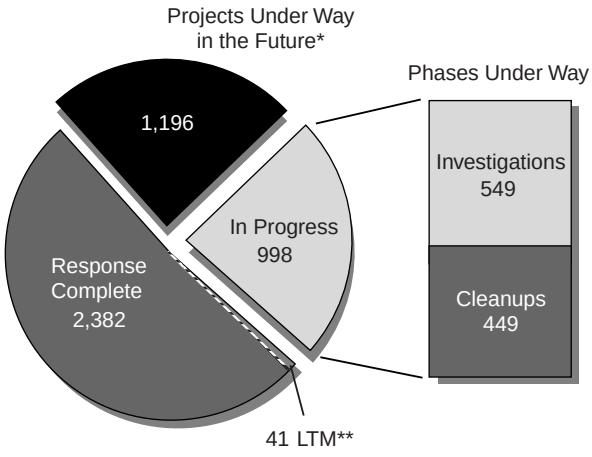
FUDS Restoration Status and Progress

The FUDS program is the largest and most complex DoD cleanup program. As the Executive Agent, the Army is taking steps to make improvements to the program through efforts to increase responsiveness to regulatory agencies along with community interests and concerns. Better information sharing, management initiatives, and increased consultation will make the program more effective, in addition to assisting property owners and communities in opening these properties to more productive uses.

— Raymond J. Fatz
Deputy Assistant Secretary of the Army
(Environment, Safety, and Occupational Health)

The Department of Defense (DoD) is responsible for cleanup of properties that it formerly owned, leased, possessed, or operated. Such properties are known as formerly used defense sites (FUDS). The Army is the executive agent for the FUDS program, and the U.S. Army Corps of Engineers (USACE) is the program's executing agent and manager. Because DoD no longer owns or uses the FUDS properties, a USACE district commander serves as the equivalent of each property's installation commander, executing environmental restoration projects and fulfilling associated responsibilities.

FUDS Property Status
(as of September 30, 2000)



Total Projects: 4,576

*Includes projects with future preliminary assessments starts planned and cleanup projects that are between phases.
**LTM is a subset of Response Complete.

FUDS project categories—

- **Hazardous, toxic, and radioactive wastes (HTRW)**
- **Ordnance and explosives waste**
- **Containerized HTRW, such as underground storage tanks**
- **Building demolition and debris removal**
- **Potentially responsible party actions.**

The scope and magnitude of the FUDS program are significant, with 9,171 properties identified for inclusion in the program. To improve efficiency and reporting methods, duplicate properties were removed from the total inventory, resulting in a decrease in the number of properties reported compared to the Fiscal Year 1999 (FY99). Twenty-nine properties were added to the FUDS inventory in FY00. Environmental restoration procedures at FUDS are similar to those at active DoD installations. Information about the origin and extent of contamination, land transfer issues, past and present property ownership, and program policies must be evaluated before DoD considers a property eligible for the FUDS program. Projects on FUDS properties are similar to sites on DoD installations.

FUDS Facts

In FY00…

- The FUDS Program has a net increase of 204 projects.
- Preliminary assessments were completed at 42 properties.
- Remedy in place or response complete (RC) status was achieved for 174 projects.

Through FY00…

- 2,672 properties were identified as requiring environmental response actions.*
- 98.7 percent, or 9,055, of the 9,171 FUDS properties have been evaluated through the eligibility preliminary assessment process.
- 4,576 potential cleanup projects have been identified on the 2,756 eligible properties; 2,382 of these projects were completed.
- The total cost for completing the remaining 2,194 projects is estimated at $10.2 billion (management and support costs not included).

*Note: Properties potentially identified as FUDS may not necessarily contain FUDS eligible projects (for instance, only non-DoD hazards or no hazards may be finally determined to be at the property). Thus, not all identified potential properties are ultimately determined to be FUDS eligible properties. Of the initial 9,171 properties identified for potential inclusion in the program, current indications are that less than one-third will require DoD environmental response.

Goals and Priorities

The goal of the FUDS program is to reduce, in a timely and cost-effective manner, risk to human health, human safety, and the environment resulting from past DoD activities at FUDS properties. Meeting environmental restoration goals for FUDS properties depends on—

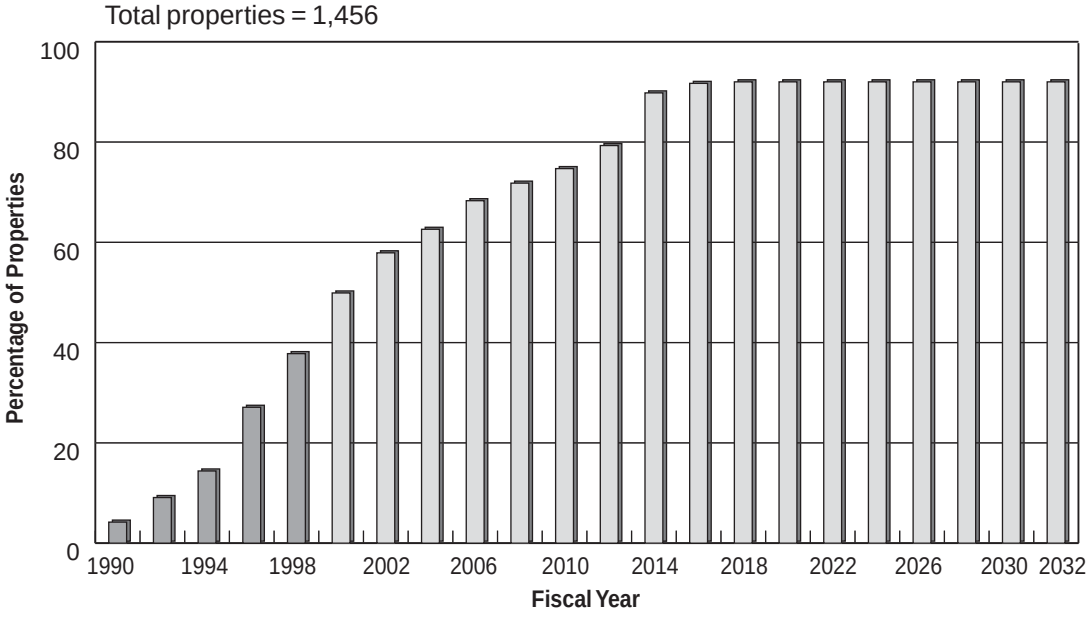
- Consistent communication and coordination
- Partnerships
- Community involvement.

USACE sets priorities for the FUDS program on the basis of an evaluation of relative risk and other factors, including legal agreements, stakeholder concerns, and economic considerations.

USACE's goals are—

- **Responsible protection of human health and the environment**
- **Prudent stewardship of taxpayer funds**
- **Addressing regulatory and stakeholder concerns and interest at these properties through better coordination efforts and increased communication.**

FUDS Properties Achieving Final Remedy in Place or Response Complete
(cumulative and projected, FY90 through completion*)



*This graph does not show FUDS properties as reaching 100 percent remedy in place or RC because completion dates have not been determined for some properties. This graph does not include ordnance and explosives waste (OEW), building demolition and debris removal (BD/DR), potentially responsible party (PRP), or No DoD Action Indicated properties or projects.

Organization and Management

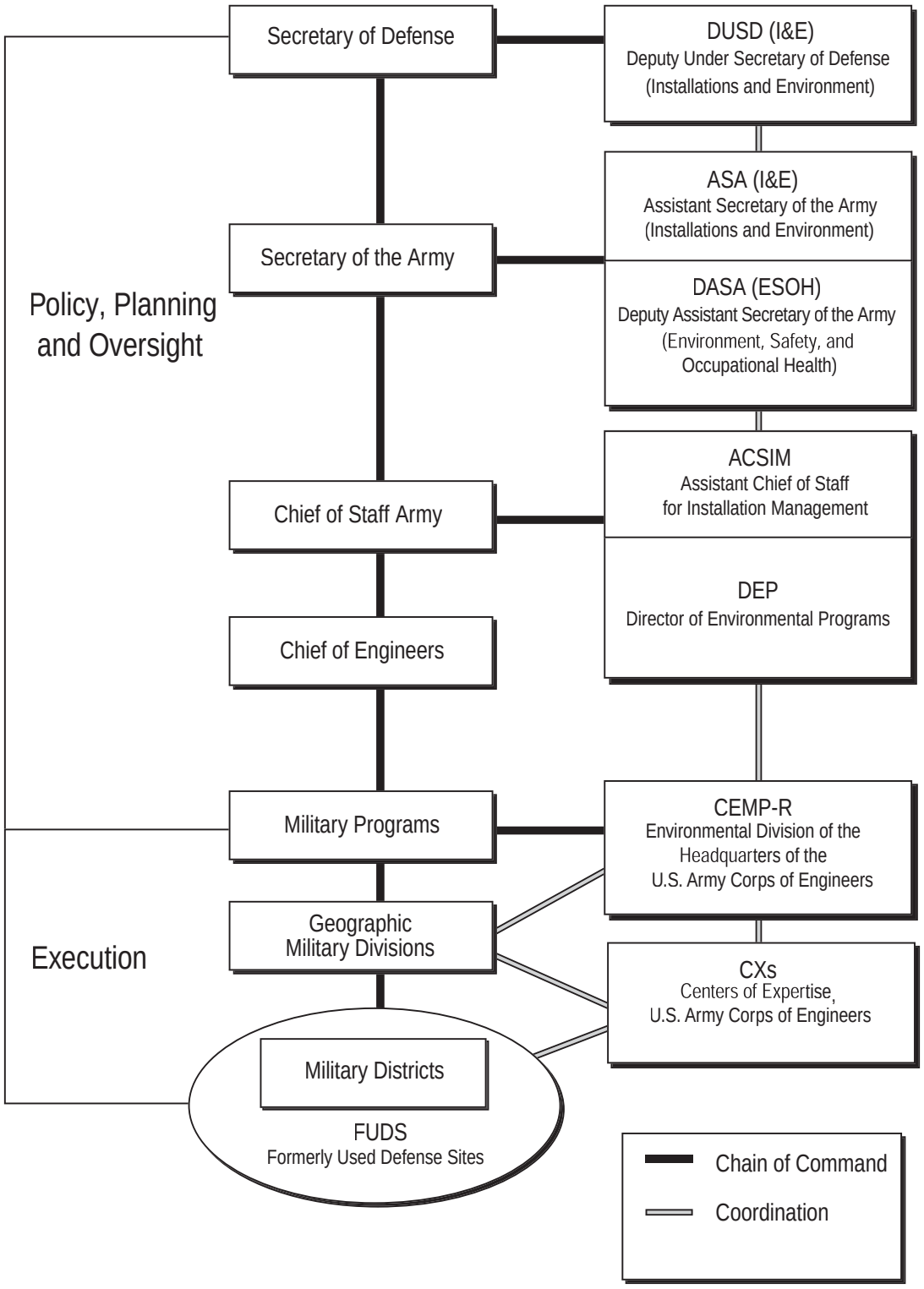
DoD is responsible for overall FUDS program policy and budget guidance, developing and defending the budget, and reviewing program performance. The Secretary of the Department of the Army is the executive agent of the FUDS program and, through the Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health (DASA(ESOH)), supplements DoD policies and oversees the program. The Director of Environmental Programs within the Office of the Assistant Chief of Staff for Installation Management establishes general program policy and guidance and, in concert with DASA(ESOH), approves the annual work plan and program priorities. USACE headquarters is responsible for FUDS program management and execution. The FUDS mission within USACE is executed by the field organization, which consists of 7 geographic military divisions; 18 military districts, with necessary support from civil works districts; 1 hazardous, toxic, and radioactive waste (HTRW) center of expertise; and 1 ordnance and explosives center of expertise.

Propelling FUDS to Higher Levels—New Initiatives

USACE continues to improve its internal FUDS Management Information System (FUDSMIS), which supports FUDS program planning, programming, budgeting, execution, and reporting. In FY00, quality assurance reviews were conducted on cost-to-complete information, relative risk data, and other data in an effort to maintain accurate information in FUDSMIS. In addition, a new automated system was developed and installed in FUDSMIS as a repository for ordnance and explosives waste (OEW) project data, capturing such information as range acreage. The data collected from the inventory project reports and archival searches for each OEW project were used to refine the cost-to-complete estimates.

In FY00, the Remedial Action Cost Engineering and Requirements (RACER) system was modified again for the FUDS program. This system now not only estimates the cost of HTRW, containerized HTRW, and building demolition and debris removal projects, but also estimates the cost of OEW projects. The RACER system was modified to include OEW modules for archive search reports, engineering evaluation and cost analysis, OEW removal, institutional controls, long-term monitoring, phytoremediation, and remedial design.

FUDS Program Hierarchy Chart



Management Initiatives and Improvements

DASA(ESOH) has undertaken initiatives to effect change within the FUDS program. These changes are intended to increase responsiveness to regulatory and stakeholder concerns and to enable faster environmental cleanups at a greater number of properties. The changes involve a greater emphasis on consistent coordination and communication with the stakeholders and the regulatory community. The program will provide a greater degree of stakeholder and regulatory involvement in project prioritization and planning, and offer opportunities for consensus on property cleanup methods and schedules. Enhancements will also come through expansion of DASA(ESOH)'s advocacy role, using the developed business plan to identify requirements and additional program funding to accelerate completion of the program. In accomplishing these projected changes to the program, some FUDS policies and guidance are undergoing review and revision.

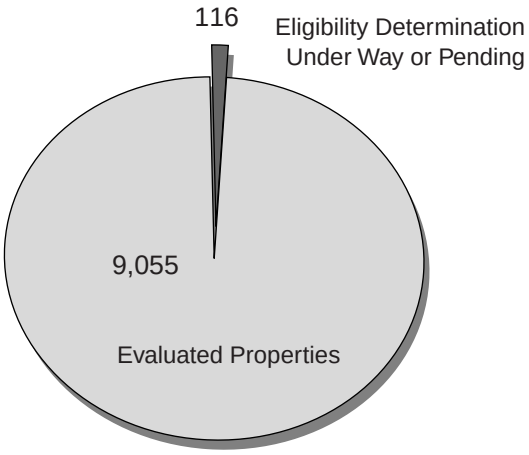
Program Accomplishments

USACE continues to emphasize executing projects, cleaning up FUDS properties, and ensuring that regulators and the public are active participants in the environmental restoration process. Project execution figures for FY00 demonstrate that the FUDS program is making significant progress. As of September 30, 2000, 2,382 FUDS projects had reached the RC milestone.

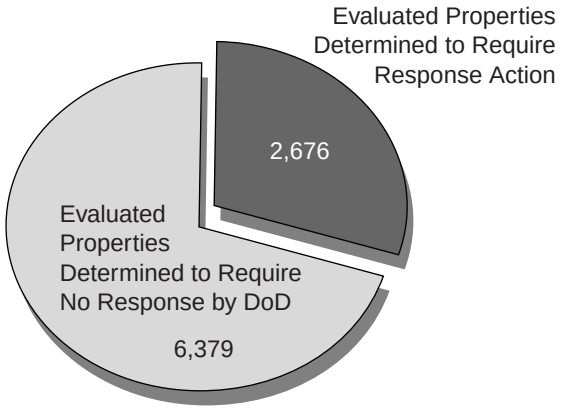
FUDS Improvements Partnering Yields Results

During late summer of FY00, a FUDS Improvement Workgroup was formed by DASA(ESOH) to recommend changes to the FUDS program. Representatives of the Office of the Secretary of Defense, Army, the U.S. Environmental Protection Agency, Association of State and Territorial Solid Waste Management Officials, the Tribal Association for Solid Waste and Emergency Response and USACE participated. The group identified several initiatives that will be implemented. A cornerstone of the workgroup recommendations is the pilot statewide management action plan (MAP) process. USACE and regulatory agencies from 4 selected states will jointly develop a pilot statewide MAP for each property that describes a "vision" for cleanup, the individual projects that comprise the vision, and a plan for property closeout. Community members will have the opportunity to provide input to the pilot MAPs through Restoration Advisory Boards. In recognizing the need to enhance the information available to stakeholders regarding FUDS, a Web site is currently available and USACE is building a user-friendly geographical information system.

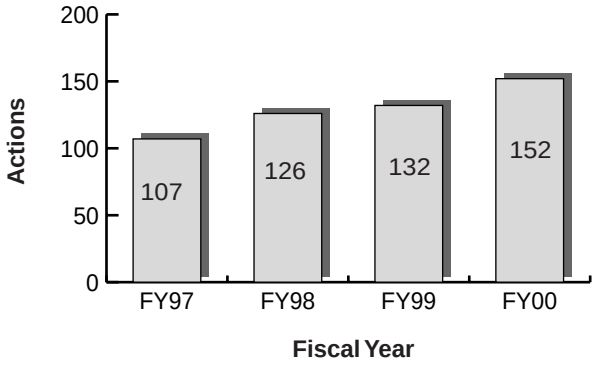
FUDS Program Eligibility Status of Potential FUDS Properties
(as of September 30, 2000)



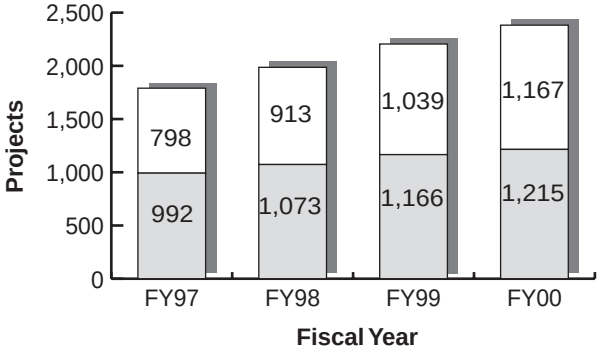
Response Action Status at Evaluated FUDS Properties
(as of September 30, 2000)

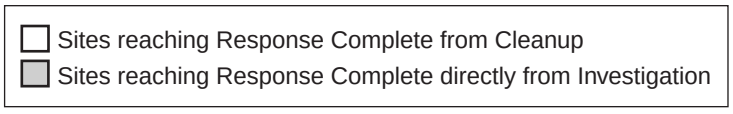


Cumulative Interim Actions Completed at FUDS*



FUDS Projects with Response Complete*





*FY97 through FY99 totals have been updated since the previous Annual Report to reflect new and revised data as of FY00.

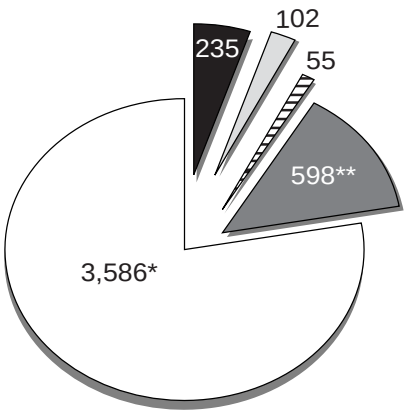
Relative-Risk Implementation

New projects are continually being added to the FUDS program. USACE strives to evaluate as many projects as possible for their relative risk to human health and the environment. At the end of FY00, 45 percent of the 1,009 eligible HTRW projects no longer required relative-risk evaluation because they had achieved either Response Complete or Remedy In Place status. Another 39 percent of the eligible HTRW projects had relative-risk rankings. The remaining 16 percent of the projects that are ready for site inspection require future funding for data collection and relative-risk evaluation. For containerized HTRW (CON/HTRW) projects, removal of abandoned underground storage tanks, transformers, and 55-gallon drums has proven to be the most appropriate and cost-effective response. Thus, when funding becomes available, USACE will immediately pursue removal responses at these FUDS properties instead of conducting expensive field sampling for relative-risk evaluation. USACE has completed response actions for 65 percent of the 1,272 eligible CON/HTRW projects. The remaining 35 percent of the CON/HTRW projects have removal responses underway or are programmed for removal responses in the near future.

USACE also must evaluate ordnance and explosives waste (OEW) projects for their relative risk to human safety. The OEW risk assessment consists of the hazard severity assessment and the hazard probability assessment. Both are based on the best available information from record searches, reports of explosive ordnance disposal teams, field observations, interviews, and actual measurements. Of the 1,625 eligible OEW projects in the FUDS program, 669 have reached RC status and therefore no longer require risk assessment. Risk assessment codes have been assigned to the remaining 956 OEW projects to indicate their potential impact on human safety.

In addition to the ratings of relative risk to human health, safety, and the environment, USACE uses management factors, such as stakeholder concerns, to aid in sequencing work on HTRW and OEW projects during planning, programming, budgeting, and project execution.

Relative-Risk Ranking for FUDS in Progress



Total Projects = 4,576

Relative Risk

- High
- Medium
- Low
- Not Evaluated
- Not Required

*Includes BD/DR, OEW, and PRP/HTRW projects.
**Includes CON/HTRW projects.

Information and Technology Transfer

USACE works closely with the Army and other DoD entities, as well as the U.S. Environmental Protection Agency (EPA), to transfer information on and coordinate the use of innovative technologies within the environmental community.

To facilitate this process, USACE has established innovative technology advocates (ITAs) across the Corps. The USACE ITAs participate actively in the Interstate Technology and Regulatory Cooperation Work Group,

USACE Technology Choice Improves Army Environmental Stewardship

The former military reservation, Camp Croft, South Carolina, occupied approximately 19,000 acres during its main years of operation, between 1941 and 1945. DoD began returning the property to civilian use in 1947, and the land became the 7,000-acre Croft State Park and a mix of residential, farming, and business developments.

During FY00, USACE successfully removed ordnance from the 50-acre Wedgewood subdivision in Spartanburg. The removal effort took less than six months. Investigations were performed on 36 acres, and 50 practice grenades, 1,700 pounds of scrap, and 3,000 pieces of ordnance and explosives scrap were removed. The use of two innovative ordnance and explosives detection and removal technologies made the project safer, quicker, and less expensive.

The first innovative technology used was geophysical (digital) surveys. Geophysical mapping and analysis were used to identify potential ordnance items, reducing the number of required digs (excavations to identify suspect metallic objects) from 1,000 to approximately 150 per grid or area. The use of this technology reduced ordnance removal time from about 3 days per area to 1 day per area.

The second innovative technology used in the Wedgewood subdivision removals was the transportable, lighter-weight blast containment shelter. This technology, developed by USACE, is a portable blast shelter (engineering control) that can be moved from excavation site to excavation site. Using this technology in the Wedgewood area reduced the exclusion zones from almost 900 feet to 200 feet. This smaller work zone reduced the number of daily evacuations from as many as 10 per day to 1 per day. The result was fewer disruptions in the lives of the subdivision's homeowners and increased protection for the community from any potential blast.

In addition to using state-of-the-art technology to ensure the success of this project, USACE worked closely with the affected community. For instance, coordination for evacuations was accomplished through extensive public involvement. As a result, during the project closeout meeting with the residents, there were no complaints from the 29 homeowners affected.

The 6-month project was safely concluded at a cost of $1 million. The large number of ordnance-related items removed significantly lowered potential risk at the site. The use of geophysical mapping, rather than traditional "mag and flag," reduced the number of excavations needed by up to 75 percent and reduced the project duration by as much as 1 year. The use of the containment shelter reduced the number of evacuations and the inconvenience to property owners. The containment shelter also provided an additional measure of safety for the community. The cost savings of ordnance and explosives removals is estimated to be over $1 million.

which helps state regulators and federal agencies with the use of innovative technologies, technical protocols, and regulatory information. In addition, ITAs perform peer review of EPA Superfund Federal Facilities Forum issue papers.

USACE also participates in the Web site development subgroup of the Federal Remediation Technologies Roundtable. The Roundtable's Web site contains completed case studies, including information on media and contaminant types and the remedial technologies used. The Web site also provides links to other federal Web sites containing environmental guidance and policy and provides a matrix of field sampling and analysis technologies.

A USACE initiative planned for FY01 is the use of systemic planning and dynamic work plans to develop and incorporate innovative monitoring and measurement technologies into USACE scopes of work, investigations, feasibility studies, design, and monitoring of remedial actions.

The dynamic planning will allow adjustments to be made in the field as site conditions and new information dictate. These work plans have the potential to reduce the time and cost of field activities, including hazardous waste site assessments, characterization, and remediation activities, while increasing the quality of the site decisions.

Noteworthy innovative technologies recently introduced were geophysical (digital) surveys and the transportable, lighter-weight blast containment shelter. Both technologies contributed to safety and to time and cost savings in cleanup efforts at the former Camp Croft Wedgewood subdivision in Spartanburg, South Carolina.

Outreach

In FY00, USACE continued its community relations efforts, ensuring that the public was made aware of the FUDS program and of opportunities to participate in the environmental restoration process.

USACE continues to make every effort to establish Restoration Advisory Boards (RABs) at FUDS properties where there is sufficient and sustained community interest (although USACE recognizes that the establishment of RABs is not always feasible for every property or project).

The FUDS program currently has 32 active RABs. During FY00, four new RABs were established, and three RABs were adjourned.

RAB at Walker Air Force Base

Residents living near the former Walker Air Force Base and the Roswell Industrial Air Center in Roswell, New Mexico, are finding that a new spirit of cooperation is paying dividends these days. The residents now have a better understanding of the environmental cleanup process and have been taking the opportunity to provide input on that process thanks to a Restoration Advisory Board set up by the Albuquerque District of the U.S. Army Corps of Engineers.

Corps of Engineers officials have found that they are benefiting also, mostly because the RAB has given them a chance to get to know the people and their concerns. "We're now putting faces to people's names and we know where they're coming from," said one Corps official. Corps officials also are finding that the RAB is a good source of information on past activities at the former Air Force Base. Noting that long-time Roswell residents are good sources of information, a Corps project manager said that "no matter how much I know, every time I come to a RAB meeting, I learn more and more [information that will help the Corps identify areas of interest that may require cleanup."

Although the RAB has been in existence for several years, an increased emphasis on communication and sharing information has resulted in great strides for the cleanup effort, according to the RAB members and Corps officials. Although RAB members say they would like to see results obtained more rapidly, they are coming to understand that the cleanup process does take time and that they are pleased with the progress, especially during the past two years.

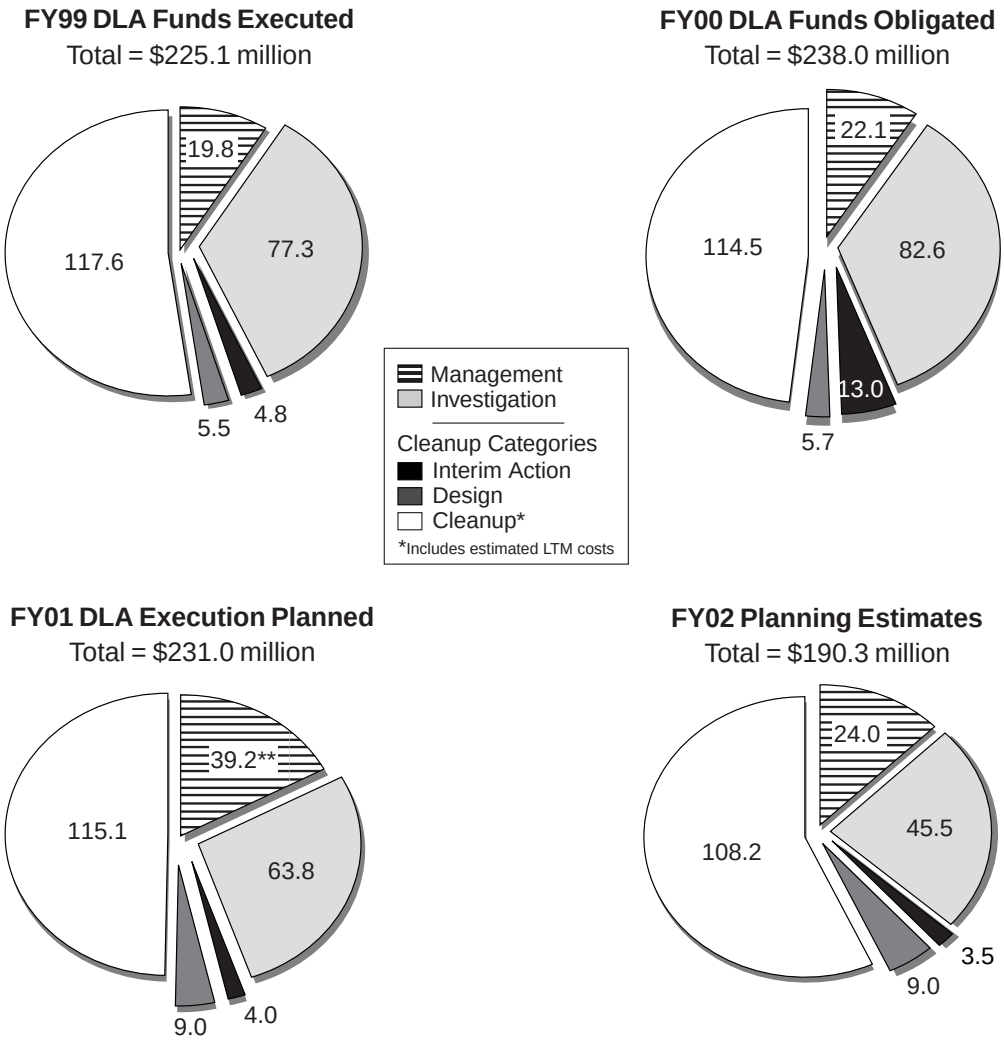
"We're getting a good response," said one RAB member. "It's a matter of people and money—an allocation of resources." The RAB members also said the Corps has done a good job of listening to the community's concerns and putting into action some of the recommendations.

Funding

Since the devolvement of the Defense Environmental Restoration Account, funds for DoD's environmental restoration program have been reprogrammed into five separate accounts, including one for FUDS. In FY00, USACE obligated $238 million for environmental restoration activities at FUDS properties.

In FY00, USACE's management and support costs for the FUDS program were approximately 9.3 percent of total program costs, meaning that 90.7 percent of the environmental program's dollars went directly toward project execution at USACE districts.

FUDS Environmental Restoration Funding Profile
(in millions of dollars)***



**Includes $14.246 million that is set aside for eventual project contingencies, which will be transferred for cleanup during FY01.
***Due to rounding, category subtotals may not equal fiscal year totals.