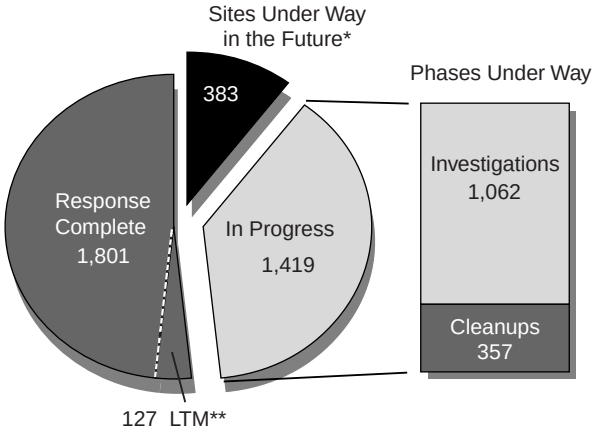
Navy Restoration Status and Progress

Our cleanup program has reached a significant juncture. No longer do we have the majority of the cleanup program ahead of us. It is behind us. Our challenge now is to complete the remaining site cleanups and close out installations. For those sites with land use controls as part of the remedy, we must ensure the long-term viability of these controls.

— Duncan Holaday
Senior Civilian Official
Office of the Assistant Secretary of the Navy
(Installations and Environment)

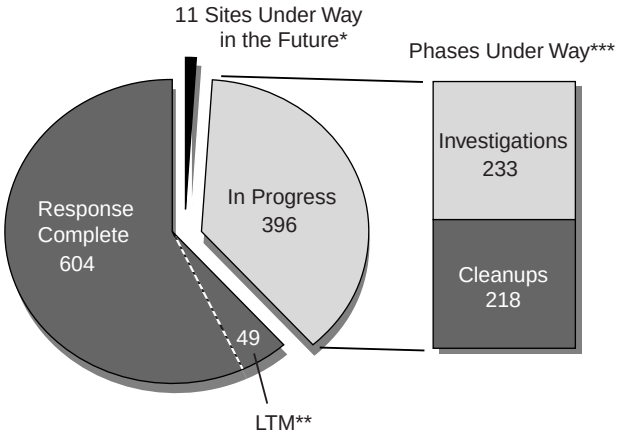
The Department of the Navy (DON) continues to make substantial progress toward completing its environmental restoration program in the face of unusual and complex challenges. Some of those challenges are directly associated with the DON mission and related operational factors. Most Navy and Marine Corps installations are located in coastal areas, which generally have environmentally sensitive habitats and populous surrounding communities. The heavily industrialized operations that typically exist at naval installations to support ships and aircraft add to the complexity of cleanup. Installations slated for closure or realignment also have a significant impact on the program, particularly for land reuse and fast-track cleanup.

Active Site Status
(as of September 30, 2000)



Total Sites: 3,603

BRAC Site Status
(as of September 30, 2000)



Total Sites: 1,011

*Includes sites with future preliminary assessment starts planned and cleanup projects that are between phases.
**LTM is a subset of Response Complete.
***Phases Under Way may not add up to Sites In Progress because some sites have multiple phases under way.

Navy Facts

In Fiscal Year 2000 (FY00)…

- The Navy completed 127 interim actions at active-installation sites, bringing the total number of completed interim actions at such sites to 1,019 at 661 sites.
- Forty-seven active-installation sites were brought to Response Complete (RC) status through cleanup activities; 135 active-installation sites were determined to be RC or to require no further action based on appropriate investigation and analysis.
- Analysis or cleanup actions are in progress at 1,802 remaining active-installation sites. Thirty-eight percent, or 686, of these sites are categorized as high relative risk.
- Twenty-five Base Realignment and Closure (BRAC) sites were brought to RC status through cleanup activities, and 46 BRAC sites were determined to be RC or to require no further action based on appropriate investigation and analysis.
- The Navy completed 30 interim actions at BRAC sites, bringing the total number of interim actions completed at BRAC sites to 412 at 298 sites.

Through FY00…

- To date, DON has identified 4,614 potentially contaminated sites at 244 installations. Of these sites, 2,405 require no further action.
- By the end of FY00, 1,801 of the 3,603 potentially contaminated active sites at Navy and Marine Corps installations had been brought to RC status through cleanup actions or verification that no cleanup action was required.
- The BRAC 1988, 1991, 1993, and 1995 lists include 54 Navy and Marine Corps installations.
- Navy installations have formed 41 BRAC Cleanup Teams to support cleanup. Local redevelopment authorities have completed reuse plans at 33 Navy BRAC installations. A total of 13 Navy BRAC installations have been disposed of. Reuse plans have been initiated at 5 additional installations.
- Environmental baseline surveys and BRAC cleanup plans have been completed for all BRAC installations. At the end of FY00, 90 percent of Navy's BRAC property was environmentally suitable for transfer.
- Of the 1,011 Navy BRAC sites, 604 have achieved RC.

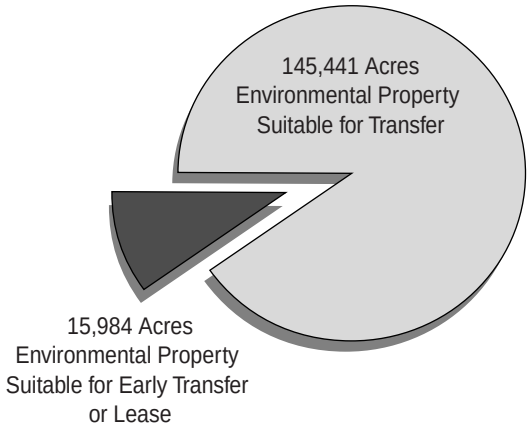
Goals and Priorities

DON's program goals and priorities are based principally on a risk management approach. In this approach, Navy considers site risk, as assigned through the Department of Defense (DoD) Relative Risk Site Evaluation framework, along with other risk factors, including—

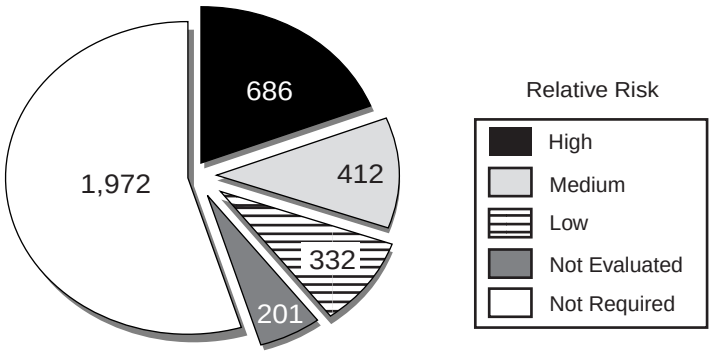
- Reuse (for BRAC properties)
- Legal requirements
- Economic considerations
- Stakeholder concerns.

Cleanup at Navy's active installation sites is funded by the Navy's Environmental Restoration Account (ER, Navy). To facilitate completion of its environmental restoration program, DON endorses a stable-funding approach that is consistent with achieving DoD's environmental restoration program goals.

Environmental Condition of BRAC Property

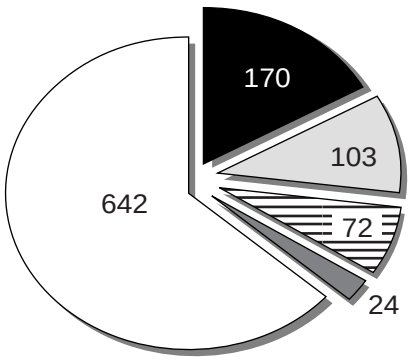


Relative-Risk Ranking for Active Sites in Progress



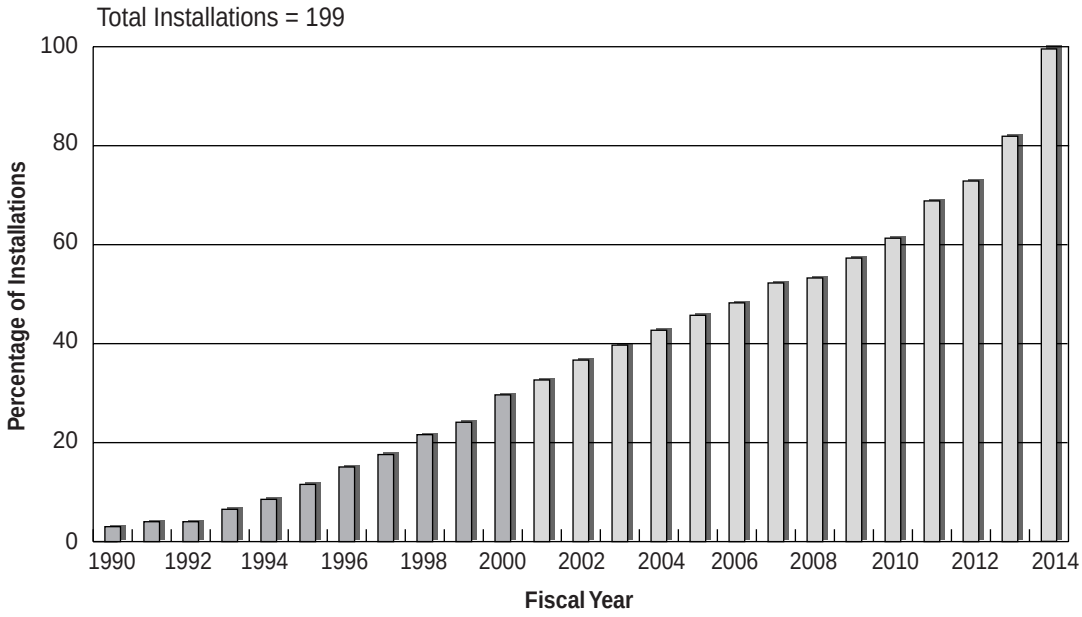
Total Sites = 3,603

Relative-Risk Ranking for BRAC Sites in Progress

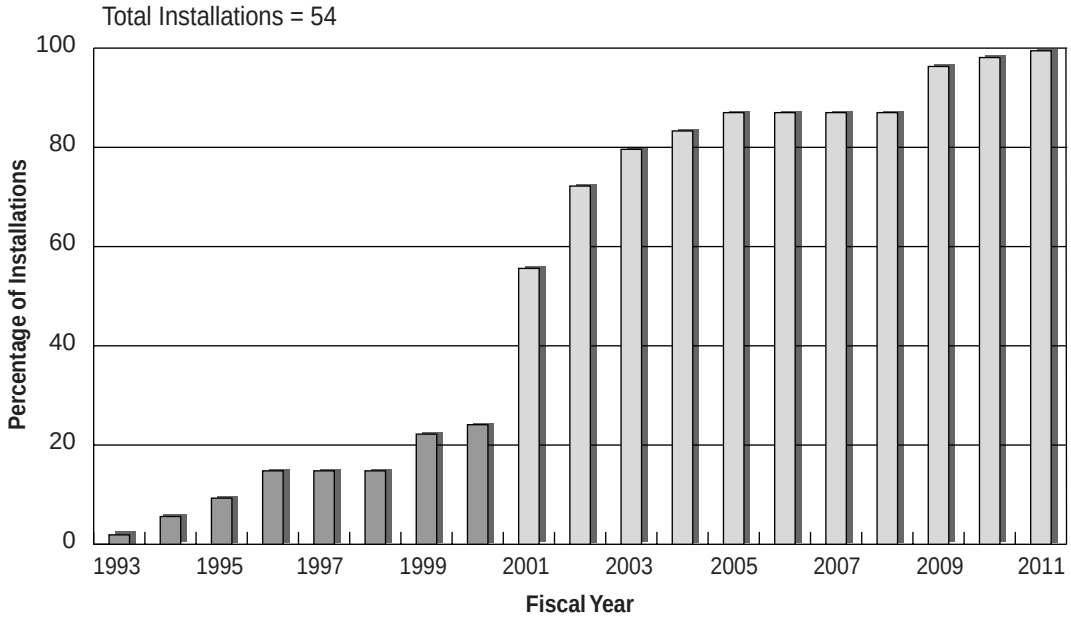


Total Sites = 1,011

Active Installations Achieving Final Remedy in Place or Response Complete
(cumulative and projected, FY90 through completion)



BRAC Installations Achieving Final Remedy in Place or Response Complete
(cumulative and projected, FY93 through completion)

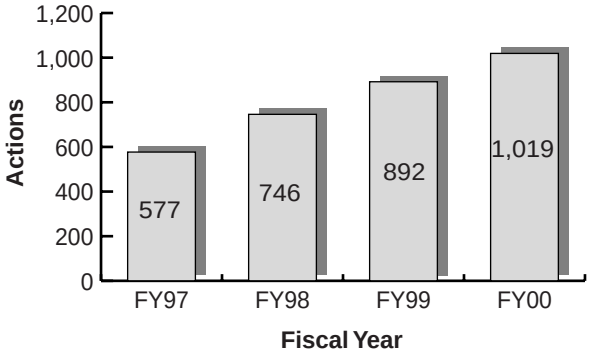


DON's goal is to spend at least 70 percent of its total program budget on high relative-risk sites. This goal puts the proper emphasis on relative-risk reduction while allowing appropriate flexibility for addressing stakeholder concerns and other risk management considerations.

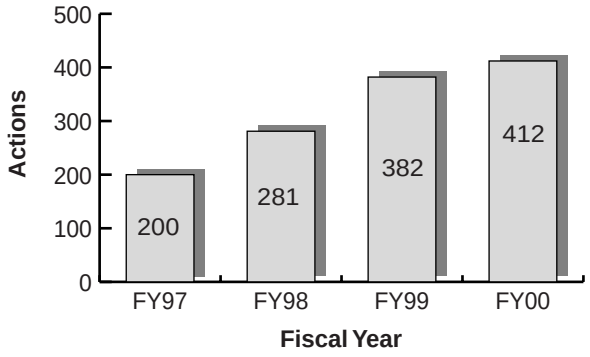
During FY00, DON had an increase in the number of its sites that had not been evaluated for relative risk from 140 to 201. Seventy-eight of these sites are new sites that DON will evaluate in FY01. The remaining unevaluated sites are existing sites that do not require evaluation or cannot be evaluated because of technical considerations in the DoD Relative Risk Site Evaluation model.

Navy's risk management philosophy also considers expediting restoration of BRAC property slated for reuse and the need to plan for, and take advantage of, projects that provide economies of scale. The Navy achieves economies of scale by addressing similar, proximate sites in a coordinated way as part of the same project, instead of initially addressing only high relative-risk sites and then addressing related low relative-risk or medium relative-risk sites individually. In such cases, flexible management allows medium and even low relative-risk sites to be included in a project along with the associated high relative-risk site(s) that receive top budgetary priority. DON also has an initiative under way to accelerate the restoration or closure of all sites at installations that have only a few, generally less complex, sites. This initiative is geared toward closing out the restoration program at these installations. By doing this, DON will avoid the continuing overhead costs associated with maintaining a program at these installations.

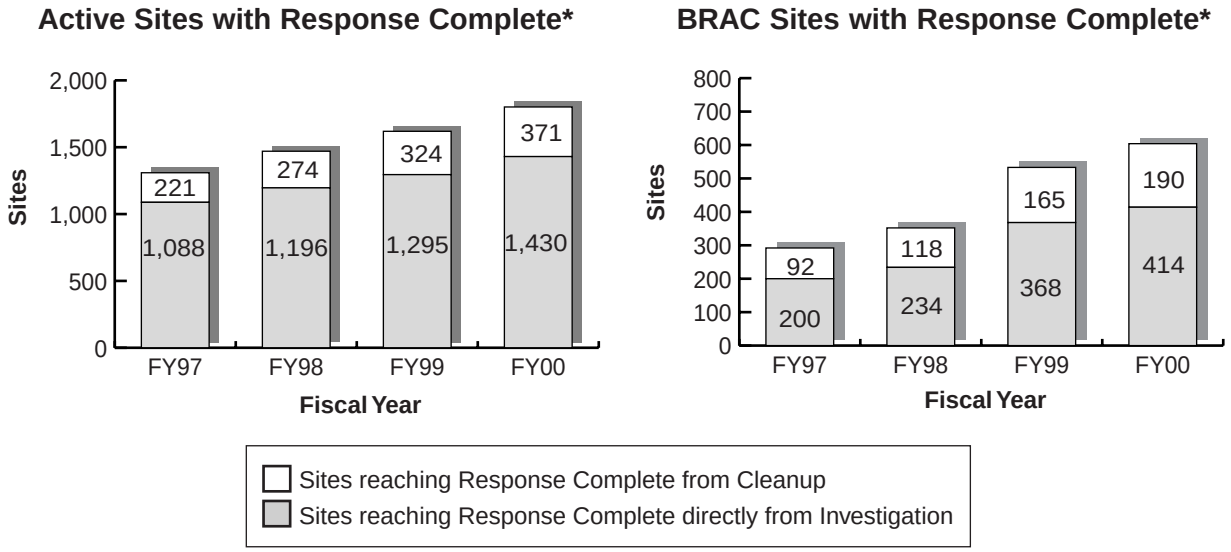
Cumulative Interim Actions Completed at Active Sites*



Cumulative Interim Actions Completed at BRAC Sites*



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



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

Benefits of the regional approach include—

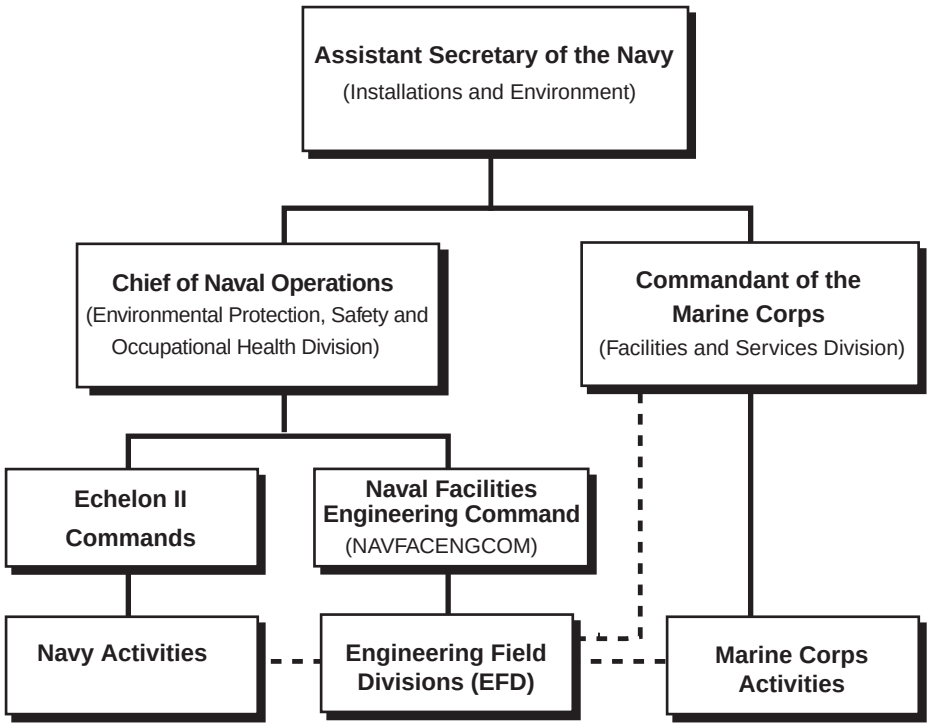
- **Consistency in policy and guidance, management and technical approaches, and planning and priority setting within a given U.S. EPA Region**
- **Enhanced communication and sharing of information and lessons learned among RPMs**
- **Efficiencies and economies of scale in contracting and other resource support activities.**

DON continues to emphasize cleanup, while maintaining a necessary level of investment in site analysis. The DON goal is to spend at least 60 percent of its total program budget on actual cleanup. DON met this goal in FY00. Continued use of interim remedial actions and removal actions is helping DON achieve these aggressive cleanup goals.

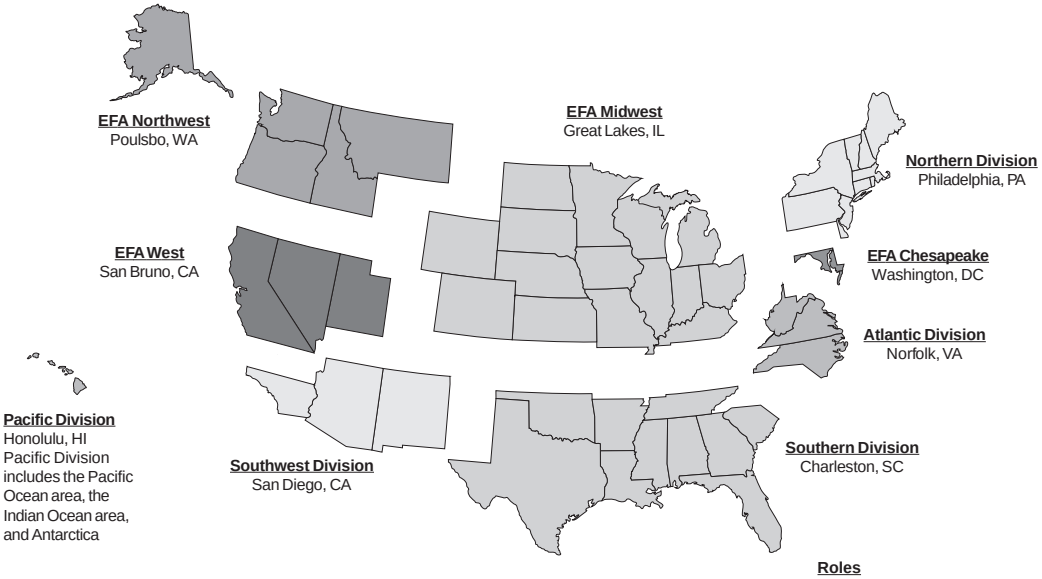
Organization and Management

DON executes its restoration program through the Naval Facilities Engineering Command (NAVFAC) and its eight Engineering Field Divisions and Activities (EFD/As) nationwide. Remedial project managers (RPMs) are assigned for each installation in each geographic region covered by an EFD/A. The RPMs reside at the EFD/As but work closely with the installations and the regulators in planning, setting priorities, establishing budgets, and coordinating project execution. RPMs and support staff at the EFD/As centrally manage contracting, technical coordination, ddidirection, and execution of the work. Installations generally take the lead in community relations, outreach, and public involvement and maintain ultimate responsibility for their respective restoration programs.

Department of the Navy



Department of the Navy Engineering Field Divisions and Activities Map



Roles
- Contracting
- Design & Construction
- Real Estate Acquisition & Disposal
- Navy Housing
- Base Realignment & Closure
- Environmental Support & Project Execution
- Public Works & Planning Support

Navy Facilities Engineering Service Center

http://www.nfesc.navy.mil/

The regionally centralized approach offered by the EFD/As provides DON with a number of benefits, including—

- Consistency
- Efficiency
- Economies of scale.

Some of these benefits are evident in the very successful partnering efforts between EFD/As, U.S. Environmental Protection Agency (EPA) Regions, and the states. The regional approach allows partnering efforts to be well coordinated and efficient and helps maintain program continuity over time.

Information and Technology Transfer

The area of information and technology transfer is one of DON's many strengths. NAVFAC directly coordinates the various installation restoration technology transfer efforts within its command and field offices, with technical support provided by the Naval Facilities Engineering Service Center (NFESC). NFESC provides DON with specialized engineering, scientific, and technical products and services. The center is oriented toward the transfer of technology through consultation and technical assistance, patent license agreements, cooperative research and development agreements, and direct rapid response to requests for support.

NFESC continues to be the hub for the Navy's innovative environmental remedial technology demonstrations, evaluations, and technology information transfer efforts. Three important NFESC-led activities are—

- Technology Application Teams (TATs)
- General Broad Agency Announcement (BAA) Program
- Remediation Innovative Technologies Seminars (RITS) series.

Technology Application Teams

TATs are the primary agents for DON's facilitation and use of cost-effective innovative technologies. The use of TATs, which are organized according to specific technologies, provides coordination of testing and evaluation of innovative technologies, development of technology transfer tools, and field support to RPMs. During FY00, TATs primarily developed tools in the following technology areas—

- Surfactant-enhanced aquifer remediation
- Enhanced in-situ bioremediation
- Phytoremediation
- Air sparging
- Remedial action operation and long-term monitoring (LTM)
- Diffusion samplers
- Funnel and gate system
- Fenton's reagent.

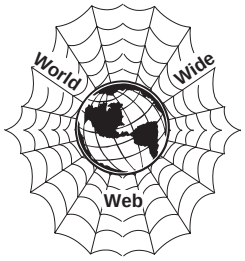
Broad Agency Announcements

Since October 1997, NFESC has promoted the use of private-sector innovative technological advances within the Navy and DoD through the semiannual issuance of a BAA in the *Commerce Business Daily*. This program encourages vendors, particularly smaller companies, and innovators to submit abstracts on their innovative environmental technologies to the Navy for potential application throughout DON and DoD. Technologies submitted for review are evaluated, and those that match the needs of specific facilities may proceed to the field application phase. Currently, 24 field application projects are complete, 23 are in progress, and 1 is pending. The BAA program has been very useful and will continue to promote environmental technology innovation into the foreseeable future.

Remediation Innovation Technologies Seminars

Since 1996, the NFESC has provided two series of technical seminars each year at the EFD/As. Presenting the latest remedial technologies and application tools, NFESC's 1-day RITS have focused on a wide variety of technologies, including low-temperature thermal treatment, small-arms ranges, alternative landfill capping, permeable reactive walls, phytoremediation, constructed wetlands, and air sparging. These seminars have been instrumental in providing RPMs with technical information on innovative technologies and in giving the RPMs the latest tools for implementing these technologies at their sites. During FY00, the RITS focused on the following topics: enhanced bioremediation, phytoremediation, Fenton's reagent chemical oxidation, optimization of LTM and remedial operation management, thermal technologies, rapid sediment characterization, and diffusion samplers.

Navy Environmental Leadership Program



http://www.nelp.navy.mil/

Naval Environmental Leadership Program

Another important contributor to DON's technology transfer initiatives is the Navy Environmental Leadership Program (NELP), a program based at Naval Station (NAS) Mayport, Florida, and NAS North Island, California. NELP is instrumental in developing and demonstrating cost-effective, innovative environmental technologies that can be transferred to, and adopted at, other DoD installations. A notable success under the NELP program is a Web-based database that compares various technologies for the destruction of volatile organic compounds. This database is based on the results of a joint NFESC and NELP project at NAS North Island, San Diego, California.

Alternative Restoration Technology Team

The Alternative Restoration Technology Team (ARTT), established in 1994, continues to advance its chartered objectives by promoting practical and cost-effective innovative solutions to the ER, Navy program. The team, consisting of members from EFD/As, the Chief of Naval Operations, NAVFAC, and Commandant of the Marine Corps, is focusing its effort on the diffusion sampler technical protocol. This protocol, a collaborative effort with the U.S. Geological Survey, EPA, the Air Force, the Interstate Technology and Regulatory Cooperation (ITRC), and other federal agencies, provides a new monitoring technology that is both cost-efficient and more accurate than conventional sampling methods.

The ARTT disseminates information on technology among its member organizations through reviews; performance evaluations; and dissemination of findings on emerging technologies, such as chemical oxidation, recirculating wells, monitored natural attenuation, zero-valence iron treatment cells, and phytoremediation. The team also helps the Naval School, Civil Engineer Corps Officers, Port Hueneme, California, and other federal agencies, such as the ITRC and Federal Remediation Technologies Roundtable, identify relevant training topics and contributes to the curriculum and training material. An integral partner in the research on and development of innovative technologies, ARTT helps improve the technical selection process, review technical proposals, and provide project recommendations to the program manager.

TAPP Program Involves Stakeholders

In FY00, DON continued to provide avenues for the community to learn more about the technical issues that the Installation Restoration Program is built around. The Technical Assistance for Public Participation (TAPP) program is one of those avenues. The TAPP program has been instrumental in educating communities. It also has provided community stakeholders with an understanding of the highly technical cleanup program. During FY00, Navy awarded three TAPP grants: NAS Adak, Alaska; Philadelphia Naval Complex, Pennsylvania; and Hunters Point Naval Shipyard, California.

The NAS Adak TAPP award was provided to enhance the ability of the Restoration Advisory Board to interpret and understand technical documents and to make recommendations on the remediation process. The technical documents involved include the unexploded ordnance preliminary assessment (Volumes I, II, and III); the draft site investigation for Operable Unit B (Volume I and II); and the sampling and analysis report for LTM.

The Philadelphia Naval Complex award was used to review an LTM report covering 18 wells at Girard Point and an ecological risk assessment report for Installation Restoration Program Site 8. This is the first TAPP award for the Philadelphia Naval Complex.

The Hunters Point Shipyard TAPP award was used for the technical review of the Parcel B land-use-control implementation plan. The review of this document will provide the community with an implementation assessment of the proposed land use control.

The TAPP program is a win-win initiative for both the Navy and the community.

Outreach

In FY00, DON continued its commitment to involving stakeholders in the Environmental Restoration Program. Communities and other stakeholders are critical constituents of the restoration program, providing DON with insight on addressing cleanup issues at Navy and Marine Corps installations. DON has 91 Restoration Advisory Boards (RABs) at active and closing Navy and Marine Corps installations. DON's commitment to involving stakeholders in its restoration efforts has built trust and credibility through the years and has turned concerned citizens into motivated allies of the environmental restoration program.

Working with citizens and regulators alike, the Navy will continue to embrace stakeholder advice and contributions in resolving issues and improving the DON restoration program.

Partnering Expedites Cleanup and Redevelopment

The remediation project at Naval Weapons Industrial Reserve Plant (NWIRP) McGregor, a partnering effort by the Navy, the Texas Natural Resource Conservation Commission, and EPA, along with the McGregor RAB, was successful in expediting the treatment of contaminated groundwater by using innovative technologies, resulting in a significant cost avoidance for the Navy.

By using an innovative anaerobic land treatment approach for soil remediation, the Navy eliminated the costs associated with off-site disposal (in this case, $500,000). Instead of shipping the perchlorate-contaminated soil off site to a hazardous waste landfill, the Navy biologically treated the soil on site. The Navy has worked diligently to institute innovative perchlorate remedial technologies that have successfully abated perchlorate-contaminated groundwater and surface water from migrating off site.

As a result of the cost avoidance and the innovative technology advancement program at NWIRP McGregor, the Navy was able to install a 4-acre pilot-scale phytoremediation plot to assess this technology's effectiveness for removing perchlorate from soil and groundwater.

In addition, the Navy successfully fostered a synergistic relationship between regulatory and local communities, allowing it to transfer almost 2,500 acres to the City of McGregor for economic redevelopment as authorized by special legislation sponsored by Congressman Chet Edwards.

Funding

In FY00, the Navy obligated $282.5 million in ER, Navy funds for environmental restoration work at active installations. With adjustments for inflation, the FY01 funding level is projected to be $293.4 million, and the FY02 funding level is projected to be $257.5 million.

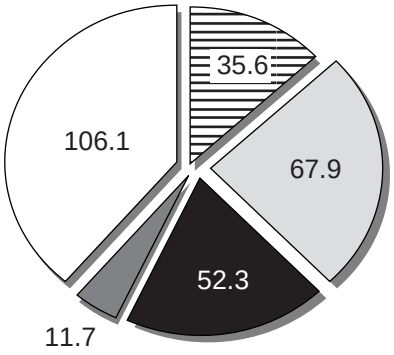
In FY00, DON spent approximately 61 percent of ER, Navy funds on design work, interim or final cleanup actions, and operation and maintenance. In FY01, the proportion of program funds invested on these efforts is expected to be 64 percent.

In FY00, the Navy invested $109.5 million for environmental restoration work at BRAC installations, not including funds for compliance or planning. The planned Navy investment level for FY01 BRAC environmental restoration is $337.7 million and is $122.1 million for FY02. Including compliance and planning, the total Navy BRAC environmental investments for FY00, FY01, and FY02 are $123.2 million, $390.5 million, and $138.6 million, respectively.

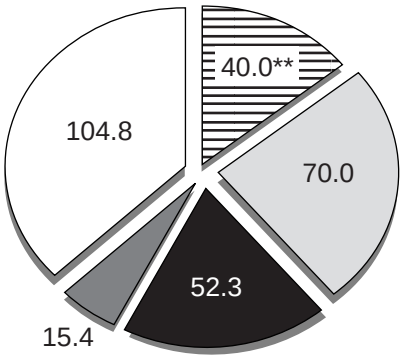
At active and closing installations, the cost to complete the environmental restoration program for the Navy and the Marine Corps is now estimated at approximately $4.03 billion (not including program management costs).

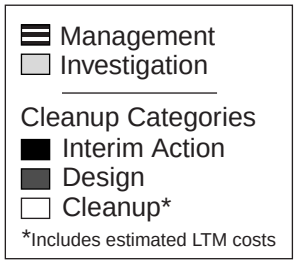
Navy Environmental Restoration Funding Profile
(in millions of dollars)****

FY99 Navy Funds Executed
Total = $273.6 million

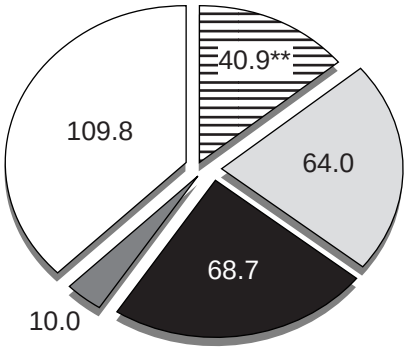


FY00 Navy Funds Obligated
Total = $282.5 million

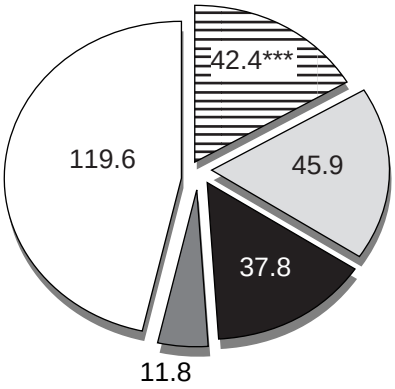




FY01 Navy Execution Planned
Total = $293.4 million



FY02 Navy Planning Estimate
Total = $257.5 million



**Includes $3.0 million in unexploded ordnance costs.
***Includes $8.0 million in unexploded ordnance costs.
****Due to rounding, category subtotals may not equal fiscal year totals.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