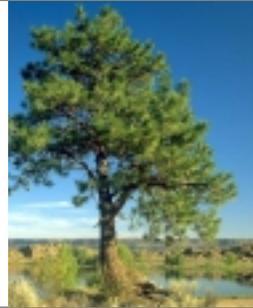


This year DoD restates its commitment to environmental excellence.

Sherri W. Goodman,
Deputy Under Secretary of Defense
(Environmental Security)



The challenges DoD's environmental restoration program faces today are considerably different from those it faced in the early years of the program. To meet these challenges, DoD is pursuing new initiatives that will further progress toward DERP's final goal — completed restoration and closeout of all Defense environmental restoration sites.

Environmental Restoration Program Improvements

In addition to the initiatives DoD pursues to expedite cleanup and facilitate property transfer, DoD is committed to ensuring stakeholder involvement at each step in the process. Early and continued participation and advice from the community result in better and quicker cleanup decisions. Through restoration advisory boards and other open forums, DoD keeps the public informed and involved in its efforts. To better meet these communication objectives, DoD developed a communication strategy in FY99. The strategy outlines communications efforts — from fact sheets on various cleanup initiatives to interactive Web sites — and opportunities for public dialogue that will ensure that DoD keeps stakeholders involved.

This chapter details DoD's pursuit of program improvements and goals, and preparations for the final stages of the DERP. The chapter discusses —

- Partnering with U.S. EPA, states, tribes, and communities to expedite cleanup by working as a team
- Developing procedures and technologies for locating and clearing UXO
- Embracing best business practices from the private sector to expedite cleanup and transfer
- Developing a guide for site closeout.

The Department is dedicated to sound stewardship of resources, ensuring that safe, clean land is preserved for the nation's citizens — whether as recreational areas, natural habitats, or land to be redeveloped to spur economic growth.



Good News from the Field:

Search for Common Shells Turns Up Rare Fossils at Black Hills Army Depot, South Dakota

A routine search for UXO shell fragments at the Black Hills Army Depot near Edgemont, South Dakota, turned into a scientific adventure when a USACE contractor unearthed some 80-million-year-old fossils.

Fossil recovery began in earnest when Dr. James Martin, a paleontologist from the South Dakota School of Mines and Technology, examined the fossils and determined that they were the bones of a mosasaur, a marine reptile that lived about 70 to 80 million years ago. This was a rare and important find. By the time the great "Summer of '99 Fossil Dig" was completed, personnel from USACE, the U.S. Forest Service, and the South Dakota School of Mines had recovered the remains of six mosasaurs and a plesiosaur.



Search for UXO leads to "Summer of '99 Fossil Dig."

USACE, the U.S. Forest Service, and the South Dakota School of Mines collaborated on the fossil recovery effort. The Forest Service was anxious to preserve the fossils and to conduct further fossil excavations. USACE ordnance and explosives (OE) experts assisted with the project to ensure that the fossil excavation was hazard-free for the team of paleontologists. Throughout the project, the OE team cleared any detected hazards from work areas, providing safe access to the excavation locations. Dr. Martin spoke highly of this partnering effort, particularly the role of USACE personnel, "The Corps became an essential part of the team, and Corps members even contributed directly by finding some vertebrae remains themselves."

Working Together: Partners in Progress

DoD has found partnering to be one of the most effective tools for streamlining and successfully completing environmental restoration projects. Partnering enhances cooperation, increases communication, improves decision making, and maximizes the effectiveness of each participant's resources by pooling assets and eliminating redundancy.

DoD has formally and informally teamed with a variety of groups, including organizations, communities, industry, and agencies or governments at the federal, state, and local level. Structured partnering creates a strong sense of teamwork and facilitates an exchange of ideas and mutual understanding among the parties involved. Overall, partnering has enhanced DoD's restoration program and will continue to be an important part of the DERP. The following section introduces several of DoD's successful partnering initiatives.



WorldWideWeb

**Partnering Guide for
Environmental Missions
of the Air Force, Army, and
Navy:**

<http://www.hq.usace.army.mil/cemp/c/partner.htm>

Good News from the Field:

**Cleanup-Reuse Partnership Facilitates Development
at Defense Depot Ogden, Utah**



The former Defense Depot Ogden Utah (DDOU) has been transformed into the Ogden Regional and Industrial Center as a result of strong partnering efforts between the Ogden Local Redevelopment Authority (OLRA) and DoD. The Depot closed in 1997 under the BRAC round of 1995. Two years later, the Ogden Regional Industrial Center has 25 lessees, with more expected, creating 675 new private sector jobs to date. In addition, approximately half of the installation property is suitable for transfer.

This quick change from closed depot to thriving business center is an example of how efficiently property transfer can happen when the community and DoD work together. From the beginning, the OLRA worked closely with the DDOU environmental staff to prioritize cleanups. This working relationship allowed the OLRA to specify priority areas for cleanup based on redevelopment priorities, and DDOU was able to modify cleanup schedules to accommodate lessees when needed. For example, to accommodate a new tenant who will eventually purchase two buildings, DDOU accelerated excavation of a hot spot between the two buildings, allowing the new tenant to take occupancy sooner than would have been possible under the original cleanup schedule.

By the end of FY99, DLA had completed documents identifying the suitability for transfer of 544 acres — about half the installation property — and only 14 percent of the remaining property requires any cleanup work. DoD has already transferred the utility distribution systems and has completed system upgrades to support current and future development.

Partners in Progress

In 1994, participants in joint Service partnering applied an innovative, three-tiered structure to the efforts at U.S. EPA Region 4 installations and properties to expedite decision making and promote consensus among DoD, U.S. EPA, and state regulators. This structure is known as “**tiered partnering.**”

Tiered Partnering Saves Time and Resources

If installation cleanups are to proceed successfully, cleanup team members must overcome certain obstacles, especially lack of consensus and understanding. To overcome conflict, cleanup teams must foster communication and support interagency partnering. Tiered partnering is a positive step in that direction.

Tiered partnering is a unique partnering concept developed for DoD’s environmental restoration program. It promotes professional interaction and accountability among program participants by establishing specific tiers for U.S. EPA, DoD, and state personnel. This structure allows participants to target issues to the appropriate level of management. Tiered partnering also promotes communication and empowers cleanup team members to make decisions.

The tiered partnering mechanism grew out of another cooperative venture — joint Service partnering. Partnering among the Services began primarily to reduce the amount of resources that would be expended if U.S. EPA and states had to meet separately with multiple Services. The initiative’s proponents believed that such inter-Service cooperation would reduce the number of meetings that regulatory agencies needed to attend and ensure that everyone involved received the same information. The initiative’s founders also believed that it would bring more consistency and coordination to DoD’s restoration programs.

Tiered partnering begins by assigning members of the participating organizations to the appropriate level. There are three tiers:

- Tier I is the installation-level team
- Tier II is the state-wide team
- Tier III is the regional team.

Each tier is assigned a different partnering objective, but all share the common goal of cleaning up the environment. Tier I operates at the installation level. The members of the Tier I teams are those most closely associated with the restoration project. To improve decision making within the cleanup program, Tiers II and III must empower the members of Tier I, including installations’ remedial project managers, to make decisions about site restoration. Because tiered partnering clarifies roles and areas of

authority, it enables members of Tier I, as well as the other teams, to act confidently and decisively within their appropriate spheres. This ability improves the efficiency of the decision-making process.

The Tier II teams operate at the state level and may have an extensive membership. These teams support Tier I and ensure consistency within a state. The composition of Tier II teams varies from state to state, but the teams generally include numerous representatives of military installations across the state, various state regulators, and a representative from U.S. EPA.

The Tier III team includes representatives of the installations' regional command headquarters and a steering committee composed of the U.S. EPA regional Federal Facilities Branch Chief, DoD regional environmental coordinators (RECs), Component RECs, and representatives from state environmental regulatory agencies. Tier III provides upper-level support to the other levels and empowers them to achieve cleanup more efficiently.

Good News from the Field:

Tiered Partnering Program Leads to Faster Cleanup at Patrick Air Force Base, Florida



Partnering continually proves to be essential in fast and efficient cleanup efforts. So, when Patrick Air Force Base and Cape Canaveral installation personnel, U.S. EPA, and the State of Florida decided that a structured tiered partnering program would benefit all agencies and lead to a successful cleanup effort, all interested parties attended partnering training.

This training showed cleanup team members a number of benefits in the partnering program. For example, the group learned about formal guidelines for meeting protocols, including instructions on how to achieve consensus. Primarily, though, the training helped individuals come together as a team while instilling a strong sense of individual ownership of the project.

The strong sense of individual ownership has resulted in a shared desire to solve environmental issues. By using the skills learned in the training program, the team has streamlined the cleanup process, reducing duplication of effort and disagreement. In addition, the cleanup team was able to streamline the review process, often cutting the review time to less than half a year.

Although the partnering effort has been successful and rewarding, there are still challenges. One challenge to Patrick's tiered partnering program has been maintaining a trusting environment as cleanup team members cycle in and out of the group. Overall, however, partnering, and the sense of ownership that it supports, has proved to be an important and effective tool in the cleanup process.

Partners in Progress



WorldWideWeb

Pennsylvania-DoD Agreement:

http://www.dep.state.pa.us/dep/deputate/airwaste/wm/remserv/DOD_MSA/dod_msa.htm

Innovative Partnering Expedites Cleanup

DoD wants to complete environmental restoration of its sites, transfer excess property, and bring the DERP to completion. States want clean, safe land that their citizens can use for economic growth and recreation. The end goal is the same — finish the program.

DoD is pursuing voluntary cleanup agreements with state regulatory agencies as part of its initiative to encourage partnering, improve relations with regulators, and, of course, complete environmental restoration activities at all installations and properties. This partnering initiative draws on state cleanup programs that private parties have been using for several years.

The first DoD-State agreement of this kind is the partnership agreement between the Department and the Commonwealth of Pennsylvania, Department of Environmental Protection (PADEP). The DoD-Pennsylvania agreement is a comprehensive effort to assess and eliminate potential environmental and public health risks at all military sites in Pennsylvania. The agreement features mutual incentives, joint planning, use of innovative technology, public participation, and sharing of resources to streamline the state-federal relationship and eliminate the potential for uncoordinated activities.

Because of the expected time and cost savings accruing from such partnerships, DoD is now working to forge similar agreements with other states to facilitate prompt cleanup and economic reuse of Defense sites. Although all of these agreements will reflect similar ideas and goals, each agreement will be unique and address the specific concerns and objectives of the state.

DoD and the State of New Jersey have started negotiations and anticipate completing an agreement during the year 2000. DoD hopes to continue these state partnerships and is committed to negotiating agreements with other states by the end of 2000.



DoD and Pennsylvania officials celebrate a new partnership at the agreement signing ceremony.

Government-to-Government Partnering

In addition to partnering with federal and state regulators, DoD is forging alliances with Native American and Alaska Native tribes to restore tribal lands affected by past DoD activities.

DoD is working with tribal governments through cooperative agreements (CAs) that empower tribes to join DoD as active partners in restoration efforts. Cooperative agreements maximize use of both federal and tribal resources to achieve cleanup goals and restore native lands.

In FY99, DoD signed annual cooperative agreements with seven tribes: Oglala Sioux, Native Village of Barrow Inupiat Traditional Government, Native Village of Gambell, Metlakatla Indian Community, Northway Village Council, Evansville Village, and Skull Valley Band of the Goshute.

Through these cooperative agreements, DoD provided approximately \$3.3 million in FY99 for a variety of projects on tribal lands, including restoring the Badlands Bombing Range, clearing debris, and abating asbestos contamination at various sites.

DoD provided \$3.3 million to seven Native American and Alaska Native tribes in FY99 to restore their lands.



WorldWideWeb

Native American Affairs and the Department of Defense:

<http://www.denix.osd.mil/denix/Public/Native/Outreach/Affairs/nat-am-affairs.html>

Based on a strong partnership among the military, the regulatory agencies, and the Oglala Sioux Nation, we are cleaning up the UXO on the Badlands while at the same time creating economic opportunity for the region...The Badlands Bombing Range Project is currently employing 22 trainees — all are members of the Oglala Sioux tribe.

Sherri W. Goodman,
Deputy Under Secretary of Defense
(Environmental Security)

Partners in Progress

Partnering Advances Use of New Technology

To ensure that DoD uses the most effective available environmental remediation techniques, the Department is partnering with the Interstate Technology and Regulatory Cooperation (ITRC) Work Group to promote the use of innovative technologies. Led by state regulators, ITRC encourages state agencies to accept use of new remediation technologies at hazardous waste sites. For example, in FY99 ITRC formed technical work teams to research phytoremediation techniques (using plants to treat contamination) and technologies for addressing UXO and dense nonaqueous phase liquids. In FY99, DoD provided \$400,000 to ITRC for project management, outreach to states, forums and conferences, and a DoD-funded work team on UXO remediation technology.

To promote state involvement in new technologies, ITRC sought state concurrence on guidance documents, provided training on products, and conducted meetings between ITRC state members and technical work group members.

ITRC is also fostering the exchange of information on a long-standing DoD issue — unexploded ordnance. The

detection and removal of UXO is one of DoD's greatest challenges. There are few proven UXO clearance technologies, and DoD is actively seeking new technologies to address the problem. In addition, because state regulatory agencies have limited experience addressing UXO, DoD has placed a high priority on educating and involving state regulatory agencies in UXO detection and cleanup. The Department tasked ITRC with coordinating a UXO summit to help states and other interested parties understand pertinent UXO issues. This summit, which took place in Atlanta in May 1999, dealt with such topics as regulatory requirements, technology implications, community concerns, and opportunities for participating in the UXO decision-making process.

ITRC and DoD Proposed Technology Initiatives for Year 2000

- Work with states to promote acceptance and implementation of innovative technologies
- Advance DoD's efforts to forge voluntary cleanup agreements with states
- Increase state involvement in selecting technologies for UXO cleanup.



WorldWideWeb

Interstate Technology and Regulatory Cooperation Work Group:

<http://www.itrcweb.org/filecomponent/1740.html>



Good News from the Field: Navy Develops New Treatment Technologies at NWIRP McGregor, Texas

DoD cannot transfer property until environmental contamination has been addressed. At NWIRP McGregor in Texas, this was a particularly difficult problem for the Navy because the contaminant of concern was perchlorate, a chemical once used extensively to manufacture solid rocket fuels, which cannot be treated using conventional remediation technology. The chemical was found in more than 31,600 acres of soil on and off the base, as well as in the groundwater.

In addition to the challenges NWIRP McGregor faced in treating the perchlorate contamination, the City of McGregor was anxious to start redeveloping the site, resulting in an aggressive cleanup schedule.

To address the cleanup challenges at this installation, the Navy worked closely with U.S. EPA and the Texas Natural Resource Conservation Commission to conduct an extensive site investigation and develop a cleanup plan that would be flexible enough to allow the use of emerging cleanup technologies.

As a result, in 1999, the Navy was able to develop an innovative biological treatment process to treat perchlorate contamination in the soil and groundwater. Not only did this process prove effective, it saved the Navy \$3 million in cleanup costs. By implementing this new treatment process, the Navy was able to clean up contaminated areas and begin transferring the property to the City of McGregor, allowing the city to begin redevelopment.



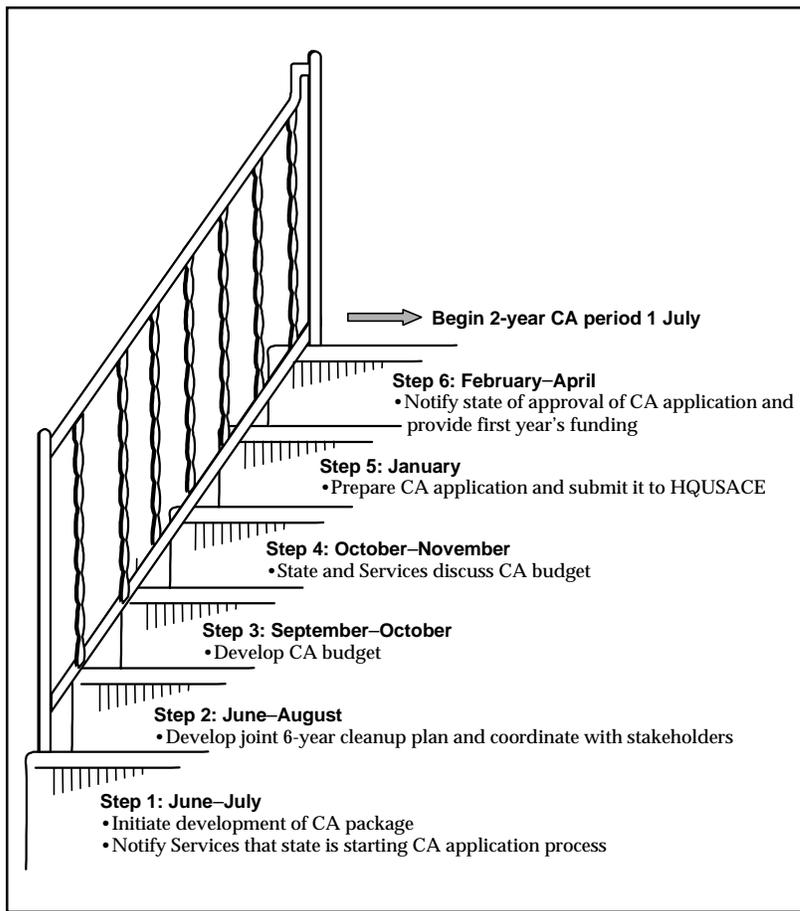
Navy uses new cleanup technology to address perchlorate contamination.

until both the state and DoD sign an associated Cooperative Agreement. A CA provides a specific two-year plan for restoration activities in the designated state, offers a plan of action for the following four years, and establishes a payment process. There are six steps in the cooperative agreement development process (Figure 27). At the end of FY99, 48 of the 56 U.S. states, territories, and 1 district (District of Columbia) have entered into cooperative agreements with DoD, and 51 have signed DSMOAs. In FY99, DoD signed a DSMOA with the State of Utah and renewed negotiations with the State of Oregon. (Refer to Appendix C of this report for more information on the DSMOA program.)

State services that are reimbursable through CAs include —

- Technical review, comments, and recommendations on documents or data
- Identification and explanation of state or territorial requirements
- Site visits
- Participation in public education
- Community involvement activities
- Database Management
- Clerical Support
- Participation in seminars, conferences, and workshops.

Figure 27
Cooperative Agreement Development Process



DoD–ATSDR Partnership Protects Human Health, Builds Trust

DoD is committed to protecting people and the environment through expediting cleanup and increased funding at high relative-risk sites. An extension of DoD's effort to protect human health is its partnership with the Agency for Toxic Substances and Disease Registry (ATSDR).



WorldWideWeb

ATSDR's Program Home Page:

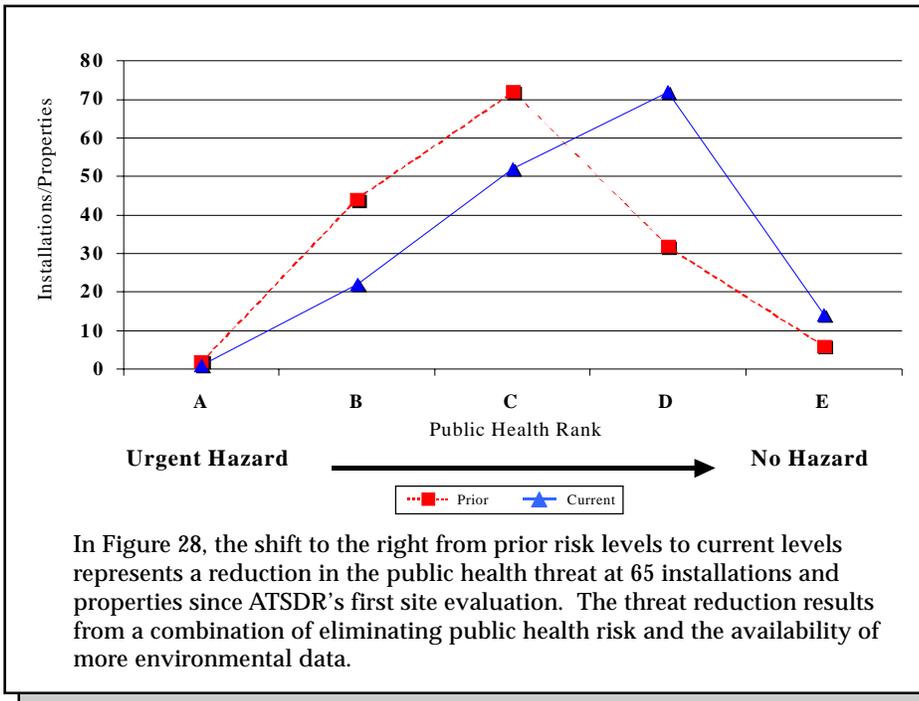
<http://chppm-www/atsdr/atsdr.htm>

ATSDR is the federal agency responsible for assessing health hazards at National Priorities List (NPL) sites and for responding to citizens' requests about potentially dangerous health issues. ATSDR also conducts public health assessments (PHAs) at DoD sites that are on the NPL or are the subject of citizen petition. Once ATSDR completes a PHA and finds additional information that affects the PHA, the agency releases an addendum to the PHA in the form of technical assistance, a health consultation, or a site review and update. ATSDR reviews the actions that DoD takes in response to the agency's recommendations. The ongoing cooperation between DoD and ATSDR illustrates DoD's commitment to human health and well being and encourages trust from the surrounding communities.

Three Stages of the Public Health Assessment Process

- **Initial Release Document:**
Provides DoD, state and local public health departments, and state and federal regulatory agencies with an opportunity to guarantee that the most accurate information about a site is available to ATSDR.
- **Public Comment Release:**
Provides a formal means for the community to make additional comments and raise its concerns, thus increasing stakeholder involvement.
- **Final Release Document:**
Responds to comments by DoD, the regulatory agencies, public health departments, and the community. This is the final independent PHA of the site by ATSDR.

Figure 28
Reducing Risk to Public Health at DoD Installations and Properties



A – Urgent Public Health Hazard: This category is used for sites where short-term exposures (<1 Yr.) to hazardous substances or conditions could result in adverse health effects that require rapid intervention.

B – Public Health Hazard: This category is used for sites that pose a public health hazard due to the existence of long-term exposures to hazardous substances or conditions could result in adverse health effects.

C – Indeterminate Public Health Hazard: This category is used for sites when a professional judgment on the level of health hazard cannot be made because information critical to such a decision is lacking.

D – No Apparent Public Health Hazard: This category is used for sites where human exposure to contaminated media may be occurring, may have occurred in the past, and/or may occur in the future, but the exposure is not expected to cause any adverse health effects.

E – No Hazard: This category is used for sites that because of the absence of exposure, do NOT pose a public health hazard.

Figure 28 illustrates progress in reducing public health risks at DoD installations and properties. The partnering efforts between DoD and ATSDR continue to streamline the document review process, which resulted in the completion of a record number of final PHAs in FY99 (Figure 29). Despite this record production, however, the number of final documents produced fell short of the target goal proposed by ATSDR in the FY99 Annual Plan of Work. ATSDR and DoD are working together to meet the targets set for FY00 and beyond.

Figure 29
Summary of the Public Health Assessments Completed at DoD Installations in FY99

Stage of Assessment	Army	Navy	Air Force	DLA	FUDS	Total
Initial Release Document	11	2	7	0	2	22
Public Comment Release	8	2	5	0	1	16
Final Release Document	4	6	7	0	2	19
All Stages, Total Number	23	10	19	0	5	57

Partners in Progress

RABs Show that Communities Count

The RAB is the primary means for involving citizens who live on or near a military installation in the environmental restoration decision-making process. RAB members participate in many community involvement activities, including public meetings, preparing and distributing information mailings, establishing local information repositories, and conducting local school visits to discuss the environmental restoration program and associated activities. RABs provide a major conduit for exchanging installation cleanup information between DoD and the community.

Included as a supplement at the end of this report, the *RAB Report to Congress for Fiscal Year 1999* presents the RAB program in detail. This supplement summarizes the status of DoD's RAB program and Technical Assistance for Public Participation (TAPP) development efforts for FY99.



WorldWideWeb

Restoration Advisory Boards:

<http://www.dtic.mil/envirodod/rab/index.html>



RAB members convene at Barbers Point Naval Station.

We're not done until the community says we're done.

Karla Perri,
Assistant Deputy Under Secretary of Defense for
Environmental Security (Cleanup)

DoD Meets the UXO Challenge

Soldiers past and present have trained and tested their equipment on DoD's weapons ranges. DoD relies on these training and testing activities to maintain readiness of the nation's Armed Forces. Because not every round fired detonates, UXO is left behind when the troops complete their training.

While DoD is actively seeking ways to prevent future UXO problems on active ranges, UXO from past activities remains on former and surplus military properties as relics of DoD's mission. The Department has permanently closed many military ranges and has transferred, or is transferring, some of those properties to other federal agencies or to the public. DoD's challenge on these properties, known as closed, transferred, or transferring (CTT) ranges, is to identify where UXO is still present, how much is still present, and how to clean it up.

Managing UXO clearance is challenging because buried UXO is very difficult to detect, and even harder to discriminate from other, nonhazardous subsurface objects. The overall UXO remediation process is both costly and risky. To reduce cost and risk, DoD is working to develop better UXO detection and cleanup technologies. The Department's goal is to protect human health and the environment and ensure the timely transfer and reuse of surplus land.

DoD is building a UXO cleanup program to address the unique challenges UXO cleanup presents. Lessons learned from the DERP, ranging from data collection to developing innovative technologies and partnering, will be used to create a state-of-the-art UXO cleanup program.

Unexploded Ordnance is military munitions or explosive ordnance that has been prepared for action and deployed, and remains unexploded either through malfunction, by design, or for any other cause.

DoD's UXO Challenges and Goals

- To identify where and how much UXO is still present
- To conduct response actions for UXO
- To ensure the timely transfer and reuse of surplus land
- To protect human health and the environment



WorldWideWeb

Range Rule:

<http://www.acq.osd.mil/ens/Munition/Munition.html>

Status of the Range Rule

DoD has struggled with the UXO issue for many years. To create an acceptable approach for managing UXO, DoD and U.S. EPA have joined forces to develop the Range Rule. When promulgated by DoD, the final rule will set regulations binding all parties involved. The Range Rule will address identification and clearance of UXO contamination on CTT ranges to ensure that cleanup standards, detection and removal technologies, and oversight responsibilities are safely and consistently applied. In a March 1998 memorandum, the Deputy Secretary of Defense authorized the Military Components to program and budget for UXO cleanup on CTT ranges through their Environmental Restoration accounts. The Military Components will add appropriate funding for UXO to their accounts so as to not impact achieving existing DPG goals for environmental restoration.

DoD published a proposed Range Rule in September 1997, and received public comments through December 1997. DoD then addressed the public comments over the next two years, and is currently engaged in federal agency consultations with U.S. EPA and other agencies.

The timeline for proposing and promulgating the rule has been longer than initially estimated. The length of the process has been due, in part, to DoD's efforts to ensure that all interested parties — including the regulatory community and public stakeholders — have had sufficient opportunity to participate in and comment on the rule. DoD believes that stakeholder involvement is important, especially because the Range Rule will establish a policy for CTT ranges across the country. DoD's goal is to promulgate the final Range Rule by the end of FY00.



WorldWideWeb

**Unexploded Ordnance
Center of Excellence:**

<http://www.denix.osd.mil/denix/Public/News/UXOCOE/uxocoe.html>

Until DoD's Range Rule is promulgated and an inventory of CTT ranges is completed, the potential budgetary impact of UXO discovery is not known. In FY00, the Military Components began including funding for UXO requirements at closed and transferring ranges in their environmental restoration budgets. Previously, UXO requirements were only funded in the FUDS budget and in the BRAC budget as compliance. Figure 30 shows UXO cleanup funding levels for each Component.

**Figure 30
Planned Investments for UXO Cleanup: FY99-FY01
(\$ in 000s)**

DERA	FY99	FY00	FY01
Army	0	10,000 *	10,042
Navy	0 **	3,000 **	3,000 **
Air Force	0	30	75
FUDS	48,649	47,220	42,510
Total	48,649	60,250	55,627

BRAC	FY99	FY00	FY01
Army	38,686	8,449	47,952
Navy	0	0	0
Air Force	0	0	0
Total	38,686	8,449	47,952

* In addition to DERA investments, Army budgeted \$10 million in the FY00 Operations & Maintenance (O&M), Army Appropriation for planning and identification activities related to clearance and cleanup of UXO.

** In addition to DERA investments, Navy executed \$25.0 million in FY99 and will execute \$34.8 million and \$25.0 million in FY00 and FY01, respectively, in the O&M, Navy Appropriation at Kaho'olawe.

In FY99, DoD's UXO Efforts Centered On —

- Establishing a uniform response process for UXO cleanup (the Range Rule)
- Developing the appropriate technologies for detecting UXO and cleaning up UXO contamination
- Partnering with DoD stakeholders to ensure that transferred and transferring properties present no immediate health or safety threat to users or redevelopers.

Good News from the Field:

Partnering Creates Cost-Effective Plan for Ordnance Remediation at Jefferson Barracks, Missouri



The Kansas City District, USACE is implementing an innovative solution to protect the public from ordnance risks at Jefferson Barracks, on the banks of the Mississippi River. The riverbank area served as the former post's dumping ground from the late 1800s to early 1900s. Disposing of waste into the river was a common and acceptable practice during this period. Ordnance disposed of in this area included French-designed rifle grenades and British-designed mortar shells buried at Jefferson Barracks since World War I.

Erosion and fluctuating river levels uncovered the old riverbank disposal site in 1996. Two situations made the area especially dangerous:

- Some of the rusted ordnance was not readily distinguishable from relatively harmless objects, such as vehicle mufflers or automotive starter coils
- Six elementary schools were within easy walking distance of the unguarded site.

This situation demanded immediate action. The USACE district decided to implement a three-part program focusing on education, elimination of the hazard, and remediation. The district began by educating and warning the public through press releases, signs, posters, and school assembly programs.



Workers place a rock blanket on the riverbank.

While educating the public, the district also focused on promptly removing and destroying any unexploded ordnance that had surfaced to quickly address any imminent threats. Initially, the Fort Leonard Wood Ordnance Disposal Detachment recovered and disposed of several types of UXO. Subsequently, USACE awarded a time-critical contract for disposal of uncovered ordnance. In the 3 years preceding construction of the final remedy at the site, USACE recovered about 1,363 ordnance items.

Good News from the Field: (Continued)

Partnering Creates Cost-Effective Plan
for Ordnance Remediation at Jefferson Barracks, Missouri

The final step in this process involved placing a rock blanket on top of the riverbank — the surface of which was already cleared. “We considered three alternatives before recommending a revetment, or covering of the riverbank, with large 2-ton stones. Encapsulating the UXO under large rocks was the best solution to protect human health and safety,” said Josephine Newton-Lund, the District’s current technical support for Jefferson Barracks. The Missouri Department of Natural Resources and U.S. EPA concurred with the remedy.

In June 1999, the St. Louis District began placing 50,000 tons of rock along approximately 1,000 feet of shoreline, burying the potential hazard where curious treasure hunters could not reach it and preventing the Mississippi River from eroding the bank.

This project’s success resulted from the teamwork of all departments and agencies involved. Early notification and constant communication with the public and the regulatory agencies by both the district and DoD helped to maintain a positive relationship with the local community and the media throughout the project and ensured the rapid completion of the project.



USACE displayed signs warning of potential hazards at Jefferson Barracks.

DoD is working to improve technologies for UXO

- Detection
- Discrimination
- Removal
- Destruction.



WorldWideWeb

UXO Coordination Management Plan:

<http://www.denix.osd.mil/denix/Public/News/UXOCOE/Documents/Coord/manage.html>

UXO Detection and Cleanup Technologies

DoD must develop or obtain UXO detection technologies that can accurately detect potential UXO and discern whether the detected object is indeed an unexploded munition. DoD has given top priority to UXO detection, discrimination, removal, and destruction in its environmental technology research and development requirements.

Several organizations are actively researching and developing new or improved technologies for detecting buried UXO. DoD funds many of these projects through the Environmental Security Technology Certification Program.

In FY99, DoD began to develop a more robust program in response to the increasingly apparent need for UXO detection and remediation technology. DoD created a Defense-wide plan for UXO technology, the Coordination Management Plan for the Unexploded Ordnance Center of Excellence, which will be presented in a report to Congress in FY00. The plan addresses funding for UXO remediation efforts.

The May 1999 UXO Summit in Atlanta (coordinated by the ITRC) presented advances in UXO-related technology, services and capabilities. DoD and other UXO stakeholders are discussing establishing a database to track how UXO technologies function under various field conditions. This tracking system would help optimize the use of these technologies in the field. In addition, stakeholders nationwide are discussing how to standardize testing for comparing technologies.

* * * *

Although DoD and other UXO stakeholders have made great strides in UXO technology, dedicated efforts must continue in order to improve the ability to detect potential UXO and discriminate between buried UXO and non-UXO materials. DoD is committed to identifying and mitigating UXO-related risks in a manner that ensures safety and protects human health and the environment. DoD continues to work to characterize the extent of the UXO problem on its ranges and to lead stakeholders toward consensus on solutions.

New tools and approaches are emerging in the public and private sector that can expedite cleanup and allow cleanup to be better integrated with redevelopment. The challenge is to look at each property in light of these new tools and approaches and find ways to do business better.

Karla Perri,
Assistant Deputy Under Secretary of Defense for
Environmental Security (Cleanup)

The private sector has proved that contaminated properties can be cleaned up and redeveloped quickly and economically. Having effectively applied privatization concepts to utilities and housing across DoD as part of its revolution in business affairs, the Department is now integrating the private sector's best practices with DoD's own best practices in its environmental restoration program. DoD is finding that privatization is a promising way to facilitate property transfer and expedite cleanup to support reuse.

Looking to the Private Sector

Privatization is the complete transfer of an asset from the public to the private sector. The way the Department implements environmental privatization is —

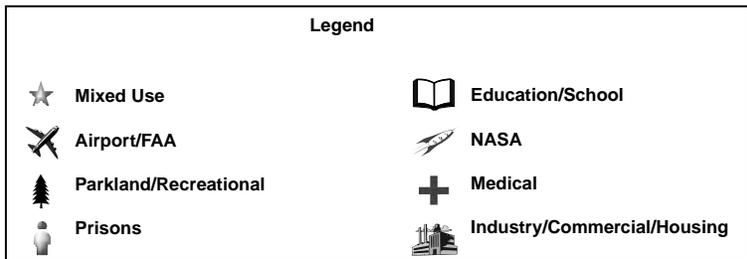
- Using early transfer authority, DoD transfers property and any remaining cleanup responsibilities to non-DoD parties while retaining ultimate liability for the restoration.
- DoD and the private party use private sector methods to complete cleanup efficiently and concurrently with property redevelopment.
- Cleanup and reuse are integrated, expediting the entire process.

The Department embraced environmental privatization as a formal initiative in January 1999. At that time, OSD and representatives from the Military Components met to identify best business practices to meet the challenges posed by cleanup and property reuse at BRAC installations. Figure 31 illustrates the current range of reuse options by providing examples of current reuse at selected closed and realigned military bases.

DoD is pursuing business solutions that have been successful in the private sector —

- Transferring property before all cleanup is complete
- Promoting use of environmental insurance
- Use of public/private partnerships
- Performance-based contracting
- Integrating cleanup with redevelopment.

Figure 31
Examples of Reuse at Closed and
Realigned Military Installations



The business practices identified in January 1999 include —

- Using ETA to convey property to communities where there is immediate demand for reuse.
- Promoting use of environmental insurance as a tool to manage potential financial risks. Environmental insurance offers such parties additional protection and eliminates future uncertainty. For example, a non-DoD party can insure itself against cost overruns if the cost of cleanup exceeds the cost estimate.
- Leveraging private sector resources to finance cleanup, based on a property's intended reuse. Many companies and institutions are looking for economic opportunities, like redevelopment projects, to invest in.
- Applying innovative contracting mechanisms, such as fixed-price contracting, for getting work done.

During 1999, the Department examined these best-practice solutions and began developing new guidance for environmental privatization. To help local redevelopment authorities (LRAs) obtain and redevelop BRAC properties, Congress passed a law that expanded the no-cost economic development conveyances (EDCs) provision.

The Department began to document privatization cases to capture these successes. The following installation stories illustrate DoD's successful privatization efforts. These business solution tools — whether they are used in private sector or public sector property transactions — allow contaminated properties to be transferred, cleaned, and redeveloped quickly and economically.

No-Cost EDCs

An EDC is a mechanism for transferring property to an LRA for a reuse that will promote local economic development and create jobs. Until FY99, no-cost EDCs were used primarily in qualifying rural areas, to promote economic growth. A new law now extends no-cost EDCs to all communities, provided that the property is used for job-generating economic development.

We are a lot like industry in that we are on a path of continuous improvement. I think our programs have improved tremendously... We're doing better [than industry] in some areas. There are still things we can learn.

Sherri W. Goodman,
Deputy Under Secretary of Defense
(Environmental Security)

Good News from the Field:

From Military Base to Recreational Area —
Presidio of San Francisco, California



The Presidio of San Francisco, California, is a cultural and natural treasure. Within its 1,268 acres lie 510 historic buildings, a national cemetery, rare and endangered species, forests, beaches, and some of the most spectacular vistas anywhere in the world. For more than 218 years, the Presidio served as a military post under Spain, Mexico, and the United States. A BRAC 1988 installation, the Army officially closed the post and transferred the property to the National Park Service in 1995.

Unfortunately, centuries of past military activity had left a mark on the Presidio, requiring environmental restoration. In addition, the factors that make the Presidio a cultural and natural treasure make cleanup extremely difficult — every decision can potentially impact the site's reuse as a National Park.

In 1999, in a move toward privatizing cleanup, the Army transferred cleanup activities to the Presidio Trust — a public-private trust formed in partnership with the National Park Service — which will collaboratively manage the park.

Under this transfer agreement, the Army will provide the trust with \$25 million a year for 4 years and the trust will perform all cleanup activities. This arrangement will allow the trust to select remedies that are appropriate to its reuse plan, will save the Army costs associated with remedy selection, and will expedite the overall restoration process. The collaboration between the Army and the Presidio Trust not only establishes a firm link between cleanup and reuse, but also facilitates the efficient conversion of the Presidio from military base to part of the Golden Gate National Recreation Area.



Park visitors enjoy views of the Golden Gate Bridge from the Presidio.

Good News from the Field:

Navy–Community Partnership Accelerates Redevelopment at Fleet Industrial Supply Center Oakland, California



An agreement between Navy and the Port of Oakland allowed for completion of the early transfer of FISC Oakland.

In 1999, the Navy transferred its Fleet Industrial Supply Center (FISC) Oakland to the Port of Oakland — 3 years ahead of schedule. The basis for this transfer is a landmark agreement between the Navy and the Port, which allows the Port to lease portions of FISC Oakland for immediate reuse while the Navy continues its restoration activities. The rapid transfer was largely a result of strong cooperation among local, state, and military stakeholders.

The early transfer of FISC Oakland is a major achievement for the BRAC program. Early transfer of these 530 acres has allowed the

Port to meet its Vision 2000 Redevelopment Plan objectives and will secure the Port of Oakland's position as the nation's fifth busiest port. In addition, by tailoring its cleanup efforts to a known property reuse, the Navy saved more than \$27.5 million in remedial design, construction, and monitoring costs.

Not only do the Navy and the Port benefit from this early transfer, but also the City of Oakland will see an economic benefit. The Port redevelopment is expected to create more than 10,000 new jobs and to increase revenue for the entire region.

Good News from the Field:**Guaranteed Fixed-Price Remediation Streamlines Cleanup Process at U.S. Army Reserve Center, California**

DoD is experimenting with new types of environmental cleanup contracts to spark innovation and streamline the cleanup process. At the U.S. Army Reserve Center in Rio Vista, California, the Army is using direct private-sector management of environmental cleanup. In this type of contracting, the contractor is responsible for all aspects of the cleanup, regardless of the time or resources needed to complete the work. The primary benefit of this contracting mechanism (for both DoD and the community) is obvious: the contractor must deliver a product, in this case a cleaned up site, for a known price. In an arena where it is often difficult to predict how much a project will cost, this is a very appealing concept for DoD.

The Army is pilot-testing this contracting mechanism at U.S. Army Reserve Center in Rio Vista; it awarded the Rio Vista contract in November 1999. The projected date for site closeout is September 2001.

The Army is negotiating a second fixed-price, guaranteed cleanup contract for Camp Pedricktown, New Jersey, and all three Services are examining similar approaches to cleanup. The Army's BRAC Office has stated, "This type of contracting for environmental cleanup is the wave of the future."

In the coming year, the Department will encourage the Military Components to replicate some of these business innovations in their environmental restoration programs. DoD will seek opportunities for improving environmental restoration by taking advantage of state and federal Brownfields programs, working under state voluntary cleanup programs, and partnering with public and private stakeholders in the cleanup and property transfer process. DoD also will focus on applying environmental privatization practices to active installations where the Military Components have excess or underutilized facilities and property. Privatizing environmental cleanup expedites property transfer. It allows DoD to transfer properties to LRAs along with specific cleanup requirements. By privatizing cleanup, environmental restoration can proceed concurrently with redevelopment, allowing significant cost and time savings.

Good News from the Field:

Community Involvement and Innovative Design Create Wetland at Loring Air Force Base, Maine



A combination of community commitment and an innovative engineering design were used to restore wetland areas at Loring Air Force Base, a 9,477-acre BRAC installation in northern Maine. The Air Force Center for Environmental Excellence Base Closure Restoration Division coordinated the wetlands restoration project, which has received attention from federal and state officials as a shining example of innovative cleanup and community involvement.

The installation's restoration team had a formidable task of remediating and restoring more than 8,000 feet of streambed and 25 acres of floodplain that were contaminated with petroleum hydrocarbons and various hazardous substances, including pesticides, lead, and polychlorinated biphenyls (PCBs). Remediation activities primarily involved excavation of contaminated soil and sediment and replacement with clean fill. To restore the affected wetland areas, the team used locally available materials to reduce the cost of the project and minimize the impact on the environment. The project also included constructing diversion ditches and retention basins to control storm water runoff.

Large rocks and cobbles were used by the restoration team to replicate natural conditions in the streambeds and create spawning habitat for native brook trout and other species. The team also used logs and boulders to create lodging space for fish and as natural devices to facilitate stream flow, pooling and aeration. Gravel, rock, and vegetation were taken from other parts of the installation, including 18,000 transplanted trees and shrubs. The Air Force was able to save more than \$5.5 million by using transplanted trees and shrubs.

The restoration project also became a community effort with Boy Scouts and other volunteers joining in to plant 600 trees and shrubs in the summer of 1999. Throughout the project, several local businesses worked with the Air Force, U.S. EPA, and Maine Department of Environmental Protection to ensure that each section was carefully restored. Community involvement at these different stages of the project truly made this restoration a team effort.

The successful restoration project attracted the attention of Maine Governor Angus King, who came to Loring and toured the project area, and several other federal agencies, who are evaluating using the approach at other restoration sites. In recognition of their excellent work, the Consulting Engineers of Maine, a professional organization, awarded the Air Force and the Loring restoration team its Grand Conceptor Award for the innovative streambed design. The restored wetland areas are part of approximately 4,700 acres at the installation that were transferred to the U.S. Fish and Wildlife Service to establish the Aroostook National Wildlife Refuge.

Site Closeout — Marking the End of Cleanup

DoD has made tremendous progress in the past 10 years toward restoring its environmental sites. Having completed cleanup at many of its sites, DoD's next step is to consider the requirements for completing and documenting the closeout of sites that have met restoration goals and at which DoD has fulfilled its other environmental restoration responsibilities.



WorldWideWeb

**Environmental Site
Closeout Process:**

*[http://www.afbca.hq.af.mil/
closeout/](http://www.afbca.hq.af.mil/closeout/)*

The Air Force Base Conversion Agency convened a work group to identify requirements for closing out environmental restoration sites at military facilities, including both active and closing bases, and to develop a guide for meeting those requirements. The work group included representatives from the Military Components, OSD, U.S. EPA, states, and the Association of State and Territorial Solid Waste Management.

The Site Closeout Guide consolidates guidance from multiple DoD, U.S. EPA, and state sources to save time and promote national consistency in preparing for site closeout. In the past, remedial project managers planned closeout activities based on guidance from numerous agencies; this guidance was often not consistent. In late FY99, the working group completed the draft of the Site Closeout Guide. The final guide is expected to be released to the field in FY00.

* * * *

This chapter described some of the year's program accomplishments and ongoing challenges:

- Increasingly integrated partnering at every level
- Meeting the UXO challenge
- Adopting best management practices
- Technological innovations from the private sector.

Why are these achievements worthy of note?

The answer is that each of these efforts, and many more not mentioned here, are helping DoD complete the Defense Environmental Restoration Program successfully.

DoD knows the cost of conflict; adversarial relationships slow the program and cost more. Open communications and commitment to strong working relationships with stakeholders are advancing the program on many fronts. Innovative partnerships with states, technical peer review, and community involvement activities all serve to improve the decisions we make.

Flexibility and openness to change are also improving the program through sharing of lessons learned, adoption of streamlining efficiencies, and pursuit of better technologies. Such efforts will be the key to successfully responding to the challenges we know are still ahead.

This page intentionally left blank.