provides more details on the study scope and methodology. Appendices C and D list the officials and experts contacted and selected documents reviewed during the study. Appendix E briefly describes the main planning and regulatory tools available to mitigate and prevent encroachments. Appendix F summarizes the Panel’s six site visits. Appendix G provides access to key presentations made “on the record” to the Panel. All appendices are available on the Academy’s website (<http://www.napawash.org>).

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<sup>1</sup> December 4, 2001 memorandum from the Deputy Secretary of Defense, Paul Wolfowitz, to the Secretaries of the Military Departments, and others, “Sustainable Defense Readiness and Ranges Initiative,” and Panel discussion with DoD officials, May 27 and 28, 2008 (Appendix G).

<sup>2</sup> Most of the information in this report is current as of May 2009, when the Panel completed its field work.

### Figure 3 ENCROACHMENTS ON CIVILIAN COMMUNITIES AND LANDS CAN TAKE MANY FORMS



*Fighter flying low over housing*

**Noise** is one of the longest recognized encroachments of the military on nearby communities. Each weapon system has its own noise profile, and much of the noise is contained within the military base or range. Aircraft and other noise often spreads well beyond the borders of military land, lowering the quality of life in the community. Aircraft noise contour maps show the intensity of noise at various distances from the military land, and those contours help limit new development to be compatible with noise levels in those locations and to require soundproofing in new buildings.



*Crashed plane*

**Crashes** do occur occasionally, and they are most likely in take-off and landing zones. Where these zones extend beyond military lands, the military works with communities to encourage local zoning maps that limit the types of civilian land uses allowed there.



*Unsafe Drinking Water*

**Contamination**, generally of public water supplies and/or wells, can occur via runoff or seepage from military lands contaminated by explosives or other toxics that end up in streams or that seep into underground aquifers. Unattended surface debris or improper underground burial of hazardous materials may be the cause.



*Wildfire*

**Ecosystem Damage** may occur in areas regularly used for explosives and other intense training or testing exercises. Wildfires are also a constant threat in some areas. These disturbances may result in excessive erosion and damage to vegetation and wildlife extending outside the military land. This photo shows routine "prescribed burning" that is conducted to keep excess fuels from building up to hazardous levels.



*Traffic congestion, impact of growth*

**Stress on Public Infrastructure and Services** can be severe when a military base grows, especially if the growth is sudden and unplanned. Transportation impacts often are the most noticeable, but water supply and sewage treatment systems, public schools, and housing inventories may also be impacted.



*Conference with military and civilians*

**Inadequate Communication** often causes friction between the military and civilian communities that may increase impacts on communities and military operations. Lack of timely information about military changes prevents advance planning for civilian accommodations, and lack of military participation in community planning processes adjacent to the installation allows incompatible land uses to develop unnoticed. In some cases, there is inadequate notice or control of development for either the military or communities to take action.

**Figure 4**  
**ENCROACHMENTS ON MILITARY BASES, RANGES, AND OPERATIONS CAN TAKE MANY FORMS**



*Formal hearing showing community outreach*

**Citizen Complaints** arise from many sources such as noise, threats of airplane crashes, pollution, ecosystem damage, stress on public infrastructure, stress on public services, impacts on the local economy, and inadequate communication. Strong citizen complaints may cause the military to modify or transfer operations. Such limitations can reduce training, test and evaluation activities, and readiness. Expansions of military land such as the example depicted on the report's back cover can reduce such complaints but may produce other complaints and opposition.



*Endangered red-cockaded woodpecker*

**Wildlife Hazards and Endangered Species Protection.** Human developments near military land increasingly reduce places where wildlife can live and pushes more animals onto military land as a refuge of last resort. Some wildlife (birds for example) can pose serious hazards to military operations such as airplane take-offs and landings. In other cases, the wildlife may be endangered or threatened, and environmental laws require the Military Services to protect them and their habitat, limiting military uses of military lands. The presence of this bird at Fort Bragg, North Carolina has placed a portion of the base off-limits to military operations.



*Energy generating windfarm*

**Obstacles to Low-flying Aircraft** on land surrounding military installations can interfere with military needs to fly over non-military land to train realistically for the close ground-support scenarios being encountered on today's battlefields. Cell-phone towers and energy-producing windmills are hazards to such training. When urban development grows closer to military lands and consumes a greater proportion of the land around a military facility (as shown on the front cover of this report), the likelihood of such obstacles increases.



*Cell phone tower*

**Communications Frequency Interference** can impose significant limitations on realistic training of electronically networked fighting forces. Such interference poses particularly difficult challenges to mitigation because of federal jurisdiction issues and because the sources of interference can be far away from the base.



*Light Pollution photo from Ft. Bragg Study*

**Light Pollution** from urban developments can impose significant limitations on night-vision training of military forces. Light pollution ordinances are being developed to guard against domestic light sources intruding into military training locations.

## **THE CONTEXT IN WHICH THE JLUS PROGRAM OPERATES**

DoD and the Military Departments began efforts to mitigate encroachment in the 1970s. The DoD JLUS program began in 1985, and DoD initiated actions in 2001 to ensure sustainability of ranges. This evolution of encroachment mitigation and prevention initiatives and tools is described briefly below.

### **Early Encroachment Mitigation and Prevention Efforts**

In the mid-1970s, DoD established programs in response to existing and potential risks of incompatible land development compromising military installations. These early programs—the Air Installation Compatible Use Zone (AICUZ) Program, the Range Air Installation Compatible Use Zone (RAICUZ) Program, and the Operational Noise Management Program (ONMP)—continue today and focus on noise and safety issues. Their goal is to promote compatible development in areas within significant aircraft accident potential and high noise areas on and off military bases, including permissible building heights in flight safety zones. Under those programs, bases prepare maps showing noise and flight safety zones around bases. They provide those maps to communities with recommendations for land uses that would be appropriate in the areas that present noise and safety concerns.<sup>3</sup>

During the 1980s and 1990s, DoD became increasingly active in mitigating environmental impacts, for example, by complying with the Endangered Species Act and working through the National Environmental Protection Act process. Population growth and development around military bases threatened training and other operations. Commanders had to limit their use of ranges to protect threatened and endangered species, which may have been driven onto the base as civilian development eliminated their traditional habitats.<sup>4</sup>

For decades, then, base commanders had been altering training methods and places to “work around” these encroachment issues—which DoD believed were expanding in both number and type. By the year 2000, some commanders felt these multiplying workarounds had accumulated to the point that they had unacceptably decreased military readiness. It had also become clear that the interests of bases and ranges were going to continue to collide with the interests of communities, as civilian development continued to grow.

In December 2001, the Deputy Secretary of Defense issued a memorandum which highlighted the importance placed on encroachment at that time. The efforts initiated by that memorandum primarily focused on obtaining relief for DoD from some of the environmental requirements and ensuring consistency among the Military Services in pursuing that goal. The memorandum also tasked the Under Secretary of Defense for Personnel and Readiness, in partnership with the Deputy Under Secretary of Defense for Installations and Environment, the Director, Operational Test and Evaluation, and the Military Departments, to establish an Integrated Product Team. The purpose of the Integrated Product Team was to act as the “DoD coordinating body for all

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<sup>3</sup> Studies supporting these programs are based on sophisticated, computer-based noise models, Federal Aviation Administration guidelines, DoD Directives, and community land use planning principles and practices. (OEA Joint Land Use Planning brochure)

<sup>4</sup> See Beard briefing to the Panel, May 27. ( Appendix G)



issues of encroachment on our ranges, operating areas, and other locations where we train or test and evaluate new weapons and sensors.”<sup>5</sup> This Integrated Product Team is discussed later in this report.

## **OEA Programs**

Since its inception in the 1960s, OEA has worked with communities to help them support military and DoD-wide missions.<sup>6</sup> A primary focus of its efforts has been working with communities that face significant economic impact from the loss or significant downsizing of a base or major defense industry, including bringing in support from other agencies to help redevelop the base for some civilian use or taking other steps to help reinvigorate the local economy. After workload declined in the 1970s and 1980s, OEA’s workload substantially increased as Base Realignment and Closure (BRAC) Commission decisions began to impact significant numbers of “losing” communities. To a greater extent than previous BRAC rounds, the 2005 round of BRAC decisions, along with several other DoD and Military Service initiatives, resulted in many communities facing substantial increases in military presence. These increases bring different pressures to bear on these communities, and OEA has been increasingly busy working with them to help develop the physical and social infrastructure needed to support the larger installations.

When the JLUS program was created in 1985,<sup>7</sup> it focused on helping communities work with installations though the existing Military Service programs focused on noise and safety issues. In that role, the JLUS program provides both funds and technical assistance to bring the community and military together to study and recommend community land use policies designed to balance community and military needs and to make changes to allow an installation’s mission to continue. The JLUS program is the only DoD program that provides both funding and technical assistance directly to communities to allow them to be active partners with the installations for this purpose. The JLUS program is one of the smallest programs operated by OEA, funding about \$1 to 2 million in grants to communities each year. The largest OEA program by far—about \$45 million in 2007—provides economic adjustment assistance related to establishment, expansion, realignment, or closure of a military base.<sup>8</sup> Currently, the Director of OEA reports directly to the Deputy Under Secretary for Installations and Environment, in the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics. Historically, OEA has operated under a wide variety of organizational arrangements.

## **Sustainable Ranges Efforts**

Section 366 of the National Defense Authorization Act for 2003 requires DoD to develop a comprehensive plan to address training constraints caused by limitations on the use of military training ranges. It also mandates an annual status report to Congress. Additionally, the Defense

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<sup>5</sup> December 4, 2001 memorandum from the Deputy Secretary of Defense, “Sustainable Defense Readiness and Ranges Initiative,” and Panel discussion with DoD officials, May 27 and 28, 2008.

<sup>6</sup> OEA operates under the authority of 10 USC 2391, Executive Order 12788, and DoD Directive 3030.01.

<sup>7</sup> The statutory basis for OEA assistance was expanded specifically to include encroachment in Public Law 100-456, September 29, 1988. JLUS policies, responsibilities and procedures are set forth in DoD Instruction 3030.03, *Joint Land Use Study (JLUS) Program*, July 13, 2004.

<sup>8</sup> Catalogue of Federal Domestic Assistance: <http://www.cfda.gov/DFDA.pdf> (March 17, 2009).

Authorization Act for 2004 (Section 320) requires DoD to report on the impacts of civilian encroachment on military installations and on operational ranges that may require buffers.

In January 2003, DoD Directive 3200.15, “Sustainment of Ranges and Operating Areas,” established the core requirements and responsibilities for training and testing range sustainability. This directive set forth key sustainment policies, including that ranges and operating areas be managed to support long-term viability; that management of functional elements of installations, ranges and operating areas be integrated; and that planning and management consider current and future encroachment concerns, environmental considerations, financial obligations, and safety factors. It also established key encroachment mitigation and prevention responsibilities within DoD and the Military Departments.

The directive states (Section 5.1) that the Under Secretary for Personnel and Readiness—in coordination with the Director, Operational Test and Evaluation, and the Under Secretary for Acquisition, Technology, and Logistics, and through the Defense Test and Training Steering Group—shall, among other things:

- Prepare guidance for developing range and operational area sustainment programs within the DoD Components
- Ensure inventories of training ranges and operational areas are completed, updated, and maintained in a geographic information system
- Provide oversight of operational ranges used for training and ensure that DoD-level programs are in place to protect the future ability of the Components to conduct force training, as required
- Establish means to assess the readiness benefits of range and operational area sustainment initiatives and monitor the readiness impact of external encroachment on operational ranges used for training

In addition, the Office of the Under Secretary for Personnel and Readiness has lead responsibility for developing and overseeing implementation of DoD’s Comprehensive Training Range Sustainment Plan—working through the Senior Readiness Oversight Council,<sup>9</sup> the body charged with advising the Secretary of Defense on readiness issues and overseeing readiness-related activities.<sup>10</sup>

The 2003 directive states (Section 5.8) that the Director, Operational Test and Evaluation, shall, among other things:

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<sup>9</sup> Office of the Deputy Secretary of Defense (Personnel and Readiness) *Report to Congress on Sustainable Ranges 2008* (2008 Sustainable Ranges Report), p. 127. <https://www.denix.osd.mil/portal/page/portal/denix/range>

<sup>10</sup> The Under Secretary for Personnel and Readiness also submits the annual report to Congress required under the National Defense Authorization Act for 2003. Two parts of that report are an assessment of training range capabilities and of encroachment impacts on training ranges.

- As Chair of the Defense Test and Training Steering Group, monitor and report regularly on the progress of the range and operational area sustainment initiative to the Senior Readiness Oversight Council
- Provide oversight of operational ranges used for testing and ensure that DoD-level programs are in place to protect the future ability to conduct testing, as required
- Establish means to assess the readiness benefits of range and operational area sustainment initiatives and monitor the readiness impact of external encroachment on operation ranges used for testing<sup>11</sup>

Section 5 also spells out responsibilities for other officials, such as the Deputy Secretary for Acquisition, Technology and Logistics. The Military Departments are charged with carrying out the sustainment policy, including among other things issuing implementing policy and guidance and providing necessary resources.

### **Sustainable Ranges Initiative**

The Sustainable Ranges Initiative (SRI) is an umbrella program that supports the Department's Comprehensive Training Range Sustainment Plan. It is designed to address encroachment, meet new global defense posture requirements, and mitigate potential impacts on training, testing and evaluation, and readiness.<sup>12</sup> As described by DoD, the SRI addresses near-term and long-term sustainability by supporting:

- Development of range requirements and needs of DoD and the Military Services
- Identification of Service-specific and DoD-wide encroachment and range sustainability issues
- Evaluation of the availability, accessibility, and usability of existing range resources
- Development of program goals and articulation of the actions necessary to achieve them, and establishment of milestones to validate progress
- Initiation of necessary program legislative, regulatory, outreach activities<sup>13</sup>

### **Readiness and Environmental Protection Initiative**

The Readiness and Environmental Protection Initiative (REPI) program, created by Congress in the 2003 National Defense Authorization Act and first funded in 2005, is a key component of SRI. REPI is administered by the Office of the Deputy Under Secretary for Installations and Environment, which also is responsible for preparing an annual report to Congress on the status

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<sup>11</sup> In March 2004, DoD established the DoD Test Resource Management Center—reporting to the Under Secretary for Acquisition, Technology, and Logistics. The Center's mission is to plan for and assess the adequacy of the portion of the testing facilities included in the department's Master Range and Test Facility Base. The Director's responsibilities include coordinating with the Director, Operation Test and Evaluation, on testing and evaluation facility and resource matters as they impact the Director, Operation Tests and Evaluation's responsibilities. (DoD Directive 5101.71, *Department of Defense Test Resource Management Center (TRMC)*, March 8, 2004.)

<sup>12</sup> 2008 Sustainable Ranges Report, p. 127.

<sup>13</sup> *Ibid.*, p. 127.

of the program.<sup>14</sup> The REPI legislation authorizes DoD to partner with states, local governments, and non-governmental organizations to cost-share the acquisition of conservation/restructure-use easements and other interests in land from willing sellers to create conservation buffers around military installations and ranges to protect the training and testing mission and simultaneously to support environmental preservation. Partners contribute significant portions of the funding for the purchases. Appropriations for the first three full years of operation totaled \$89.5 million. Another \$121.4 million were contributed by partners, through 16 partnerships with state and local governments and 22 with non-governmental organizations.<sup>15</sup>

The Office of the Deputy Under Secretary for Installations and Environment also is responsible for other non-operational efforts under SRI. One major effort is creation and support of large, multi-state regional coordinating bodies. One such body, the Southeast Regional Partnership for Planning and Sustainability, was established in 2005. Environmental and natural resource officials from five states joined with DoD, the Military Services, and other federal agencies to promote better collaboration in making resource-use decisions that support conservation of natural resources, economic development, the missions of military installations, and other goals to provide a “sustainable world.”<sup>16</sup> A similar effort, the Western Regional Partnership, has begun working to address better regional and interagency cooperation in five western states.<sup>17</sup> The Deputy Under Secretary’s office also has worked with non-governmental organizations and others to develop a series of primers for use by the Military Services and installations in dealing with state and local jurisdictions and non-governmental organizations.<sup>18</sup> A portion of REPI funding is used to support the overall SRI effort.

### **Military Department Range Sustainment Programs<sup>19</sup>**

The installations and ranges are the encroachment “first responders.” The Military Departments “own” the installations and ranges. They do the planning and provide the funding and other resources to maintain, operate, and improve the training and testing ranges that support military missions. The installation and range commanders develop responses to encroachment—often in the form of workarounds—to limit testing and training impacts on civilian populations or to protect habitat and natural resources. They are the first to see when workarounds are no longer

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<sup>14</sup> Until November 2008, the REPI program was administered by the Environmental Readiness and Safety Directorate in the Office of the Deputy Under Secretary for Installations and Environment. In November 2008 the Deputy Under Secretary reorganized the BRAC Directorate into a new Basing Directorate, which is responsible for managing base infrastructure. Among other things, the new directorate will house all of the office’s real estate functions, including management of the REPI program.

<sup>15</sup> Office of the Deputy Under Secretary of Defense for Installations and Environment, *Readiness and Environmental Protection Initiative: Second Annual Report to Congress*, 2008 (2008 REPI Report), p. 12.

<sup>16</sup> [www.SERPPAS.org](http://www.SERPPAS.org) (last accessed March 31, 2009).

<sup>17</sup> [www.wrpinfo.org](http://www.wrpinfo.org) (last accessed August 8, 2009).

<sup>18</sup> In addition to the *Commanders Guide to Community Involvement*, primers have been developed with guidance for working with land trusts, state legislators, and local governments, as well as guidance on collaborative planning by installations and local governments and on preserving farm, forest and ranch lands. These primers are included in the selective bibliography (Appendix D).

<sup>19</sup> This discussion is based on information in the 2007 and 2008 Sustainable Ranges Reports; the 2007 RAND report, *The Thin Green Line* (pp. 48-56); information provided by presenters at the Panel’s Meetings on June 18 and 19 and August 5, 2008 (Appendix G); and follow-up contacts with persons knowledgeable about programs of the Military Departments.



possible without affecting mission accomplishment. Installation personnel develop the maps and other information that define the areas of concern, and installation personnel work with the communities in an effort to resolve emerging problems.

Each of the Military Departments is implementing a broad sustainability program in response to DoD's January 2003 sustainable ranges directive. The programs include range complex management plans, outreach efforts, and other aspects required by DoD. The Military Departments are also expanding their encroachment mitigation and prevention efforts "outside the fence" beyond those that focus on achieving compatible land use within noise and safety zones. In part, installation personnel are increasing their emphasis on creating conservation buffers. For many years, under the Sikes Act,<sup>20</sup> the Military Departments have partnered with state and local governments, and others, to maintain and improve natural resources. However, this authority was directed almost entirely to efforts on military installations. DoD did not believe the Sikes Act gave clear authority for using such partnerships off base.<sup>21</sup> Through the REPI program, Congress authorized—and funded—the use of conservation buffers for protecting both the environment and the military mission. These buffers are seen by most DoD officials the Panel talked to as an especially promising approach for protecting military operations and ensuring readiness, but there is no process or basis across DoD for prioritizing REPI and related Military Service buffer programs.

The Military Service encroachment mitigation and prevention programs are developing at different speeds and with different emphases. A prime focus of the Army's program is its Army Compatible Use Buffer Program, which uses the authority in the REPI statute. This program has used REPI funds since they first became available in 2005, as well as Army funds, to partner with other organizations to purchase easements. The Army formalizes its partnerships through cooperative agreements and can obligate funds to partners in increments, allowing funding to carry over from year to year, and, if necessary, build over several years to reach the level needed to make the desired purchase. Under the Army approach, its conservation partners have primary responsibility for managing the parcels they acquire, including enforcing the terms of the conservation easements.

The core of the Navy and Marine Corps approaches to encroachment mitigation and prevention is the installation- and range-level Encroachment Management Program, which requires preparation of an Encroachment Action Plan (Navy) and Encroachment Control Plan (Marine Corps) for each facility. These plans are to be strategic and holistic by:

- Looking both inside and outside the fence
- Considering both current and future encroachment
- Integrating related programs and plans, including those aimed at noise and safety as well as those that address natural and cultural resources

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<sup>20</sup> Public Law 86-797, September 15, 1960 (16 U.S.C. 670a-670o; 74 Stat. 1052).

<sup>21</sup> Office of the Secretary of Defense, Deputy Under Secretary of Defense (Installations and Environment), *Department of Defense Report to Congress on the Readiness and Environmental Protection Initiative* (2007 REPI Report), June 2007, p. 6.

Though the community is consulted in plan development, the Navy plans are not shared with the community, in part because they identify potential buffer areas. The Navy believes that sharing that information could substantially increase land values before buffers are purchased. The recommendations in the Marine Corps plan, developed by the base, are shared with local communities, and the base works with communities to encourage implementation. The Marine Corps identifies potential land acquisitions in a separate document that is not shared with the public. This ensures that sensitive information is not made public but allows the Marine Corps to engage the community with the results of its encroachment plan. The Marine Corps is working to establish procedures under which Encroachment Control Plans would be integrated with the JLUS process.

The Marine Corps has also created the position of Community Plans and Liaison Officer. These individuals are responsible for representing the base commander with the community, providing community outreach and education, and participating in community planning actions, recognizing that the installation is a landowner in the community. The Navy has also begun to fund these positions. Both of these Services have implemented Encroachment Partnering Programs. Both Services work more often with restrictive easements—focused on preventing incompatible use rather than natural resource benefits. With regard to these restrictive easements, the Services retain significant responsibilities for negotiating and executing the acquisition, including responsibility for enforcing the terms of the easements. Both programs have begun to use multi-year agreements which allow funds to be obligated in one year and expended throughout the life of the agreement.

Until recently, the Air Force’s encroachment mitigation and prevention efforts relied heavily on traditional noise and safety programs. The Air Force strategy is first to use no or low cost options, including the AICUZ Program, sometimes working with the JLUS program; working with other federal, state and local governments through formal coordination agreements; land swaps with other federal agencies; and, in some cases, legislation. Once those approaches are exhausted, if action is still needed, authorities to acquire interest in land may be pursued.<sup>22</sup> The Air Force did not request REPI funding until 2007, and consequently, at this time has limited experience with that program. The Air Force is “in the process of developing a framework that integrates the various tools into a comprehensive encroachment management strategy.”<sup>23</sup>

## **LESSONS LEARNED FROM PANEL SITE VISITS**

Members of the Academy Panel visited six defense communities that had completed, or were in the process of conducting, a JLUS study. The Panel members met with installation and community officials about the JLUS studies concerning:

- Naval Air Station Oceana, Virginia
- Marine Corps Air Station Cherry Point, North Carolina
- Fort Bragg/Pope Air Force Base, North Carolina

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<sup>22</sup> 2007 REPI Report, p. 64.

<sup>23</sup> *Ibid.*, p. 10.

- Joint Base McGuire-Dix-Lakehurst, New Jersey
- Eglin Air Force Base, Florida
- California R-2508 (Fort Irwin, Edwards Air Force Base, and China Lake Naval Air Weapons Station)<sup>24</sup>

These site visits were for the purpose of educating the Panel about actual JLUS cases at the installation level. Broadly speaking, these visits were designed to determine what worked well and to identify the areas where changes and/or improvements might be appropriate. The Panel came away from these visits with 12 lessons which helped to frame its findings and recommendations.

1. The JLUS process itself has intrinsic usefulness.
2. Agreement on the JLUS scope and process by all the sponsors should be obtained before the study begins, to avoid the false start that occurred at one of the sites visited.
3. A commitment to continuous active interaction between military and the community at the local level can both prevent encroachment problems and speed solution of those problems that do occur. This should include sharing of on-base and off-base plans and development proposals.
4. A formal, institutionalized process for preventing and mitigating encroachments helps ensure effective, on-going commitment to military/community interactions.
5. Including all locally affected stakeholders in the process can be helpful.
6. States can play an important role in supporting compatible use at the local level.
7. Regional organizations can provide valuable support for the JLUS process and an on-going venue for community/military interactions.
8. Resource limitations at the local level may slow or prevent implementation of JLUS recommendations and may limit abilities to participate actively in an on-going interactive process.
9. Mechanisms to facilitate sharing of best practices—including guidebooks—can facilitate individual JLUS studies as well as more general on-going interactions.
10. Compatible use goals often coincide with goals of other protection and planning programs that might provide funding.
11. Leadership is critical, and individuals can make a significant difference.
12. The collaborative process should work toward establishing compatible uses inside the base as much as outside.

Several of these lessons have been referenced in the subsequent discussion of the Panel's findings. Details on information and lessons learned at each of the six military communities visited are provided in Appendix F.

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<sup>24</sup> Several Panel members met in person with State and local officials in California. Subsequent to that meeting, a Panel member contacted military officials at the R-2508 participating installations by phone.

## PANEL FINDINGS

Based on its research, the Panel has made the following six major findings:

1. Encroachment is a serious national security issue that has affected and can continue to affect military training, readiness, and test and evaluation missions.
2. Congress, DoD, and the Military Departments have been addressing the encroachment challenge, but progress from these efforts has been insufficient.
3. There is no DoD-wide system to identify encroachment risks, assess priorities, set requirements, provide standards, communicate objectives, or effectively coordinate resources for encroachment mitigation and prevention.
4. Collaboration is a vital factor in successful encroachment mitigation.
5. Strong military and community leadership is required to address encroachment.
6. There is a need for a reliable, continuing process to maintain encroachment mitigation and prevention activities between the installation and the community.

The Panel has made sub-findings under each of these major categories, which provide a fuller understanding of the current status of the DoD and Military Service encroachment management and sustainability programs. The Panel's detailed findings follow.

**FINDING 1: Encroachment is a serious national security issue that has affected and can continue to affect military training, readiness, and test and evaluation missions. More specifically:**

- **Risks created by civilian development close to installations, training ranges and test and evaluation ranges pose an increasing danger to the preservation of mission capability.**
- **Military encroachments on civilian spaces (land, water, and airspace) adjacent to military installations and ranges can adversely impact civilian living conditions.**
- **The military and community perspectives on encroachment differ significantly.**
- **Encroachment mitigation and prevention can require expanding the land inside the installation, limiting civilian land use around installations to uses that are compatible with military operations, or modifying those military operations.**
- **If current and potential encroachment problems—including emerging issues such as sharing the electronic spectrum—are left unattended, addressing them in the future will be more difficult and costly.**

Maintaining the ability of military installations and ranges to carry out their missions is vital to the preservation of national security. However, civilian encroachments on military bases and associated training and testing ranges, and on the access corridors that connect them, are having

negative consequences for military readiness, making it more difficult for the Military Services to meet their essential mission goals. As discussed earlier in this report, DoD has become increasingly concerned about the extent to which encroachments are forcing changes in training operations and the cumulative impact of those changes, although DoD maintains that these changes are sufficient to maintain readiness and accomplish essential missions for the time being. Diligent efforts to prevent and mitigate these encroachments are critical to preserving mission readiness and ensuring America's national security.

**Testing and training ranges play a vital role in readiness.** Many in DoD have noted the vital role of testing and training ranges in ensuring quality training and development of weapons systems. In its 2008 report to Congress on training range sustainability, DoD said that training and testing ranges use land, airspace, sea surface and undersea areas located in the US (and abroad) to maintain fully trained and ready forces. To prepare forces properly for combat, DoD must train at ranges that encompass all the terrain, land cover, and climate conditions that military personnel and weapon systems may encounter. The ranges are critical because they

- Provide a realistic environment needed for the development of tactics
- Enable increased force combat survivability and success
- Allow for the testing and demonstration of weapons
- Permit operational proficiency and mission readiness

In summary, the report notes that, “[S]ustaining these ranges is critical to ensuring readiness.”<sup>25</sup>

**Encroachment hinders preservation of mission readiness.** The Panel found evidence of encroachment's negative impact on training from many sources as it conducted this study.

Encroachment can take many forms,<sup>26</sup> as demonstrated in Figures 3 and 4, and can limit training in many ways. Significant development near an installation can, for example (1) constrict the use of military training areas, (2) present obstacles to low-flying aircraft, (3) interfere with night-time training through light pollution, (4) degrade electronic navigation and communication frequencies used by the military, and (5) force the migration of endangered species onto military property—requiring restricted or cessation of activities in that area.<sup>27</sup>

The impacts on mission readiness of operational constraints caused by encroachment are not always immediately obvious, however. They can build over time, and measuring them is difficult. The installations have developed “workarounds”—for example limiting night-time artillery practice to reduce noise or changing flight paths to reduce the risk of accidents over residential zones. As development gets closer to the bases, workarounds may become increasingly problematic, or acceptable workaround options may no longer exist. The Panel

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<sup>25</sup> 2008 Sustainable Ranges Report, p. 2.

<sup>26</sup> DoD summarizes constraints experienced by training ranges in 12 encroachment areas: endangered species/critical habitat, unexploded ordnance/munitions, frequency encroachment, maritime sustainability, air space restrictions, air quality, airborne noise, urban growth, cultural resources, water quality, wetlands, and range transients.

<sup>27</sup> Communities also can negatively impact mission achievement if they fail to support needed public infrastructure for DoD activities (such as roads and schools).

heard of one base, for example, where the problems created by nearby civilian development were so extensive that consideration was being given to moving the entire base to another geographic area—a costly and disruptive action. In its 2008 report to Congress, DoD said, “[I]t is important to understand that encroachment promotes workarounds, workarounds increase mission risk, and mission risk can build over time before a specific mission failure is evident.”<sup>28</sup>

Each of the installations the Panel visited was experiencing the negative impacts of encroachment on its operations.<sup>29</sup> For example, Fort Bragg had to stop using one of its major drop zones. In a more immediate example, Naval Air Station Oceana saw development as a broader challenge to its ability to maintain training standards and carry out its mission. In fact, in 2005 the BRAC commission highlighted this problem at Oceana; the commission proposed and assessed moving major base functions to another base because of encroachment. The primary concern presented in the final BRAC report was that “...significant residential and commercial encroachment had continued around [Naval Air Station] Oceana...for many years... [and that] encroachment issues were having a detrimental effect on the operations and training of the Navy’s Atlantic Fleet Strike Fighter Wings and on the safety and welfare of the citizens of Virginia Beach and Chesapeake.”<sup>30</sup>

Dense civilian development near military installations often magnifies community concerns about noise and safety that result in political pressures to limit installation operations. At one base the Panel visited, the community had just approved construction of houses in the accident potential zone, in spite of efforts by the base to prevent that approval. This was a great concern to the base and headquarters. The base reported that it faced severe issues in terms of land area and air space as they affect the station’s training mission. One headquarters official commented that he expected houses to be built and flights to continue. But ultimately, as people move into the houses, he expected significant public complaints about safety risks and noise that ultimately would lead to congressional intervention. He could not predict the ultimate outcome, but he clearly felt this would continue to be a problem for the base and the Service.

**Growing environmental concerns, both on and off base, are also limiting testing and training operations.** One example is the changes required to adjust to the presence of the endangered red-cockaded woodpecker on and around Fort Bragg/Pope Air Force Base.<sup>31</sup> DoD has now confirmed that development outside the fence sometimes drives protected species onto bases, which then transforms larger portions of the base into protected habitat under environmental laws. Installations are often faced with having to make trade-offs between conducting training programs and protecting habitat. Accommodations require adjustments to training.

**Though mission readiness is the prime concern with regard to national defense, the Panel recognizes that encroachment is a “two-way” street.** In addition to civilian development

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<sup>28</sup> 2008 Sustainable Ranges Report, p. 19.

<sup>29</sup> A more detailed discussion of the experiences of each of these bases appears in Appendix F.

<sup>30</sup> BRAC Commission Final Report, December 2005; pp 107-108. The Commission set prerequisites for maintaining those functions at the base, including implementation of prior JLUS recommendations. These actions were taken and the move was not mandated.

<sup>31</sup> See Appendix F and 2007 REPI Report, p. 6.

coming increasingly nearer to bases, bases also may grow in terms of the size of the forces housed there, the intensity and frequency of training exercises and the impact of those exercises, and sometimes even the acreage of the installation. Operational changes at installations can directly expand the civilian area subject to increased safety and quality of life impacts, as installations expand, as new training venues are created to reflect different dimensions of warfare, as the intensity of training and other operations intensifies, and as new testing and training range uses are instituted to accommodate new weapons. In some instances, civilian development that has coexisted with an installation for years can, practically “over night,” experience significantly increased encroachment concerns.

**Military and community perspectives differ about how to address encroachment.**

Preventing and mitigating the impacts of encroachments can be accomplished by expanding the area of land controlled by the military, limiting uses of nearby land to those “compatible” with military operations, or changing military operational procedures (workarounds). Views about which approach is best in any given situation can vary significantly between military and community stakeholders. The military is concerned most directly with accomplishing its mission and maintaining readiness. From this viewpoint, the best response to encroachment is to limit civilian development near the base to compatible uses. The community, while recognizing and supporting the need for military readiness and appreciating the military installation as an engine of community growth, often also is directly and immediately concerned with the community’s current and future economic health and quality of life. From this viewpoint, the best approach is to modify the installation’s military operations to reduce the impact on the community. Generally, neither of the parties sees the best alternative to be significantly downsizing or closing the base. They have an essential co-dependency relationship that needs to be accommodated.

The conflicts that arise between desired local land uses around military installations and associated ranges, training routes, and airspace, reflect competition for finite resources, such as land, air, water, and the right to engage in activities that produce noise. Determining an appropriate land use for an area requires many value judgments by local officials, property owners, environmentalists, state and federal agencies, military installation commanders, and other interested parties who do not share common values for particular land uses. When the same land is desired for multiple uses, some have indicated that it has been helpful to share prevailing views about competing priorities among the contending parties and attempt to find acceptable accommodations as much as possible.

**Encroachment on both military installations and communities is growing.** Encroachment problems are almost certain to become more serious in the future if left unattended. A variety of circumstances is creating increased community pressure on installations and, in many places, increasing military pressure on civilian communities.

Urban growth is increasingly crowding up against military facilities as illustrated on the front cover of this report. In addition to urban growth, forces such as mineral extraction and agricultural activities are increasingly restricting the habitats of wildlife (including endangered and threatened species) and forcing them onto the open spaces at military installations, turning military bases into protected habitats. Concerns are also growing about emerging issues, such as hazards to low-flying military aircraft posed by the growing number of alternative energy

facilities being built to support solar and wind power and the incompatibility of civilian uses of communication frequencies near increasingly frequency-dependent military operations. Conversely, military installations have become increasingly dependent on surrounding communities for utilities, transportation, housing, schools, and other services as they have grown and as the shift to an all-volunteer career force has translated into many more dependents, both on and off existing bases. This increased reliance often translates into economic and social pressures on the civilian community.

Some officials also pointed to increased encroachment problems stemming from the need to comply with various environmental laws. In addition, more troops are expected to be stationed at U.S. installations, increasing the pressure on local communities and increasing the potential for encroachments as increased military populations lead to an increase in the number and length of training exercises. The 2005 BRAC decisions significantly expanded the personnel being assigned to some bases in the United States. In addition, the Status of Forces Agreement for Iraq provides for the drawdown of troops in the Mideast, and this, along with on-going initiatives such as Global Repositioning (bringing troops home from Europe) and “Grow the Army,” will increase the number of troops state-side.

**FINDING 2: Congress, DoD, and the Military Departments have been addressing the encroachment challenge, but progress from these efforts has been insufficient. More specifically:**

- **DoD and the Congress have recognized the potential risk that encroachment poses to military readiness by instituting programs and initiatives—such as the JLUS program, SRI, REPI, and various Military Service programs—which are designed to respond, but the problems of encroachment continue to grow.**
- **Existing DoD mechanisms for coordinating the response to encroachment are designed to bring together the many groups with responsibility for encroachment mitigation and prevention, but their full potential is not being realized, and community interaction often ends before implementation is complete.**
- **OEA provides the only presidentially and legislatively chartered bridge between the military and civilian communities that experience encroachment, but it lacks the ability to intervene proactively.**
- **OEA provides support for encroachment mitigation and prevention for both installations and ranges, but it may not be optimally positioned within the Office of the Secretary of Defense.**
- **The Economic Adjustment Committee offers significant potential to marshal the resources and authority of other federal agencies in support of encroachment mitigation and prevention, but those agencies may not be resourced to provide adequate support.**

As described earlier in this report, the attention given to encroachment mitigation and prevention has increased significantly in recent years. Congress has directed specific actions with regard to



training ranges and authorized and funded conservation buffers. DoD and the Military Departments have undertaken new and expanded efforts to address encroachment challenges. The Panel recognizes the importance of these actions, and the following discussion highlights some of the more relevant aspects with regard to the Panel's study. The Panel's concerns about the limitations of these actions are discussed in subsequent findings, especially Finding 3.

**SRI is a broad program supporting efforts to ensure sustainment of operational testing and training ranges.** DoD's goal is to manage ranges and operating areas to support long-term military readiness.

DoD has set goals to support early sustainability efforts. Goals are set in the Comprehensive Training Range Sustainability Plan in four categories, (1) Modernization and Investment, (2) Operations and Maintenance, (3) Environmental, and (4) Encroachment. The Encroachment goal established for 2011 is "[M]aximize the accessibility of DoD ranges by minimizing restrictions brought about by encroachment factors. Implement sustainment outreach efforts that will improve public understanding of DoD requirements." Among the key actions for meeting the encroachment goal are:

- Coordinate efforts to quantify encroachment—through the Sustainable Ranges Integrated Product Team
- Continue efforts to identify candidate locations for buffers under the REPI and associated Military Service programs—by the Office of the Secretary and the Military Departments and other DoD components
- Update noise and safety contours around military installations and ranges under existing programs<sup>32</sup>—by the Military Departments<sup>33</sup>

DoD has begun to inventory its training ranges and to assess the extent and impact of encroachment on individual range complexes. That information is now being reported annually to Congress in compliance with a congressional mandate. This assessment of current conditions is a positive step. The encroachment assessments are linked to key missions of each range complex. To accomplish these assessments, DoD worked with the Military Departments to build a common set of capability attributes and encroachment factors and criteria to evaluate them. DoD intends to monitor subsequent assessments to identify trends and prioritize response efforts and is working with the Military Services to develop consistency in reporting sustainability costs. However, these data currently have limits, which are discussed in Finding 3.

As part of the range sustainment effort, each Military Service has begun to implement a range sustainment program. One promising approach they are using is creating buffers through acquisition of conservation easements under REPI and their corollary Military Service programs. However, requested REPI funding far exceeds available funds. Further, noise and safety studies have not yet been updated for all installations and ranges,<sup>34</sup> and standards have not been set for other encroachment factors, such as light and frequency interference, making it difficult for REPI

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<sup>32</sup> AICUZ, RAICUZ, and ONMP.

<sup>33</sup> 2008 Sustainable Ranges Report, p. 133.

<sup>34</sup> *Ibid.*, p. 135.

funds (or any encroachment mitigation and prevention funding) to be used on the highest priorities.

**Many organizations are responsible for encroachment mitigation and prevention, but coordination is inadequate.** As discussed earlier, the Under Secretary for Personnel and Readiness has several key responsibilities for the overall range sustainment program and for training ranges specifically. The Under Secretary is also responsible for developing and overseeing implementation of the congressionally required Comprehensive Training Range Sustainability Plan and for assessing the impact of sustainment initiatives on training ranges. The Director, Operational Test and Evaluation, has some similar responsibilities with regard to testing ranges. Additionally, the Deputy Under Secretary for Installations and Environment has responsibility for many of the non-operational aspects of SRI, including REPI and the JLUS program. Within the Installations and Environment office, two different components are responsible for those two programs. The Military Departments are responsible for, among other things, providing guidance and the resources to implement the range sustainment program.

Recognizing the need to coordinate the various sustainability efforts, DoD has established a coordinating mechanism, depicted in Figure 5. It is centered on the Integrated Product Team originally created in 2001. The Sustainable Ranges Integrated Product Team now consists of an Overarching Integrated Product Team—tri-chaired by the Deputy Under Secretary of Defense for Readiness, the Deputy Under Secretary for Installations and Environment, and the Director, Operational Test and Evaluation—and a Working Integrated Product Team, which meets regularly and is co-chaired by the Deputy Under Secretary for Installations and Environment and the Director, Operational Test and Evaluation. These teams report to the Senior Readiness Oversight Council,<sup>35</sup> which is chaired by the Deputy Secretary of Defense and is charged with advising the Secretary of Defense on readiness matters, overseeing readiness activities, making recommendations to the Secretary on readiness policy matters, and providing reports on current and projected readiness issues.<sup>36</sup>

As described in a briefing to the Panel, the Sustainable Ranges Integrated Product Team coordinates the sustainability-related activities of many other groups in DoD, such as the DoD Conservation Committee, the Multi-Service Maritime Sustainability Group, the Natural Infrastructure Capabilities Working Group, the Funding Subgroup, and the Land Use Inter-Service Working Group (LUIWG).<sup>37</sup>

The LUIWG was created in 2004 and, of the many coordinating groups, focuses most directly on civilian-related encroachment. It is represented within the orbit of the Integrated Product Team, as shown in Figure 5. The LUIWG is chaired by the Director, OEA, and includes representatives from each of the Military Departments and other offices in DoD. It is charged with (1) coordinating JLUS program activity with the existing Military Service programs focused on noise and safety and the Range Management Plans required by the 2003 sustainable ranges directive; and (2) promoting consistent, ongoing encroachment prevention and outreach programs across the Military Departments. The Director, OEA, is also tasked with (1)

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<sup>35</sup> Ibid., p. 127.

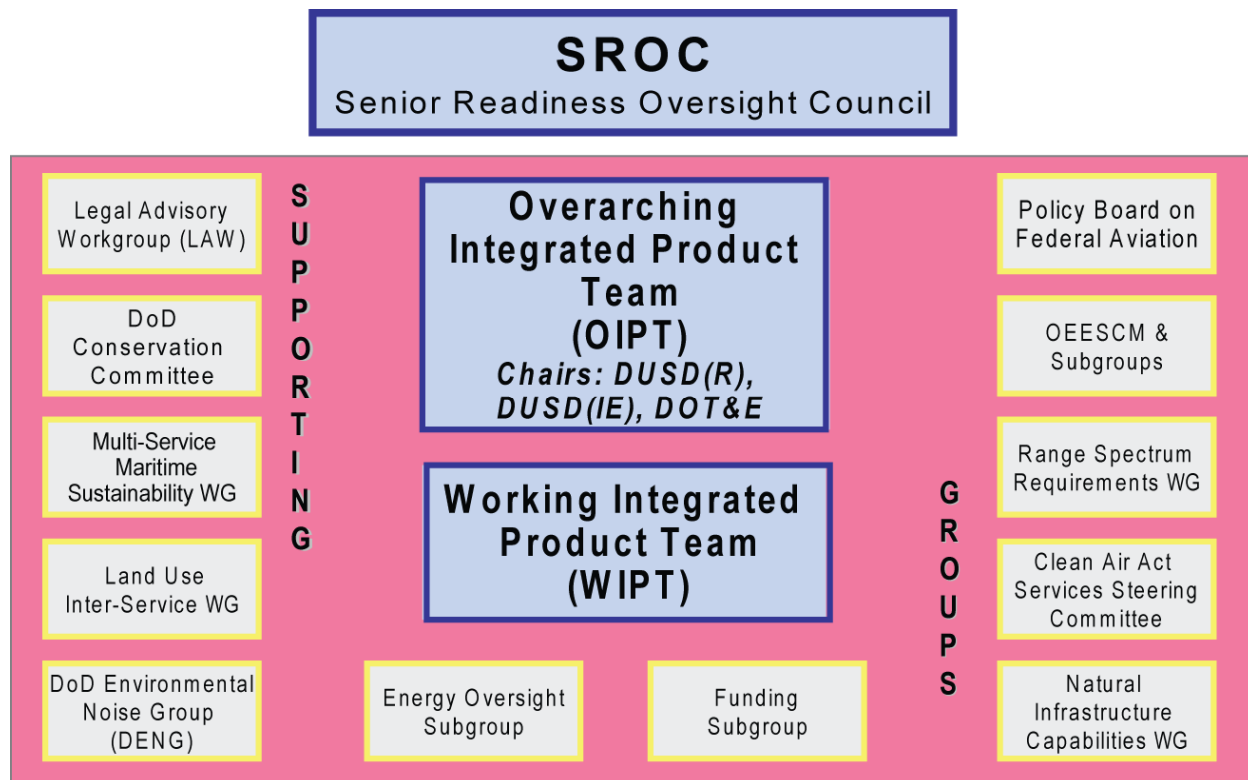
<sup>36</sup> DoD Directive 5149.02, Section 3, July 23, 2002.

<sup>37</sup> See Beard briefing to Panel, May 27, 2008 (Appendix G).

coordinating the JLUS program with other DoD outreach and community involvement activities, and the SRI process and (2) ensuring civilian actions taken under the REPI program are coordinated with JLUS recommendations, where applicable.<sup>38</sup>

There is also a REPI Inter-Service Working Group, not connected to the coordination structure shown in Figure 5. The group is designed to pull together the expertise of Military Service program managers and real estate professionals as well as the DoD-level REPI program leads. It meets monthly to track progress, discuss projects, raise issues needing resolution, and support the annual funding allocation process.<sup>39</sup>

**Figure 5. Sustainability Coordinating Framework**



Source: Environmental Readiness and Safety Directorate, May 2008

Notwithstanding these coordinating mechanisms, the various encroachment mitigation and prevention programs appear to operate independently to a large extent. DoD and the Military Departments do not have data available to set priorities effectively among all encroachment problems, decide which program offers the best way to address individual issues, or take steps to strengthen the coordination effort. These issues are discussed in Finding 3.

**In addition, coordination with federal agencies is essential.** Depending on the needs of a particular installation or range and the nearby community at any given time, various domestic federal-aid programs may be particularly helpful in responding to emerging encroachment

<sup>38</sup> DoD Instruction 3030.03, *Joint Land Use Study (JLUS) Program*, July 13, 2004; sections 5.1.7; 5.1.8; and 5.1.9.

<sup>39</sup> 2008 REPI Report, p. 32.

issues—and they could be brought to bear more systematically. The Panel is aware that other federal agencies can have an impact on mitigating encroachment. Many domestic federal agencies provide planning assistance and implementation assistance to state and local governments for land use, housing, community development, economic development, infrastructure, environmental protection, and natural resource conservation purposes. In addition, BRAC and military mission growth decisions frequently have significant impacts on local demands for social services—involving such programs as unemployment, welfare, health care, education, housing assistance, and food stamps. Such programs are generally federal-state programs administered by county and municipal governments.

Most of these programs require community-based planning to justify federally-assisted implementation projects. Whether these programs encourage increased activities in areas that are incompatible with military operations or, conversely, help to redirect such activities away from military areas is a subject that should receive greater attention from DoD. Many of these programs could either provide incentives for communities to support compatible uses or, alternatively, help ensure compatible use by specific grant provisions. They include, for example, the Department of Housing and Urban Development’s Community Development Block Grant Program, the Department of Agriculture’s Watershed Protection and Flood Prevention Program, and the Department of Transportation’s Surface Transportation Program. In one defense community the Panel visited, officials pointed to the help provided by the Department of Veterans Affairs, noting that its home loans were not being approved in high noise and accident potential areas around the base.<sup>40</sup> It is the Panel’s understanding, however, that this practice is not widely followed in either Veterans Affairs housing assistance programs or those of the Department of Housing and Urban Development.

Executive Order 12788 (as amended) established the Defense Economic Adjustment Program and created the Economic Adjustment Committee to support it. This committee consists of 22 major federal departments and agencies, and is chaired by the Secretary of Defense. OEA provides staff support. The program was established to assist communities affected by defense activities. As stated in Section 2 of the Executive Order, the program shall:

- (1) assist substantially and seriously affected communities, businesses, and workers from the effects of major Defense base closures, realignments, and Defense contract-related adjustments, and (2) assist state and local governments in preventing the encroachment of civilian communities from impairing the operational utility of military installations.

Many of the federal members of the Economic Adjustment Committee have important roles as stakeholders and decision-makers on lands near DoD lands, particularly in the western United States. Examples include the Federal Aviation Administration, Bureau of Land Management (BLM), Forest Service, Fish and Wildlife Service, and Corps of Engineers. In addition, DoD makes extensive use of land owned and managed by federal land management agencies in the Departments of Agriculture and Interior. Specific operational agreements are negotiated with individual agencies for individual locations, but this does not appear to follow an overall strategy for ensuring sustainable ranges, installations, military readiness, and encroachment mitigation.

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<sup>40</sup> See discussion of Fort Bragg/Pope Air Force Base in Appendix F.

Decisions that federal civilian agencies make concerning use of their lands by others can have significant impacts on military facilities. For example, the Panel was told of one case in which BLM, without any consultation with DoD, made a land swap with a state, giving the state control over land near some western military installations where the result might be future incompatible civilian development. Likewise, the BLM has received and considered requests for rights-of-way for construction of energy transmission lines to serve projected future alternative energy developments in close proximity to military installations and testing/training ranges. At one time, a federal interagency committee on land use—consisting of DoD, Agriculture (Forest Service), and Interior (BLM)—addressed such issues. However, that committee reportedly does not exist at this time, even as the potential for encroachments that represent risks to national defense is growing.

Federal agencies' actions can impact military installations and the communities around them. The discussion in Finding 3 points to the potential for improving interagency coordination and marshaling the support of other federal programs more proactively in support of military readiness.

**The Office of Economic Adjustment's role has increased and grown since it was originally established in the 1960's.** It has responsibilities for (1) economic adjustment in communities where military bases are closed or the defense presence is otherwise significantly downsized—including defense industry cutbacks, (2) studies and assistance programs to ensure communities can support the expansion of installations resulting from BRAC and other strategic decisions, and (3) the JLUS compatible use program. Recently it has once again significantly increased its efforts in supporting communities facing growing military bases.

OEA's authority to provide financial assistance to state and local governments is derived from Title 10, Section 2391, of the U.S. Code, which authorizes financial assistance for economic adjustment, and Executive Order 12788, which establishes the Defense Economic Adjustment Program. As a Field Activity within DoD, OEA is staffed to work directly with local, state and regional officials and other stakeholders to help ensure communities' economic viability and communities' ability to support military installations, including support of compatible land use. In contrast, the REPI program is funded under annual appropriations legislation; it has no authorizing legislation, and it works with community stakeholders primarily through Military Services' personnel.

To support sustainability of military facilities more effectively, OEA must address the needs of both ranges and installations. That is difficult, given the cultural and organizational split in DoD between those responsible for setting and meeting readiness standards (currently the Office of the Under Secretary for Personnel and Readiness) and those responsible for setting and overseeing installation and range management policies (currently the Office of the Deputy Under Secretary for Installations and Environment). Over the course of its existence, OEA has been subject to a variety of organizational placements, reflecting this divided responsibility as well as the changes in its workload emphasis. When focused primarily on helping communities respond to the economic challenges of defense downsizing, OEA's primary mission is to serve the community. In other roles, supporting the JLUS process and helping communities respond to an

expanding military presence, its primary mission is to support the installation and military readiness. Since its inception, OEA's position within the Office of the Secretary has changed several times—sometimes reporting directly to the Secretary of Defense and at other times through various assistant or under secretaries.

As described in Finding 3, current encroachment mitigation and prevention efforts, including OEA's JLUS program, are largely reactive. As the program is currently constituted, OEA cannot easily provide JLUS assistance proactively to prevent encroachment problems. Before work can begin to address what already may be growing concerns, installation commanders must first see a problem, apply for assistance, wait for Military Service and DoD approvals, and obtain agreements from key parties to participate.

**FINDING 3: There is no DoD-wide system to identify encroachment risks, assess priorities, set requirements, provide standards, communicate objectives, or effectively coordinate resources for encroachment mitigation and prevention. More specifically:**

- **Overall, DoD mitigation programs are reactive, disjointed, dispersed within the Office of the Secretary of Defense and the Military Services, and lack a future orientation.**
- **DoD and the Military Services do not currently fully assess and prioritize encroachment challenges to provide a necessary foundation for effectively marshalling limited resources and directing appropriate efforts to mitigate encroachment impacts on military readiness and national security.**
- **DoD and the Military Services have not set or communicated goals, objectives or priorities for encroachment mitigation and prevention or defined a desired end state.**
- **There is a need to coordinate more closely the activities and resources behind DoD-related land-use and encroachment mitigation and prevention programs, including programs of the federal agency members of the Economic Adjustment Committee.**
- **Most encroachment initiatives and programs are applied at the installation level with input from the responsible DoD offices. The Military Services have provided little priority-based supplemental guidance to subordinate elements.**
- **Some encroachment issues require high level coordination across DoD and development of a coordinated position on these issues.**
- **In order to preserve national security mission capability, a forward looking, proactive approach is needed with strong leadership from DoD to ensure the Military Departments set priorities and engage effectively with states and localities.**

DoD's current ability to set priorities among programs and among installations is limited by available data and by the cultural divide between those responsible for ranges and for other installations. Opportunities for strategic investment in this key component of the nation's military readiness are not now identified or acted on in a systematic way.

**Existing encroachment mitigation and prevention programs are driven from the bottom up.** Much of the present process responds to individual encroachments after they have occurred. In most cases, if the local commander does not recognize a threat, or if the commander is unwilling to involve higher commands in addressing it, higher commands will not know of the problem, perhaps until it is too late to find an optimal solution. When commanders do identify problems, they independently determine which kind of assistance to request—for example a JLUS study or funds for purchasing buffers—and there is not always a comprehensive assessment of problems or possible solutions before those decisions are made.

Efforts at the installation-community level often are more complex in areas where installations must interact with multiple communities and/or states or where multiple installations (sometimes representing multiple Military Services) exist in close proximity. As discussed in Finding 4, states are beginning to engage in encroachment prevention and mitigation efforts. However, DoD is not organized to work most effectively with states and multiple communities.

In dealing with communities, installations need to be able to consider future scenarios. States and localities often plan 20-25 years ahead. The ability to look ahead—even if not 25 years—could improve installations’ interaction with communities as they plan for land development. As discussed in Finding 5, installation commanders do not always know, or cannot tell communities, what the plans for their installation will be.

**Available management data are limited and not future-oriented.** As discussed under Finding 2, DoD has made progress in developing inventories of ranges and assessing their capabilities and encroachment risks.<sup>41</sup> The usefulness and reliability of these data for identifying trends in encroachment and prioritizing DoD-wide response efforts to meet current and future needs will be determined over time. However, several important limitations are evident. First, the data do not provide a complete picture of the encroachment impact or of the relative seriousness of the encroachment risks at different locations. The assessments do not include all ranges, but only certain ranges or range complexes, defined differently by each Military Service. In addition, many installations are not included because they are not classified as ranges. For example, Oceana and the Joint Base McGuire-Dix-Lakehurst, both of which face encroachment challenges, are not included in the data.

Additionally, the assessments identify current risks, but they do not identify potential future changes in either military operations or anticipated civilian development nor estimate the costs that might accrue in future years. Methods for identifying future risks, through modeling and simulations, for example, are being developed, but have not been used, except in a few very limited demonstrations.<sup>42</sup>

**DoD-wide priorities cannot be identified.** The magnitude of the challenges facing the military in keeping its installations and ranges capable of meeting mission requirements is not well

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<sup>41</sup> See Chapter 3 of the 2008 Sustainable Ranges Report. In its December 2008 report (GAO-09-128R), the Government Accountability Office recognized this progress, but recommended improvements.

<sup>42</sup> See Westervelt and Zekert briefing to the Panel, August 5, 2008 (Appendix G).

documented. Clearly, though, the existing resources available for addressing encroachment risks cannot mitigate all current, or prevent all future, encroachment, making it important to prioritize resources directed at encroachment mitigation and prevention.<sup>43</sup>

The Panel did not find DoD or Military Service guidance for setting priorities and, as discussed above, currently available data are insufficient to support development of DoD-wide priorities. Furthermore, progress made in assessing the impacts of current encroachment, alone, does not facilitate an analysis across DoD and across all programs of which installations and ranges should receive priority for encroachment mitigation and prevention attention. One limitation is that the data do not seek to anticipate future changes on installations or in communities that could worsen encroachment concerns. Further, many of the experts the Panel met with argued that “the worst encroachment problem,” however defined, is not necessarily the only criterion for prioritizing mitigation efforts. They suggested other criteria, such as places not now facing encroachment that offer opportunities to prevent such problems and places where an opportunity exists to obtain a buffer with limited funding. In setting priorities, the Panel believes DoD and the Military Services should consider not only an assessment of the “most encroached” bases but also an assessment of the most important bases that are experiencing, or are likely to experience, mission-limiting encroachment. The impact on mission is more important than the extent of encroachment, but there is currently no comprehensive way to assess or compare such impact.

Effectively setting priorities also requires sound information about the costs associated with encroachment mitigation and prevention efforts. DoD has been working with the Military Services to develop consistent and accurate information on range sustainment funding—information required by Congress—but has not yet fully developed it. DoD reports that it faces many challenges in developing this information, including differences in how the Military Services manage this funding, as well as the fact that funding is spread across different appropriations (such as operation and maintenance and personnel) and program elements (such as manpower, training, and real property). The 2008 Sustainable Ranges Report presented DoD’s initial framework to track, report, and project the need for further range sustainment fiscal resources—including resources related to encroachment mitigation and prevention. The report states that tracking resources and comparing them to the capability and encroachment impact assessments will increase DoD’s capability to address progress on resolving range sustainment issues. It points to the need for consistent cost information to set priorities, noting that the ability to compare costs to capability and encroachment assessments represents “an important management tool that allows leadership to make informed decisions about both the adequacy of existing resources, and the need for additional investment of sustainment dollars.”<sup>44</sup>

DoD has made progress in establishing and applying criteria for choosing REPI projects. Though the overall criteria changed from 2007 to 2008, one element in both years was that projects be mission-oriented. Table 1 summarizes the REPI criteria, but the Panel was unable to observe guidance that provides standardized measures for these criteria. Each Military Service uses these, as well as its own, criteria to prioritize candidate parcels for buffers at each installation and then at the Service level.<sup>45</sup>

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<sup>43</sup> Requests for REPI funding alone in 2007 were more than five times the amount appropriated.

<sup>44</sup> 2008 Sustainable Ranges Report, pp. 136-137.

<sup>45</sup> 2007 REPI Report, p. 26, and 2008 REPI Report, p. 33.



**Table 1. REPI Project Selection Criteria 2007 and 2008**

2007	2008
Promoting Military Readiness	Threat to Military Training, Testing and Operations
Limiting Incompatible Development	Legal Authority Used (Limit Incompatible Development or Habitat Preservation)
Preserving Habitat	
Advancing a Viable Agreement	Viability of Agreement
N/A	Benefit of Project to Multiple Military Services

Though REPI is intended to prevent future encroachment by limiting the use made of land near military facilities, there is evidence that little attention is given to identifying and addressing specific future encroachment risks or systematically analyzing all encroachment risks facing the Department. It is not clear to the Panel whether REPI funds are being used to protect the “most encroached” bases (current risk to readiness), or the most important bases (most important encroachments), or the bases that, because of lack of nearby development, simply are the easiest to protect (possible future risks). It appears to the Panel that in making decisions about REPI funding, DoD and the Military Services do not routinely consider the potential usefulness of other possible solutions, such as compatible use tools, or the long-term impact of buffers. Funding decisions for REPI are made independently of funding decisions on JLUS or of decisions by other nearby bases, particularly of other Military Services.

Failure to consider alternative solutions to buffers raises concerns. Although the Panel recognizes that buffers offer significant potential to prevent encroachment, it cautions that the current pursuit of buffers may fail to recognize important drawbacks. Acquisition of land or easements may be more expensive than other available actions. Funding will not be available to buy easements for all potentially useful buffers; many parcels will have to be protected some other way. But perhaps more importantly, once they are purchased, easements are essentially permanent. This permanency could present a problem to the military in the future if a need arises to use buffered land. In that event, the land will not be available without a potentially difficult and costly renegotiation of the easement purchase agreement or use of eminent domain.

DoD leadership is needed to ensure the Military Services will accurately and consistently assess encroachment impacts and the resources needed to address them. DoD’s leadership also could facilitate military-community interactions when interactions are needed with states, regional bodies, and multiple communities, and where the interests of multiple Military Services are affected.

**DoD and the Military Services have limited information about progress in mitigating and preventing encroachment and have not defined measurable goals for its efforts.** DoD’s ability to assess progress in preventing and mitigating encroachment is limited currently. Although the new encroachment and capability assessments by the Military Services may provide a basis for future monitoring of progress, there is currently little follow up by DoD to assess the effectiveness of its programs. Data to assess the overall impact of the JLUS program have not been collected. Although OEA’s JLUS project managers are required to include implementation actions in the Fact Sheets they prepare for each study, and individual JLUS case

studies provide this information, this information is not compiled or updated on a regular basis. The implementation status of JLUS recommendations is not systematically tracked in any data base. DoD did fund a one-time study of REPI,<sup>46</sup> and in its 2008 report to Congress stated that it was developing metrics that could serve as measures of REPI effectiveness. The results of that effort had not been reported at the time the Panel concluded its review. Assessing REPI effectiveness alone, however, will not allow DoD to determine the extent to which encroachment, overall, is being prevented or mitigated or to identify those areas most in need of additional encroachment mitigation and prevention efforts.

Although DoD requires status reports from the Military Departments for the action items supporting the sustainable ranges goals, the Panel found no indication of specific milestones for completing actions or accountability for failure to complete the actions. In December 2008, the Government Accountability Office noted that the Air Force had not yet provided the required update for selected actions under the modernization and investment goal and recommended that DoD require the update be provided.<sup>47</sup> Perhaps of greatest concern, however, is that DoD has not specified a standard for encroachment mitigation and prevention. The 2008 report to Congress identifies those ranges that are “impacted” by encroachment, defined only as those with summary ratings below the Service average. Whether the “Service average” is an acceptable standard is undefined and therefore debatable, but so few ranges were below this average that the Panel is concerned the data do little to help identify priorities.

**Coordination among the Military Services and programs can be improved.** The discussion above, especially concerning the “bottom-up” nature of the programs, independence of installations, differences among Military Service approaches, and lack of DoD-wide priorities, highlights the importance of close coordination of the programs at the DoD and Military Service levels.

Effectively coordinating and prioritizing encroachment activities DoD-wide is made difficult by DoD’s legislatively created structure and by cultural and management differences among the Military Departments. Title 10 of the U.S. Code gives the Military Departments flexibility to perform their different missions under the authority, direction and control of the Secretary of Defense. Therefore, the Military Departments have considerable independence in deciding how to implement policies set by the Secretary of Defense, and the Military Departments strongly guard that independence.

Though the Panel recognizes the need for flexibility to allow each Military Department to implement programs in a way that best fits its mission and culture, there is also a need to ensure that best practices are adopted wherever practical. The Military Service programs, described in more detail in the background section, have been developing in different directions at different rates. Since the inception of REPI, the Army has aggressively pursued creation of conservation buffers around its bases, using funding from its own newly created Army Compatible Use Buffer Program as well as REPI funds. Under this approach, the Army relies heavily on its

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<sup>46</sup> RAND Corporation, *The Thin Green Line*, 2007.

<sup>47</sup> Government Accountability Office, *Improvement Continues in DoD’s Reporting on Sustainable Ranges, but Opportunities Exist to Improve its Range Assessments and Comprehensive Plan* (GAO-09-128R), December 15, 2008.

conservation partners to manage the parcels, including enforcing the terms of the easements. The Navy and Marine Corps have also created buffer programs—Encroachment Partnering Programs—and are pursuing creation of buffers. These Services have worked more with restrictive easements and retain responsibility for enforcing the terms of the easements. The Air Force did not request REPI funding until 2007. The Navy and Marine Corps are moving toward strategic analysis and mitigation of encroachment at the installation level through Encroachment Action Plans (Navy) and Encroachment Control Plans (Marine Corps). They also are creating billets dedicated to interaction with the local civilian community. Many experts saw creation of this dedicated staff position as a very positive step.<sup>48</sup> The Army and Air Force have not yet required similar encroachment-specific efforts at the local level.

**The cultural and management differences within DoD with regard to installations and ranges also make consistent program operation and effective coordination difficult.** Though DoD’s sustainability policy states that management of the functional elements of installations, ranges and operating areas will be integrated, the Panel heard from many officials that installations and ranges are stove-piped, a situation perhaps most clearly demonstrated by their separate appropriations and budgets. This division is echoed in statutory language that requires, for example, a comprehensive plan for training ranges but not for installations and other ranges. Many of DoD’s current encroachment management and prevention and sustainability efforts are focused on training ranges and do not include many critical installations and other areas.

DoD has established mechanisms to coordinate its sustainability efforts, including encroachment mitigation and prevention efforts. Key oversight and coordination responsibilities are assigned to the Senior Readiness Oversight Council and the Sustainable Ranges Integrated Product Team. Within this structure, the LUIWG is most directly focused on civilian encroachment and on issues relative to the military-community interface. Significant differences in the Military Services’ programs raise questions about the LUIWG’s success in achieving its mission, which includes ensuring “consistent, ongoing encroachment and outreach programs across the Military Departments.”<sup>49</sup> The LUIWG is currently overseeing a study looking at the potential to create new encroachment mitigation and prevention guidance for areas away from installations as well as criteria for encroachment evaluation factors beyond noise and safety, for example, criteria for light and dust. This has been a major focus of the group since 2006, but results are not yet available. The LUIWG membership does not appear to allow it to consider fully mission impacts across DoD and the Military Services, making it difficult for this group to address encroachment concerns in a comprehensive way.

The responsibilities and activities of OEA, REPI, SRI, and other DoD and Military Service sustainability initiatives are closely related, but coordination among them does not appear to be adequate. For example, OEA is not fully involved in some of the other DoD activities essential to addressing encroachment, such as buffer acquisition and operational adjustments, and REPI and SRI personnel may be unaware of ongoing JLUS studies. More active coordination among these efforts would support better focus and improved community interactions.

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<sup>48</sup> See for example, Urban Land Institute, *Department of Defense Range Sustainability*, November, 2006.

<sup>49</sup> DoD Instruction 3030.03, section 5.1.7.

**Intergovernmental coordination also could be improved.** As discussed in Finding 2, decisions by federal civilian departments and agencies can impact land use near military installations as well as other types of community support for installation operations. The Panel found that the Economic Adjustment Committee provides a mechanism through which DoD and these civilian agencies can coordinate to ensure decisions about federal programs are in accord with military readiness needs.

The Economic Adjustment Committee traditionally has been most active in assisting communities facing the negative economic impacts of base or defense contractor closures, supporting, for example, redevelopment of decommissioned bases for civilian use. Recently, OEA has begun working with some of the federal departments and agencies represented on the Committee in support of communities facing the pressures of military base growth. However, in 2008 the Government Accountability Office, with a focus on communities being impacted by significant growth of nearby military installations, reported that DoD had not provided the necessary leadership to ensure the Economic Adjustment Committee met its potential to improve interagency coordination and leverage resources in support of these military communities. The report noted, for example, that although some sub-committees had met, the executive-level committee had not met for over 18 months at the time of the report. The report recommended that the Secretary of Defense take action to use the Committee's resources in support of communities around bases expanding as a result of the 2005 BRAC decisions.<sup>50</sup>

The Panel did not assess the implications for civilian agency involvement, and recognizes that the extent other agencies can actively consider military readiness in their decision-making may be limited by statute and available resources. However, the Panel notes that, as of December 2008, DoD had not solicited the Economic Adjustment Committee's assistance with regard to encroachment mitigation and prevention, even though the Committee has authority to work in support of this goal.

**FINDING 4: Collaboration is a vital factor in successful encroachment mitigation. More specifically:**

- **JLUS-led collaboration has contributed significantly to positive results in addressing encroachment.**
- **Effective collaboration faces significant obstacles.**
- **Effectively addressing encroachment challenges requires collaboration among installations, their surrounding communities, states and other interested parties.**
- **Collaboration works best when information is shared openly between headquarters and the installation, and between the installation and the community.**
- **DoD is finding willing and able partners in state and local governments to assist with encroachment mitigation and prevention.**

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<sup>50</sup> U.S. Government Accountability Office, *Defense Infrastructure: High-Level Leadership Needed to Help Communities Address Challenges Caused by DoD-Related Growth*, (GAO-08-665) June 2008.

- **When states and regional bodies are involved, solutions to mitigation encroachment challenges are found that are more comprehensive and involve all relevant parties.**
- **Collaboration can leverage a full range of resources needed to address costly mitigations now and in the future.**

Experts the Panel met with identified instances where collaborative efforts have successfully addressed encroachment concerns. They were very supportive of collaborative frameworks in which the installation and civilian community work together to overcome obstacles to effective collaboration by, for example, sharing information and seeking reasonable accommodations of diverse needs and views. Many experts cautioned, however, that there are many different collaborative models and that each defense community faces unique situations and must be allowed to create a collaborative mechanism appropriate to its needs.

**The Panel's visits confirmed the potential benefits of the collaborative process.** The JLUS process brings various stakeholders to the table, sometimes in a way not achieved before, even though there may have been prior unsuccessful efforts to address concerns by the base and/or community. A JLUS also promotes the collection and analysis of data from both the community and installation that may not have been made public before or that had not been shared and/or thoroughly analyzed. The JLUS process also can serve to give both the community and the installation a better sense of the extent to which their respective activities impact each other. The JLUS process also can help overcome obstacles to effective collaboration at the military-community interface and establish a working relationship among key stakeholders that could provide the basis for an on-going collaboration.

The Panel's Fort Bragg site visit, for example, illustrates these benefits. Over the course of three JLUS projects and related activities going back to 1991, the study area has expanded from one mile around the installation to 11 counties and 73 municipalities, the data layers in the regional database expanded from 130 to 500, the planning process has grown from one-shot to continuous, and the analytical capability now includes computerized identification of critically important areas that need to be protected from incompatible development and can track progress toward protection goals. This new analytical capability identifies areas suitable for development in this fast-growing region.<sup>51</sup> This community's experience demonstrates the value of collaboration over time.

In addition, under Executive Order 12372, collaboration seems to be required. The Military Departments are responsible for cooperative planning at the state and local level. This includes submitting plans for changes on installations that could affect neighboring areas to the affected local community and state governments for comment.<sup>52</sup>

**Collaboration can face significant obstacles.** Experts identified obstacles to open military-community collaboration. An often cited concern in the civilian community was the perceived reluctance of installation officials to share information before decisions about potential operational changes were made. This reluctance fueled mistrust and made collaborative

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<sup>51</sup> See Appendix F.

<sup>52</sup> Between August of 1983 and August of 2006, DoD Directive 1465.61 specified certain procedures for the Military Services to follow in implementing this Executive Order.

planning difficult. In fact, bases often may not know—or are prohibited from sharing information about—future growth and potential impacts of new weapons deployments and changes of missions much before such events actually occur. This reality makes long-range planning very difficult both on military installations and in adjoining civilian communities. But the extent of actual limitations is unclear, and the Panel believes that more information could be shared. In 2004 DoD issued a memorandum encouraging local installations to participate in local planning efforts.<sup>53</sup> Based on comments heard during the Panel’s site visits, as well as comments by other experts, it appears that many local commanders still are reluctant to share information openly.

Other obstacles to collaboration were cited, such as differences in major goals—readiness vs. economic growth—and the lack of a mutual understanding of those differences; different planning schedules, tempos, and target dates; and lack of resources to spend the time and develop the data necessary to support collaborative decision-making. Turnover among officials in both sectors can also impact on-going interactive processes. Communities and installations may be reluctant, absent some outside force such as BRAC, to address critical issues actively, with both sides fearing the “unknown” outcome of such discussions. In some cases, community representatives and their base counterparts reportedly do not have a history of working well with each other or a shared understanding of how best to approach their differences.

In one site visit, the Panel observed the effects that developing an Environmental Impact Statement can have on JLUS collaboration efforts when these processes occur at the same time. While the lengthy impact process was underway at this base, the installation commander put the JLUS process on hold, and the community leaders were largely excluded from the Environmental Impact Statement process, except for attending formal hearings after the study had been completed by the military base. Even though the process calls for engagement of all the affected parties (including many of the same parties involved in the JLUS process), the military representatives responsible for the impact statement were hesitant to discuss the options being developed or considered and their potential impacts before the draft statement was completed and issued for public comment. Their reluctance stemmed from not knowing what the final draft might or might not include and from not wanting to excite affected parties about potential options that might not ultimately be offered for public comment. Then, following the public comment period, the JLUS leaders experienced another information blackout period while waiting for the final Record of Decision to be issued by the Military Department. The final Environmental Impact Statement and the Record of Decision can have a major effect on the JLUS recommendations that may be needed to respond appropriately to the emerging encroachments.

**All key stakeholders should be involved.** Participation by a broadly defined set of stakeholders can bring to the table a wide array of expertise, authority and resources. This, in turn, can better

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<sup>53</sup> The August 23, 2004 memorandum from the Principal Assistant Deputy Under Secretary of Defense (Installations and Environment) to the Secretaries of the Army, Navy, and Air Force, stated that courts had generally determined that there is no federal liability for a “taking” where a “federal agency uses its position as an influential landowner to persuade local governmental bodies to adopt a position compatible with an installation’s mission needs.” Experts told the Panel that the potential of creating a federal liability had previously been a major concern expressed by installation commanders.

ensure issues are viewed in a broad context, a wider variety of solutions are identified and implemented, and actions by all parties support the common goals.

Encroachment issues often involve multiple communities and/or bases. It is important that all affected communities and installations participate to ensure solutions developed are more acceptable to all stakeholders and therefore more likely to be implemented. In one community the Panel visited, the community participants in the JLUS were complimentary of the participation by two installations but were concerned that representatives of a third installation did not actively participate, even though the community had specific concerns about actions of that installation.

Collaboration that includes a broad range of stakeholders may lead to a wider range of options for addressing encroachment. For example, it may increase the possibility that new tools already used by some local governments will be adopted. Such new tools include unified coordination of encroachment mitigation and prevention funding from multiple federal, state, local, and private sources; “smart growth” and critical-area reviews; transfers of development rights; and use of the local “official map” powers to reserve buffer areas and public works rights-of-way for future acquisition. Appendix E provides brief descriptions of some key tools that have potential for greater use.

**States and regional organizations can play an important role in supporting, and at times leading, these collaborative efforts.** This is especially true where multiple installations and communities are involved. Such state roles can include:

- Setting a tone supportive of installations
- Establishing state-wide groups where community and military representatives can share information
- Providing legislative authority to local jurisdictions, if needed, to take necessary actions, such as requiring noise attenuation ordinances and real estate notifications
- Providing funding to support land purchases and other activities

In many cases, state action can provide cover to local jurisdictions to facilitate taking politically difficult actions.

At least 16 states have become active in mitigating encroachments using a variety of tools. For example, some states have undertaken a state-wide JLUS, created a state fund to help pay for encroachment buffers, established a state military commission, and implemented state “smart growth” programs—to guide urbanization away from sensitive military areas. States have also defined military boundary zones as areas of critical state concern and required local government plans to address land use compatibility around military bases.

Collaboration with states is also important where they are land owners near military installations. For example, some states manage large state forests near installations and may seek to generate maximum revenues from them, possibly creating troublesome encroachments in doing so. Federal and state lands may currently seem “protected” from incompatible development, but

such lands near military installations may be sold or leased for revenue-generating purposes that may impact military missions.

Regional organizations, such as regional councils, also can play an important role as sponsor or convener of the JLUS process, especially where multiple communities are impacted and local planning capabilities are insufficient. They can serve as neutral parties to facilitate discussions, subsidize resource limitations faced by small communities, and allow encroachment mitigation and prevention efforts to build on trust already developed among members that regularly work together on other issues. They also provide a degree of inter-jurisdictional continuity and institutional memory, since they are usually permanent intergovernmental organizations.

**Leveraging funding is critical.** The Panel believes that none of the existing DoD programs, individually or together, is capable of adequately addressing the encroachment challenges the nation is facing. Only concerted action can make a significant difference. The REPI Program has clearly demonstrated the potential to leverage funds from governmental and private organizations where interests overlap. Federal, state, and local budgets are all increasingly tight, and finding funds to allocate to encroachment mitigation and prevention activities is difficult. Financial contributions from all these sources—as well as others—are necessary to meet current needs for mitigating civilian and military encroachments. The search is on within DoD and at the local level for cost-sharing and innovative financing methods using non-governmental funds—with some success.

Compatible use goals often coincide with goals of other federal and state programs, such as environmental and preservation programs. Effective collaboration is vital to ensure these other programs operate to the maximum extent possible to support military mission needs while still achieving individual program goals. The Panel visited areas where jurisdictions were working through other federal or state programs, for example farm preservation funds, to accomplish multiple benefits that include protecting lands used by the military. One state the Panel visited has been able to provide significant support for land acquisitions that help protect military lands by using funds from several federal and state programs, including the Clean Water Trust Fund, the Natural Heritage Trust Fund, and the State Parks System Fund. Several jurisdictions have included protecting bases as one goal in their open space programs.

All these results indicate the value of expanded collaboration.

**FINDING 5: Strong military and community leadership is required to address encroachment. More specifically:**

- **When installation commanders commit to collaborative encroachment problem solving, better results are achieved.**
- **Installation commanders require support from their chain of command for their collaborative actions.**
- **When local leaders engage proactively with installations, more effective mitigation can occur.**



- **States and regional organizations can provide leadership to help overcome obstacles to collaboration and to implementation of encroachment mitigation and prevention actions.**
- **OEA’s charter within DoD, its field structure, and its experience with state and local governments, as well as with other civilian entities, position it uniquely to lead Departmental efforts supporting encroachment mitigation and prevention efforts.**
- **When leaders of collaborative processes in the field need support, they can turn to OEA for important assistance.**

**Individuals can make a big difference.** In the military communities the Panel visited, and others described to the Panel by civilian experts and military officials, it seems clear that *leadership counts*. The Panel found that support and involvement by local officials and installation commanders were critical in initiating the collaborative process, accommodating diverse needs and viewpoints, seeing the process through to conclusion, and implementing the recommendations that resulted. For example, in one instance, the JLUS team’s installation liaisons told the Panel that the support of a new commanding officer was critical to the success of the JLUS process.

The Panel also observed that staff can play a determinative role in collaboration. Having staff—both military and community—that have a clear understanding of compatible use issues and collaborative techniques can be very beneficial. At one site visited, a military staffer contributed significantly to a successful conclusion of the study. He worked diligently to overcome a deadlock by developing a paper that clearly set forth the needs and concerns of both the installation and community. Once the concerns of both sides were openly acknowledged, progress began. In another instance, the Community Plans and Liaison Officer on base served on the local planning work group and had built trust with community leaders. His efforts, including attending the working sessions to represent the interests of the base, helped ensure early notification of proposed developments.

On the other hand, the Panel heard of several instances where local base commanders, or local officials, were unwilling to undertake a JLUS. Reasons may not be officially or directly stated, but some possible reasons include failure to understand the problem’s significance, reluctance to report problems to higher officials, lack of resources, animosity among individuals or organizations, apprehension about potential study recommendations, or a lack of understanding of the other party’s processes. OEA’s practice has been not to support a JLUS without both installation and community support.

**State and regional officials can provide important leadership.** The potential contributions of state and regional officials have already been discussed in Finding 4. They can be invaluable in providing impetus, incentive, and support for the process, helping to overcome some of the obstacles that initially may dampen local civilian officials’ interest and support for engaging with the installation and vice versa. The Panel heard about significant contributions in encouraging and supporting encroachment mitigation and prevention as well as active military-community collaboration in states such as Maryland, Arizona, California, and North Carolina. In one

instance, the JLUS process was essentially dormant for two years but was kept alive largely through the personal commitment of a single state official.

**Installation commanders need support from the chain of command.** Adequate training and resources are needed at the installation level. A recurring theme among installations visited and experts the Panel met with was the need for installation commanders to be trained and prepared to deal with communities. Among other things, such training should ensure understanding of local processes as well as base commanders' own authority and the best approaches to deal with the local community. DoD and the Military Services have taken some steps to inform and prepare installation commanders better in this regard, but some of those the Panel talked to encouraged more active training, beyond written guidance. Having staff resources, such as a dedicated Community Plans and Liaison Officer, also is critical, since the collaboration process, especially at the beginning, can be time-consuming.

Beyond resources, the chain of command also needs to work with the installations to ensure commanders have appropriate authority, so they can negotiate in good faith with the community. Likewise, installation representatives need to know the commander will support their actions. If, for example, command levels overturn local agreements or execute ponderous processes for approval, the installation commander's credibility can be damaged, placing the installation at a disadvantage in dealing with the community. In one community the Panel visited, the community representatives were concerned that the community brought decision-makers to the table in the JLUS process, but the installations did not.

**OEA can play an important leadership role.** As a field activity, OEA is in a unique position within DoD to work with communities and installations on the ground to implement community-related programs. Its experience working at the military-community interface has allowed its staff to develop productive links to many state, local, and non-governmental organizations. More recently, work with communities impacted by installation growth has renewed OEA's experience with a wider group of federal agencies, working with them to ensure communities can meet the infrastructure, educational, housing, and workforce demands the growing bases will place on the surrounding communities. The Panel found that communities give OEA high marks for the help it provides.

OEA is supported by broad legislative authority. Although, in practice, the JLUS program has focused on traditional land use planning tools, such as local zoning and building codes, its charter allows it to support a much broader mitigation tool box. The provisions in 10 U.S.C. 2391 authorize economic adjustment assistance in cases of encroachment upon military installations as well as to communities facing base closures and other impacts of military changes. Since 2005, Executive Order 12788 has specifically authorized OEA to provide economic adjustment assistance to prevent encroachment from impairing the operational utility of military installations. Further, although OEA has seldom funded JLUS implementation activities, its legislative authority allows funding for implementation of plans to address encroachment. At one site the Panel visited, the process agreed to in the JLUS proved to be controversial in implementation. OEA then provided additional funds to support development of a new ordinance. Local community representatives, busy with their day-to-day tasks, found it vital to have funds to support an independent contractor to work on the ordinance.

OEA also has leadership roles in the LUIWG and supporting the Economic Adjustment Committee. These two groups have the potential to play critical roles in furthering efforts to achieve consistent and effective approaches to compatible land use as well as in increasing the support of other federal agencies in those efforts.

**FINDING 6: There is a need for a reliable, continuing process to maintain encroachment mitigation and prevention activities between the installation and the community. More specifically:**

- **Although the JLUS program has had positive results, program improvements are possible, especially to ensure that actions begun by a JLUS are sustained.**
- **Such a process needs to monitor implementation, recognize future encroachment risks, educate local government officials and the general public to bridge transitions brought by elections, and ensure that the encroachment mitigation and prevention activities continue over the long run.**

**A continuous process has significant potential.** Collaboration works best when it is part of a continuous process that can identify and address small problems before they become large. However, much of the current effort with regard to encroachment mitigation and prevention is ad hoc. Interactions between military installations and civilian communities concerning encroachment are episodic and designed to solve existing problems rather than to identify and avoid future problems.

JLUS studies, which are the primary encroachment mitigation and prevention tool offered to communities, are undertaken one at a time when there is a specifically identified and agreed upon need for them. It often takes a long time to organize them and get the necessary installation and Military Department approval. Often, when the study is finished, there is no provision for systematic tracking of implementation activities or continuing vigilance to avoid future problems. Experiences in the communities the Panel visited support the need for an on-going process.

Though DoD reports that it has implemented new procedures for assessing and reporting on training range capabilities and encroachment, it will remain difficult for DoD and the Military Departments to track trends, anticipate problems, or take timely action on problems before they reach serious levels. An ongoing process at the local level has the best chance to prevent problems, monitor and ensure implementation of agreed upon actions—including identifying and overcoming unforeseen implementation problems—establish a broad public understanding of local encroachment mitigation and prevention issues and practices, and ensure the process remains on-going in spite of the changes in elected officials and installation commanders that occur over time.

However, as discussed in Finding 4, local-level efforts face difficulties, including resource limitations and turnover in military and community officials. The attitudes and capabilities of both community and military leadership can affect the quality of any interaction. Without a

recognized single point of contact or a mechanism to ensure that each side “speaks with one voice,” communication can be garbled. The Panel observed on its site visits that institutionalizing a process in the form of a written agreement has helped overcome these obstacles and ensure the continuation of an on-going process.

A formal agreement that specifies key points of contact, provides clear guidance with regard to coordination between the two (or more) parties, and requires periodic interaction can help ensure better communication and implementation. A full-time position, similar to the Community Plans and Liaison Officer billet being rolled out in the Marine Corps and Navy, can provide further support for an on-going process. A formal procedure that requires recognition of the concerns and goals of each party as an early step in the JLUS process—a step that was the catalyst for meaningful discussion of divisive issues in one defense community the Panel visited—may also help facilitate discussions on particular issues.<sup>54</sup>

**Successful models for a continuing process are available.** Federal surface transportation planning requirements mandate an officially designated Metropolitan Planning Organization in every urbanized area of 50,000 or greater population, as well as a specified, on-going planning process. This illustrates the type of approach the Panel believes could be effective in implementing encroachment mitigation and prevention activities.<sup>55</sup> Roles and responsibilities for integrating transportation modes (highway, transit, pedestrian, and cycling) are just as divided among multiple independent parties as those for military-community encroachment issues. An integrated planning process has been evolving since the early 1960s in the transportation field to harness and harmonize them. Unified transportation planning, joint scheduling of related implementation projects, and rolled-up performance reporting by a large network of state and local organizations are now required everywhere that federal transportation implementation dollars are being spent. The nature of this planning includes the following characteristics:

- Specified in law and administrative guidance
- Performance-based
- Institutionalized at both the state and regional levels
- Supported nationally by research and capacity-building programs
- Certified by periodic federal review to ensure compliance with federal requirements, guidelines, and best practices
- Integrated into statewide plans

Other planning and implementation processes similar to the transportation model also have been developed over many years in the Commerce Department’s economic development program,

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<sup>54</sup> See Hampton Roads/Oceana summary in Appendix F.

<sup>55</sup> The federal Surface Transportation Program carries forward (for a single function) the 1970s concept of a Negotiated Investment Strategy. This was a multi-agency federal initiative to negotiate an annual package of federal funding for development projects in a whole state or a whole metropolitan area for the purpose of systematically implementing statewide and metropolitan multi-function development plans. Projects consistent with an adopted plan often were eligible for higher priority funding, a higher federal matching ratio, and/or a larger amount of federal funding.

such as the Comprehensive Economic Development Strategy, and several other federal-aid programs. Lessons learned from these programs can be applied in setting up an enhanced encroachment mitigation and prevention program in DoD. These models reflect the kind of continuing process that the Panel found useful.

## RECOMMENDATIONS

Drawing from the findings above, the Panel makes the following six broad recommendations intended to implement a new vision for DoD's encroachment mitigation and prevention efforts and for OEA's role in those efforts. The principal intent is to strengthen: (1) the encroachment mitigation and prevention dimension of DoD's overall mission sustainment efforts, (2) the broader interface between the military and civilian communities, and (3) OEA's role in facilitating military-community relationships.

**RECOMMENDATION 1: The Panel recommends that the Secretary of Defense, through a directive to the Military Departments, increase the emphasis on activities related to the analysis, prioritization, and mitigation and prevention of encroachment issues on installations, training ranges, and test and evaluation ranges.**

The Panel recognizes the considerable effort DoD and the Military Departments and Services are putting into ensuring the sustainability of military ranges. However, it remains concerned that the current breadth and depth of that effort is insufficient to protect all mission-critical installations and ranges and to prioritize resources to address the most pressing problems.

DoD needs more fully to emphasize and systematize national priorities for preserving and enhancing the capabilities of military installations to support the nation's military readiness. The "installations" included in this prioritization should include military bases, testing and training ranges, and access corridors connecting the bases and ranges. These three elements interact as a system to provide the "installation capability" needed to support the nation's military readiness.

The policies set forth in the 2003 DoD sustainable ranges directive provide a solid foundation for moving to a more strategic, systematic effort to prevent and mitigate encroachment.<sup>56</sup> In response, the Military Departments and Services are working toward more strategic approaches at the local level. However, there is no DoD guidance or instruction to support the independent efforts of the Military Departments and Services, and there are inconsistencies among the evolving programs that do not take full advantage of the best practices currently available. Moreover, these military encroachment mitigation efforts reinforce the "bottom-up" approach to identifying and addressing encroachment and might not be consistent with Service- and DoD-wide prioritization.

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<sup>56</sup> DoD Directive 3200.15, *Sustainment of Ranges and OPAREAS*, January 10, 2003, discussed earlier in this report.

**Therefore, the directive should:**

- **Establish standard DoD criteria for the inventory, analysis, assessment, and prioritization by all the Military Departments of current and future encroachment challenges at installations and ranges**
- **Clearly set forth the roles of the Military Departments and DoD components in implementing this directive, including, among other elements:**
  - **Providing dedicated on-site installation liaison personnel to work with communities**
  - **Ensuring base and range commanders are adequately trained to work constructively and proactively with communities to address future-oriented encroachment, growth, and redevelopment issues from both the military and community perspectives**
  - **Requiring that DoD develop and communicate to communities standards for preventing and mitigating encroachments from factors such as urban light and electro-magnetic fields**
  - **Requiring that, to the maximum extent possible, headquarters and installations share information with communities on upcoming changes that could affect them**
  - **Requiring that base and range commanders provide timely reviews of community proposals that could impact military readiness and operations**
- **Require the Military Departments to issue supporting instructions promptly and to ensure implementation of the directive**
- **Identify the organization within the Office of the Secretary of Defense responsible for overseeing the encroachment analysis, prioritization, and mitigation and prevention process**

**RECOMMENDATION 2: The Panel recommends that Congress require DoD to combine the annual reports on Sustainable Ranges and REPI and integrate them with an annual report on the JLUS program.**

Although DoD’s annual reports to Congress on Sustainable Ranges and REPI address some portions of the encroachment issue, those reports are limited largely to ranges and areas of special concern and to on-going REPI projects, and both the data and the analyses presented in them reflect mostly current problems rather than future trends. Therefore, these congressionally required reports should be broadened to address the full complex of “installations”—bases, training and testing ranges, and access corridors. They should be required to provide more complete and useful information in the future for targeting multi-year investments to ensure long-term sustainability of a fully capable system of installations and ranges, and they should be integrated with an annual report on the JLUS program. Combining these reports would provide a vehicle for coordination of the analysis and recommendations of all three programs. Recommendations that emanate from the combined report should be embodied in clear policy

directions and Military Department instructions in order to make them effective and to take into consideration more fully the extent of impact on the civilian community.

**Therefore, Congress should require that DoD report comprehensively on:**

- **Installations and ranges and the access corridors that connect them**
- **Estimates of future readiness capabilities and encroachment impacts**
- **Military impacts on communities as well as community impacts on military facilities and readiness**
- **Progress of the JLUS, SRI, and REPI programs in helping to mitigate and prevent military and civilian encroachments**

**RECOMMENDATION 3: The Panel recommends that the Secretary of Defense strengthen coordination among the groups that deal with encroachment issues.**

Several coordination mechanisms already exist in DoD that can help to improve the military-community interface. OEA's expertise and experience working at the military-community interface and its leadership role in some of the existing coordination groups should be used to provide a stronger community-based voice in developing and implementing DoD-wide strategies for maintaining the installations' essential contributions to the nation's military readiness. Four key groups, DoD's Sustainable Ranges Integrated Product Team, Land Use Inter-Service Working Group, and Senior Readiness Oversight Council, along with the Economic Adjustment Committee, should be better integrated and utilized to incorporate those community-based issues.

The Panel believes it is important to bring together consideration of encroachment concerns for ranges and other installations. The Overarching Integrated Product Team has proper reach across DoD offices to do that. However, the Panel believes that enhancing the LUIWG—the group within the overall structure most directly focused on community encroachment issues—could be beneficial. Defining, and where possible resolving, issues that reach the installation-range structure at a lower level could help ensure those issues are effectively addressed.

The multi-agency Economic Adjustment Committee also offers significant potential for assisting communities to support military installations, both by helping to ensure compatible land use and the community's ability to support bases, as well as by facilitating economic adjustments in response to base closures, growth, and downsizing. Currently the Committee is not actively involved in these other activities and may not be structured to do so effectively. A reactivated Economic Adjustment Committee, supported by new sub-committees—for example, to work on environmental protection, to address military uses of and encroachment on non-DoD federal land, or to work on community encroachment and compatible land use issues—has the potential to provide important assistance to communities, and, therefore, to military installations in their efforts to ensure sustainability and mission readiness.

**Therefore, coordination should be strengthened by:**

- **Making fuller use of the existing coordination groups within DoD**
- **Enhancing the roles and memberships of the existing coordination groups such as the LUIWG**
- **Assigning to these groups future-oriented, prioritized, and proactive roles**
- **Reactivating and expanding the activities of the Economic Adjustment Committee**

**RECOMMENDATION 4: The Panel recommends that the Secretary of Defense redefine and strengthen the roles of OEA in facilitating military-community relationships.**

OEA is in a strong position to support continuous, collaborative interactions among military installations, communities, and other civilian stakeholders. OEA's current statutory mandate, which covers not only compatible use in relation to the JLUS program, but other major community-installation issues; its wide-ranging experience with state and local governments, regional organizations, and other stakeholders; and its field-oriented staffing structure all point to its potential to support the broader kind of continuous military-community interaction the Panel believes is necessary to address encroachment issues more effectively. The unifying theme to OEA's enhanced mission should be sustainment, mission sustainment for military installations and ranges and sustainment of economic viability and quality of life for the communities that support them.

OEA's understanding of community issues and processes and its experience in helping localities define their specific concerns also put it in a position to help convey community concerns to installations effectively. The Panel also believes DoD funding for encroachment prevention and mitigation could be more effectively prioritized and coordinated if the funds were administered more flexibly at the local level and implemented by one office at the DoD level. To accomplish this, as discussed in Recommendation 5, the Panel is recommending that Congress consider consolidating OEA's JLUS and economic adjustment programs and REPI. Pending congressional action, DoD could consolidate program management through administrative action. With the enhanced roles the Panel is recommending, OEA would be the logical home for these efforts.

OEA's understanding of community issues and processes also puts it in an excellent position to articulate that information, and the implications for DoD's sustainment efforts, to Military Department and DoD officials. Its current leadership role in the LUIWG, and the LUIWG's ties to the Sustainable Ranges Integrated Product Team and the Senior Readiness Oversight Council, provide one mechanism to do so. As a more active participant in a more broadly-applied coordination structure, such a role could reflect key community-based views in developing and implementing a DoD-wide strategy for maintaining the installations' essential contributions to the nation's military readiness. This increased involvement should better enable OEA to help DoD and the Military Departments incorporate community-based views into mission sustainment action planning and ensure plans are carried out in the field, where military-community collaboration becomes essential to success.



Expanding the membership and scope of the LUIWG and other internal coordinating groups and expanding the overall charter of the Senior Readiness Oversight Council and its subsidiary elements, as needed, could help support an integrated DoD-wide program. OEA's organizational alignment may hamper its ability to work equally well with both communities and DoD. Though OEA's organizational alignment within OSD has changed over time, each location within the Office of Defense has pros and cons. OEA needs to be positioned so that it can best assist DoD in addressing the full range of encroachment issues.

OEA's role in the Economic Adjustment Committee connects it well to other federal agencies. However, the Committee does not provide systematic links to the state and local governments, tribal governments, or non-governmental organizations needed to help nurture successful military-community relationships and to help fund the needed encroachment mitigation and prevention efforts. Relationships have been developing between OEA and groups such as the National Governors Association, the National Conference of State Legislatures, the International City/County Management Association, and the National Association of Counties—but these relationships exist only on an ad hoc basis. These relationships should be systematized and formalized and should be used on a regular basis to support an expanded process for mission sustainable installations. OEA could benefit from a new advisory committee with representatives of these governmental and non-governmental groups—to complete its balanced set of coordination mechanisms. A new intergovernmental and public-private partnerships advisory committee could be formed and operated under the Federal Advisory Committee Act. A formal advisory committee of this type is very common in federal agencies that administer domestic assistance programs. It is often used in conjunction with federal involvement in the activities of individual national associations, various annual conferences, and many other channels of communication that keep the federal agency in close touch with its clients on a continuing basis. The Panel believes such a new committee would help DoD achieve its objectives.

**Therefore, DOD should enhance OEA's roles by:**

- **Clearly establishing OEA, in coordination with the Military Departments and Services, as DoD's main bridge between the Department and its community partners, at the local level, within DoD, and in the interagency arena**
- **Assigning to OEA the added role of incorporating community viewpoints into the Department's encroachment analysis, planning, and mitigation and prevention**
- **Administering all DoD community assistance programs through OEA, including allocating funds in accordance with risk-based priorities established by DoD**
- **Establishing a new advisory committee—representing the interests of state, tribal, and local governments; non-governmental organizations; and other parties; and operated under the Federal Advisory Committee Act—to support OEA's work and help connect DoD more systematically to the non-federal stakeholders in the encroachment mitigation and other military-community arenas**

- **Re-evaluating whether OEA’s organizational placement is optimal for carrying out its current and future missions, and for assisting DoD in implementing the new Directive recommended in Recommendation 1**

**RECOMMENDATION 5: The Panel recommends that Congress consider reshaping the financial assistance mechanisms in which the military and surrounding communities partner in support of military missions. The funds now available for DoD-wide programs could be consolidated into a single, flexible program to provide continuous funding to communities and states associated with military installations.**

Congress should consider consolidating OEA’s JLUS and economic adjustment programs and REPI into a single flexible program which allocates funds consistent with risk-based priorities and provides continuing assistance to communities, states and others that play important roles in sustaining the mission readiness capabilities of military bases, ranges, and access corridors. As envisioned by the Panel, legislation could require funded recipients to:

- Institutionalize and maintain a continuing conversation between the installation and community—including the state and other partners, as appropriate
- Develop and maintain comprehensive long-range plans and short-range action plans for sustaining the installation and the community
- Provide for continuing review and accommodation of military and community needs, both on-base and in the community
- Marshall implementation funds from all sources—federal, state, local and private—to target on, and prioritize for, achieving mission sustainability goals most effectively
- Schedule needed implementation projects and activities by all the parties having responsibilities under agreed-to plans
- Continuously track implementation of such plans—and regularly report results within DoD and to the public
- Build and maintain the capability of community and state offices to acquire and implement best practices for planning and implementing established plans

Using the Surface Transportation Program as a model, the Panel also envisions implementation organizations (similar to state transportation departments and metropolitan planning organizations) created at the local, regional or state level, as appropriate, to support this process. DoD would provide program support funding, as appropriate, to areas through these organizations which would have to meet basic qualifications, such as:

- Representative participation by local governments and other relevant stakeholders
- Technical capability of the staff and consultants to analyze issues and alternative solutions and to select preferred alternatives and prepare required plans
- Political adoption and commitments to implement required plans

- The existence of priority encroachment or other impact challenges in accordance with the assessment covered in Recommendation 1.

Assisted by the appropriate federal agencies, DoD would ensure periodic performance reviews are completed—in consultation with the area’s stakeholders—for compliance with applicable federal laws and regulations and with current best practices. DoD would develop integrated guidance for the consolidated program and for certifying these implementing organizations, and it should continue to promote best practices and the use of state-of-the-art planning and implementation tools. Peer reviews would be encouraged as part of the capacity-building program designed to spearhead the spread of best practices around the nation.

**Therefore, Congress should consider consolidating OEA’s JLUS and economic adjustment programs and REPI into a single flexible program which allocates funds consistent with risk-based priorities and provides continuing assistance to communities, states and others that play important roles in sustaining the mission readiness capabilities of military bases, ranges, and access corridors. As envisioned by the Panel, legislation could require funded recipients to:**

- **Focus on DoD priority actions (per Recommendation 1)**
- **Institutionalize a continuing organization to: (1) take responsibility for preparing and maintaining current long-range comprehensive plans and prioritized action programs and (2) partner with the military and the non-DoD entities needed to ensure mission sustainment of the military facilities and the livability of the surrounding communities**
- **Help to marshal implementation funds from all sources**
- **Schedule needed implementation actions by all the parties involved**
- **Continuously monitor progress toward achieving planned performance goals and annual targets**
- **Build and maintain the capability of community and state officials to identify and implement best practices for planning and implementing practical and effective impact and encroachment mitigation plans**
- **Use appropriate internet-based collaborative technology to promote coordination and collaboration**

**RECOMMENDATION 6: The Panel recommends that the Director of OEA strengthen OEA's emphasis on the JLUS Program.**

Though the Panel has seen instances when the JLUS process has contributed significantly to improved military-community communication as well as to reduced encroachment, it also believes that program improvements can and should be made. As recommended above, the Panel believes that Congress should consider combining OEA assistance programs and REPI into a new program with a broader objective, but it believes that improvements in the JLUS program itself need not wait for congressional action. This is especially true since the studies that the JLUS program now funds, or something similar, would be needed under the broader program. For the most part, the recommended JLUS program improvements mirror the changes the Panel has recommended for the broader program.

The Panel heard from experts and local installation and community officials about the need for an extended effort, post-JLUS, to continue the collaboration begun during the study and to help ensure that all parties implement the study recommendations. Many JLUS recommendations had been implemented at the sites the Panel visited. However, because of the unique nature of each installation and community setting, the Panel could not extrapolate available information about the implementation of JLUS recommendations at these sites to create an overall assessment of the JLUS program's impact. Such an assessment would require a much larger effort than the Panel could undertake. It would include gathering and analyzing information from potentially thousands of stakeholders on hundreds of recommendations that had been made over a lengthy period of time. The Panel is concerned about the lack of reliable program-wide information about the extent to which study recommendations were implemented and, equally important, whether those recommendations, once implemented, had the desired effect.

The Panel's review and its site visits demonstrated that military and community-based cultures often clash, due, for example, to the parties' failure to understand each other's interests or lack of needed skills to address those different interests. The JLUS process could be enhanced and such clashes reduced if OEA provided kick-off training, which would familiarize the parties with constructive approaches to problem solving, such as interest-based negotiation. For example, such training could take the form of a three day retreat, facilitated by professional instructors, which brings together base and community representatives as well as OEA staff and expert consultants.

The Panel also heard anecdotal information that some, but not all, JLUS studies took a restricted view towards the kinds of actions that could be recommended. JLUS studies in other localities and states used a host of new approaches which offer significant potential for improving the impact of the JLUS program. (Appendix E describes some of these new approaches.)

Therefore, the Director, OEA should enhance the JLUS program by:

- **Providing training in such matters as interest based negotiation to base and community representatives when JLUS studies are initiated**
- **Working with states to increase their active support and involvement in addressing encroachment issues**
- **Encouraging and supporting more frequent state and local use of a broader range of tools—including, for example, web-based geographic information systems, internet-based collaborative technology, computer models and simulations of future scenarios, transfer of development rights, and the use of state and local “smart growth” programs—in support of encroachment mitigation and prevention efforts**
- **Putting greater emphasis on, and resources into, the implementation of JLUS recommendations by communities and states**
- **Helping to sustain the local collaborative process established during the JLUS**
- **Monitoring implementation of JLUS recommendations and making the results achieved available in a collaborative data base**

## **CONCLUDING PANEL OBSERVATIONS**

The Panel believes that the program enhancements recommended above are all feasible and essential. They can be instrumental in making great strides toward improving military readiness, enhancing national security, and sustaining more livable civilian communities.

**The Panel observes that federal action will not be sufficient, by itself, to reduce encroachments to levels acceptable to both the military and civilian communities.** The Panel believes states and local communities share, with the federal government, inherent responsibilities to support national defense, and the recommendations above should lay a solid foundation for strengthening their engagement with DoD and the Military Departments in supporting military readiness. Since the Panel’s study did not include a full assessment of state and local government resources for supporting military operations, or incentives and disincentives to do so, the Panel believes it would be useful for DoD to initiate a national dialogue with regard to shared defense responsibilities and roles and to develop a better understanding of the need for state and local governments to play a stronger role in supporting DoD missions.



## APPENDICES

This report includes seven appendices. The first one, Appendix A, provides brief biographical sketches of the Panel and staff members who worked on the report. It follows this page in the printed report.

All the appendices, including A, are available electronically on the Academy's website: <http://www.napawash.org>. The Panel's intent was to keep the main Panel Report short, attractive, and manageable for the average reader who may simply want to know the Panel's bottom line while, providing substantial supporting material for those who need access to it.

The other appendices—B through G—provide the most significant supporting research and documents upon which the Panel relied in its deliberations leading to the report's findings and recommendations. The remaining six appendices are:

- B. **Scope and Methodology**—This appendix explains the Panel's approach to its research.
- C. **Individuals Contacted**—These contacts include persons who made presentations to the Panel in one or more of its Panel meetings, contacts made during Panel site visits, and interviews with individuals.
- D. **Selected Bibliography**—Many of the entries in this bibliography are hyperlinked URLs for the actual source documents used by the Panel.
- E. **New Tools for Compatible Use**—This appendix contains brief descriptions of the main tools that are being used now or have potential for greater use in predicting, analyzing, or mitigating encroachments of military operations on civilian communities or encroachments of civilian communities on military lands and operations.
- F. **Panel Site Visits**—This appendix presents summaries of each of the six site visits made by the Panel to gather information about how the JLUS program works to mitigate encroachments associated with selected major military bases, ranges, complexes, and their civilian host communities. It also includes a summary of lessons learned from these site visits, expanding on the list presented in the report body.
- G. **Selected Presentations Made to the Panel**—This appendix contains electronic copies of key presentations made on the record to the Panel in its meetings. These presentations were prepared and presented by invited guests.

Taken together, these more than 350 pages of appendix materials constitute the main body of research used by the Panel to determine its findings and recommendations. Those findings and recommendations, however, are solely the views of the Panel and are not intended to imply or reflect endorsement by any entity or person that participated in this review.





## PANEL AND STAFF MEMBERS

## PANEL

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## STAFF

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**Charles V. Hulick**, *Senior Advisor*—Private consultant. Mr. Hulick has participated in several Academy studies over the past ten years, most recently serving as project director for a review of the NIH Information Technology Acquisition and Assessment Center (NITAAC) program. Previous studies included an evaluation of the USDA Forest Service Information Solutions Organization (ISO) and serving as the project lead for *Containing Wildland Fire Costs: Improving Equipment and Services Acquisition*. Mr. Hulick was a member of the Senior Executive Service at the General Services Administrations and his positions included Assistant Commissioner for Quality and Contract Management, Assistant Commissioner for Procurement, and Director of Acquisition Planning.

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## CREDITS

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