NAVY/MARINE CORPS RESTORATION STATUS AND PROGRESS

Despite a number of challenges in FY02, our field personnel continue to find ways to get the job done. For the second year in a row, the number of cleanups completed at active bases exceeded the planning target. In addition, the number of cleanups completed at BRAC bases in FY02 exceeded the target. While we still have work to do, almost 70 percent of all sites now have remedies in place or responses complete.

— H. T. Johnson, Assistant Secretary of the Navy (Installations and Environment)

The United States has always been dependent on the sea. A vast country with thousands of miles of coastline, our nation requires the ocean's resources and commerce routes in order to survive and flourish. The U.S. Navy provides the maritime presence that enables the United States to protect vital American interests around the world. These measures include strategic deterrence, crisis response, and humanitarian efforts in support of national security objectives and global interests—both military and environmental. To ensure military readiness, the Department of Navy (DON) constantly seeks solutions that will enable our forces to perform missions, training, weapons maintenance, and other necessary activities while protecting human health and the environment.

The DON established its Installation Restoration program (IRP) to address the risks posed by sites where contaminants may have been disposed or spilled in the past. For the most part, these sites were contaminated as a result of practices acceptable at the time. The IRP uses aggressive cleanup policies and modern technology to conduct remedial actions and reduce risk to human health and the environment.

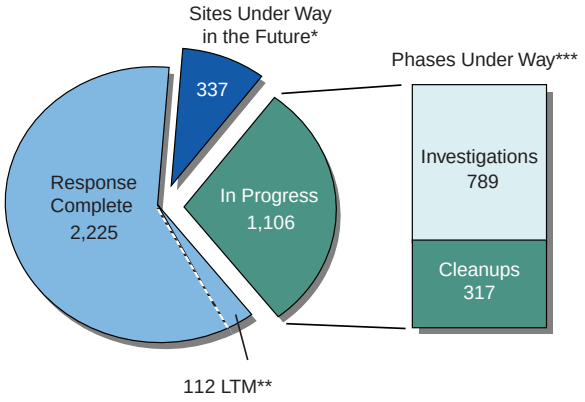
Environmental cleanup initiatives are engineered to work effectively without impairing the ability to defend our nation. DON's IRP ensures that it will provide a healthy environment for those who work, live, and train on bases or live in nearby communities. An important part of this effort is the preservation and improvement of local ecosystems, including wildlife, at Navy and Marine Corps bases.

DON's policy for responsible cleanup is based on eight principles:

- Fully comply with the law
- Act immediately to eliminate any imminent risk of human exposure
- Clean up the greatest hazards first
- Partner with regulators
- Involve local communities
- Do not just study—act
- Consider planned land use
- Embrace new technology.

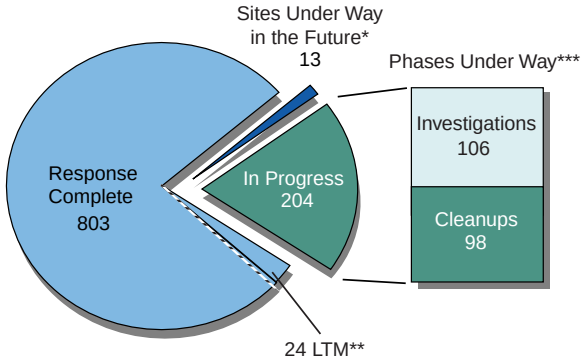
DON continues to make substantial progress toward completing its environmental restoration program in the face of unusual and complex challenges. Some of those challenges are directly associated with the DON's mission and related operational factors. Most Navy and Marine Corps installations are located in coastal areas, which generally have environmentally sensitive habitats and are surrounded by large 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. Data on program status are presented in the site status pie charts on page 119.

Active IRP Site Status
(as of September 30, 2002)



Total Sites: 3,668

BRAC IRP Site Status
(as of September 30, 2002)



Total Sites: 1,020

MMRP Site Status

Response Complete	2
Investigation Under Way	16
Sites Under Way in Future	194
Total MMRP Sites	212

*Includes sites with future preliminary assessment starts planned and cleanup projects that are between phases.
**Long-term management 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.

FY02 Policy Initiatives

Navy issued two new policies in fiscal year 2002 (FY02). The first, *Policy on Natural Resource Injury and Damages in the Installation Restoration Program*, provides the Navy's specific guidance on the *DoD Interim Policy on Integration of Natural Resource Responsibilities and Environmental Restoration Activities* of May 2, 2000. This policy provides direction on investigating the impacts that IRP sites may have on natural resources, as well as selecting and conducting response actions. The policy also states that the Navy can conduct natural resource damage assessments (NRDA) against non-Navy parties that have injured our natural resources.

The second policy, *Policy on Sediment Investigation and Response Actions*, addresses sediment contamination. Many DON installations are located along water bodies that are impacted by a wide range of activities from municipal storm water to private industrial

entities. This fact presents the DON with unique challenges in restoring IRP sites adjacent to these waters. The policy provides direction on how sediment investigations and response actions shall be implemented under the IRP.

DON Training

DON personnel, regulators, and the public can benefit from effective environmental training by gaining a better understanding of the cleanup process, learning about the latest technologies and methodologies, and sharing lessons learned with other professionals. The primary source of such training is the Navy Civil Engineer Corps Officers School (CECOS), which offers state-of-the-art training in restoration-related topics.

CECOS offers courses on diverse topics for military and civilian personnel. In FY02, a course on munitions response site management was added to the 13 existing environmental restoration courses. CECOS provides environmental personnel with the tools and techniques they need to make intelligent decisions and develop strategies to clean up sites in a cost-effective manner while protecting human health and the environment.

Goals and Priorities

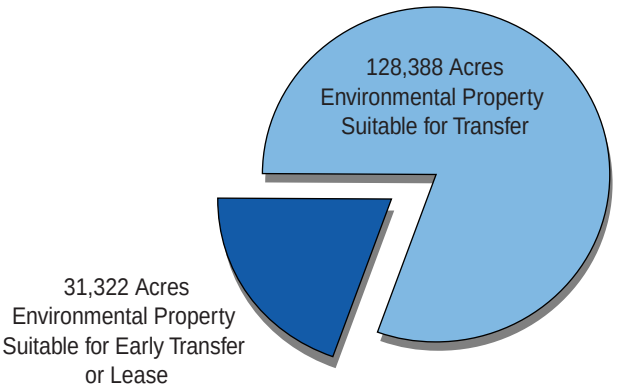
DON's IRP goals and priorities are based on a risk management approach. In this approach, DON considers site risk, as assigned through the DoD Relative Risk Site Evaluation (RRSE) framework, along with other risk factors, including the following:

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

Cleanup at DON's active installation sites is funded by the ER, Navy account. To facilitate completion of its installation restoration program, DON maintains a stable-funding profile that is consistent with achieving DoD's environmental restoration program goals.

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.

Environmental Condition of BRAC Property



DON'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 Environmental Condition of BRAC Property chart summarizes DON's progress in making property environmentally suitable for transfer.

During FY02, DON reduced the number of its IRP sites that had not been evaluated for relative risk from 80 to 51. Three of the 51 remaining unevaluated sites are new sites that DON will evaluate in FY03. The remaining unevaluated sites do not require evaluation or cannot be evaluated because of technical considerations in the DoD RRSE model (see pie charts on page 123).

The DON achieves economies of scale by addressing similar sites at an activity 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 at a later date. In such cases, a flexible management approach 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.

Focus on the Facts
NAVY/MARINE CORPS

In FY02...

- The DON completed 48 interim actions at active-installation IRP sites, bringing the total number of completed interim actions at such sites to 990 at 717 sites.
- The DON completed 18 interim actions at BRAC IRP sites, bringing the total number of interim actions completed at BRAC sites to 340 at 287 sites.
- Thirty-nine active-installation IRP sites were brought to response complete (RC) status through cleanup activities, and an additional 23 IRP sites had an interim remedial action (IRA) completed prior to the completion of the study before reaching response complete. 136 active installation IRP sites were determined to be RC or to require no further action based on appropriate investigation and analysis.
- Seventeen BRAC IRP sites were brought to RC status through cleanup activities. An additional 3 BRAC IRP sites had an IRA completed prior to the completion of the study before reaching response complete. 20 additional BRAC IRP sites were determined to be RC or to require no further action based on appropriate investigation and analysis.

Through FY02...

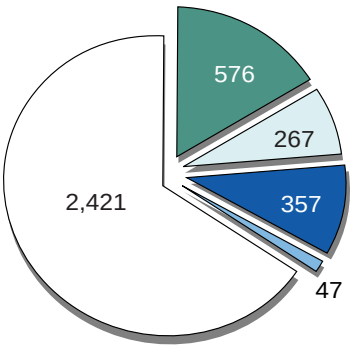
- DON has identified 4,688 potentially contaminated IRP sites at 248 installations. Of these sites, 3,028 require no further action.
- Analysis or cleanup actions are in progress at 1,443 remaining active-installation IRP sites. Forty percent, or 576, of these sites are categorized as high relative risk.
- By the end of FY02, 2,225 of the 3,668 potentially contaminated active IRP sites at Navy and Marine Corps installations were brought to RC status through cleanup actions or verification that no cleanup action was required.
- Fifty-five Navy and Marine Corps installations are being or have been cleaned up under the IRP as a result of the BRAC 1988, 1991, 1993, and 1995 lists. DON installations have formed 41 BRAC cleanup teams to support cleanup, and environmental baseline surveys and BRAC cleanup plans have been completed for all BRAC installations. At the end of FY02, 80 percent of Navy's BRAC property was environmentally suitable for transfer.
- Of the 1,020 DON BRAC IRP sites, 803 have achieved RC.

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 so, DON will avoid the continuing overhead costs associated with maintaining a program at these installations.

Some of these benefits are evident in the very successful partnering efforts between Engineering Field Divisions and Activities (EFD/As), U.S. Environmental Protection Agency (EPA) Regions, and the states. The regional approach allows partnering efforts to be well coordinated, efficient, and helpful in maintaining program continuity over time. DON's investment in new technology, training, research, documentation, and innovative contracting methods has helped it accomplish restoration work faster, more effectively, and at a lower cost to the taxpayer.

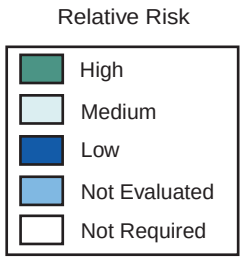
DON continues to emphasize cleanup while maintaining a necessary level of investment in site analysis. The DON goal is to spend at least 60 percent of its total program budget on actual cleanup. Continued use of interim remedial actions and removal actions is helping DON achieve these aggressive cleanup goals. The bar charts on pages 124-125 demonstrate the status of BRAC and active installations towards achieving remedy in place/response complete (RIP/RC), as well as the cumulative interim actions and RC status at both active and BRAC sites.

Relative-Risk Ranking for Active IRP Sites in Progress*

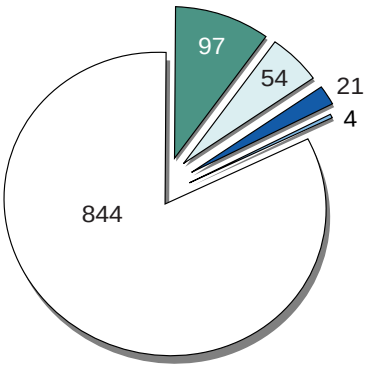


Total Sites = 3,668

*Excludes MMRP sites.



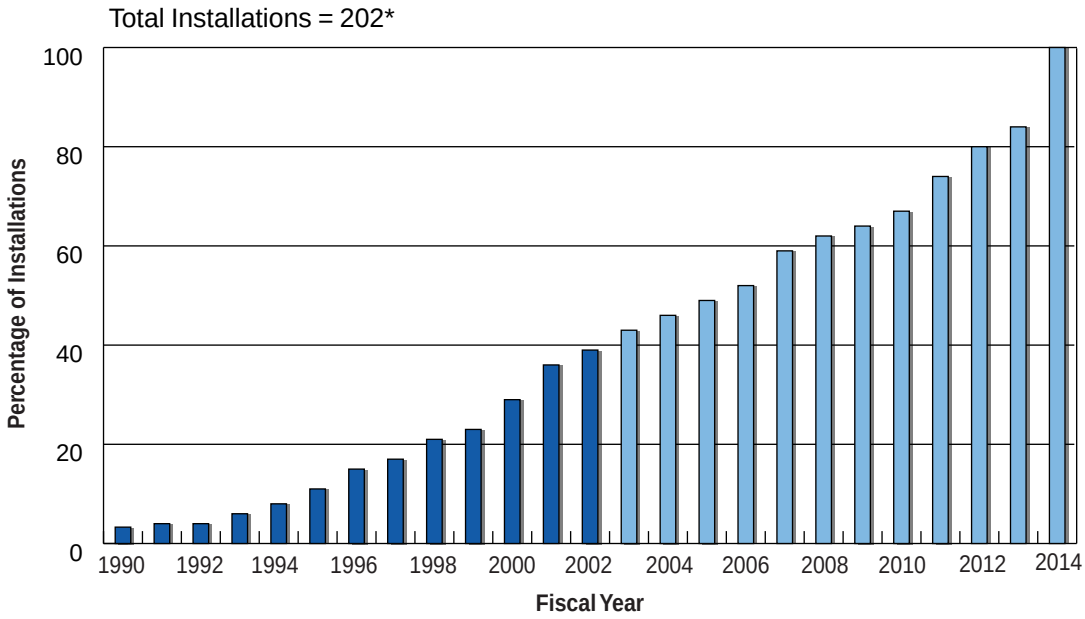
Relative-Risk Ranking for BRAC IRP Sites in Progress*



Total Sites = 1,020

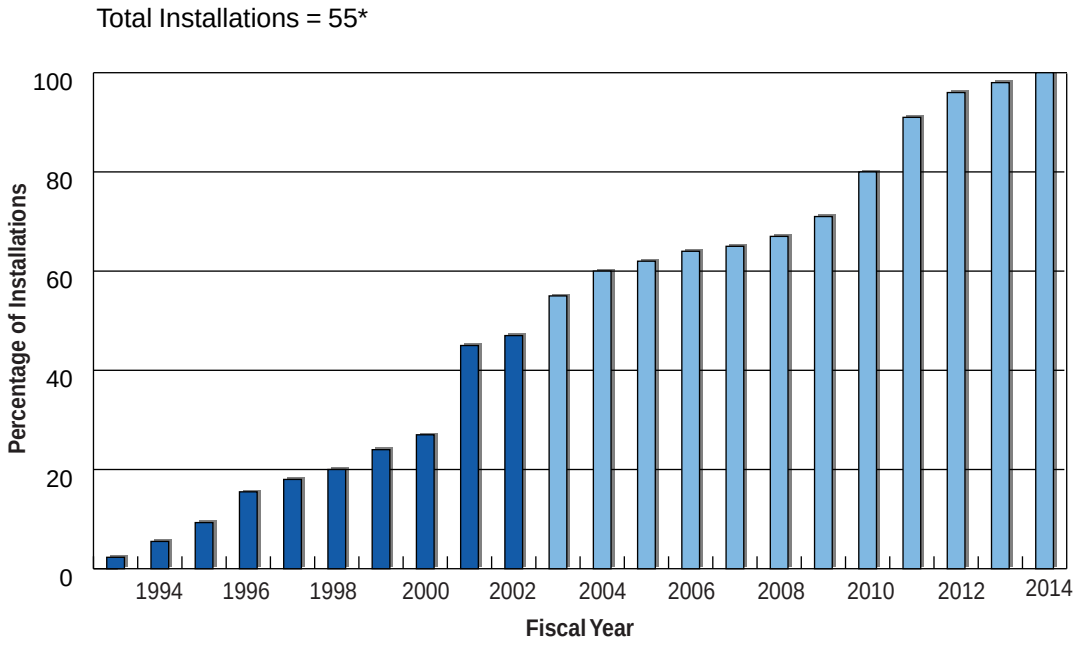
*Excludes MMRP sites.

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



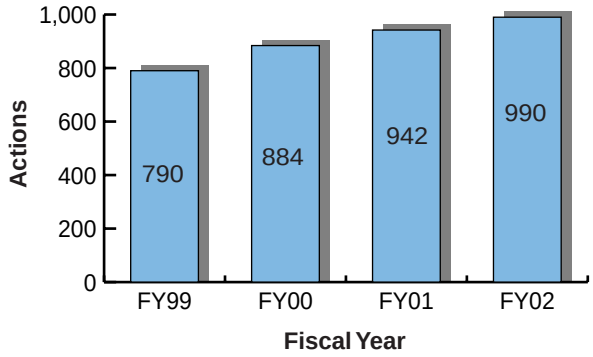
*Does not include MMRP sites

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

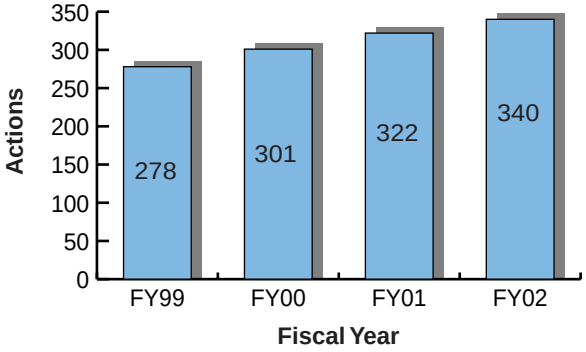


*Does not include MMRP sites

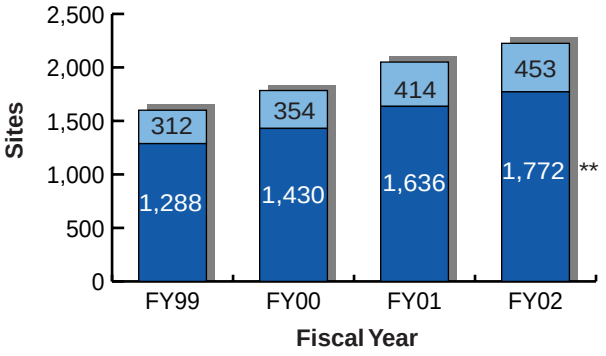
Cumulative Interim Actions Completed at Active IRP Sites*



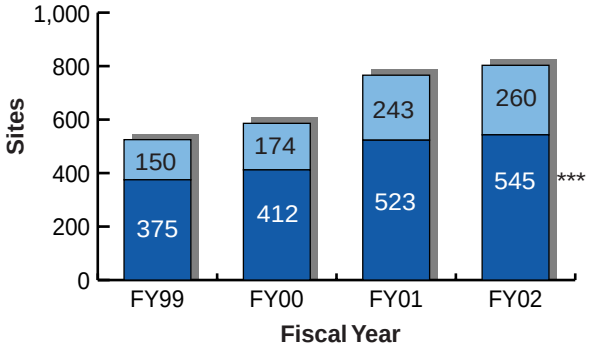
Cumulative Interim Actions Completed at BRAC IRP Sites*

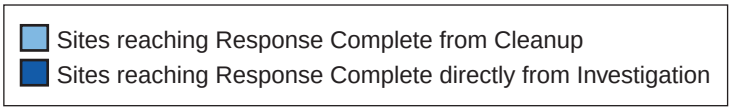


Active Sites with Response Complete*



BRAC Sites with Response Complete*





*FY99 through FY01 totals have been updated since the previous Annual Report to reflect new and revised data as of FY02.
**Includes 205 sites that had IRAs conducted prior to the completion of the studies.
***Includes 108 sites that had IRAs conducted prior to the completion of the studies.

Organization and Management

The DON hierarchy responsible for implementing the Defense Environmental Restoration Program (DERP), as outlined in the organizational chart (see page 127), begins with the Assistant Secretary of the Navy (Installations and Environment). Under the Assistant Secretary, the Chief of Naval Operations and the Commandant of the Marine Corps rely on a host of internal and external organizations to accomplish their DERP goals. DON executes its restoration program through the Naval Facilities Engineering Command (NAVFAC) and its eight EFD/As nationwide (see map on page 127). Remedial project managers (RPMs) are assigned for each installation in each geographic region covered by an EFD/A. The RPMs reside at the EFD/A, but work closely with the installations and the regulators in planning, setting priorities, establishing budgets, and coordinating project execution. RPMs and the support staff at the EFD/As centrally manage contracting, technical coordination, direction, 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.

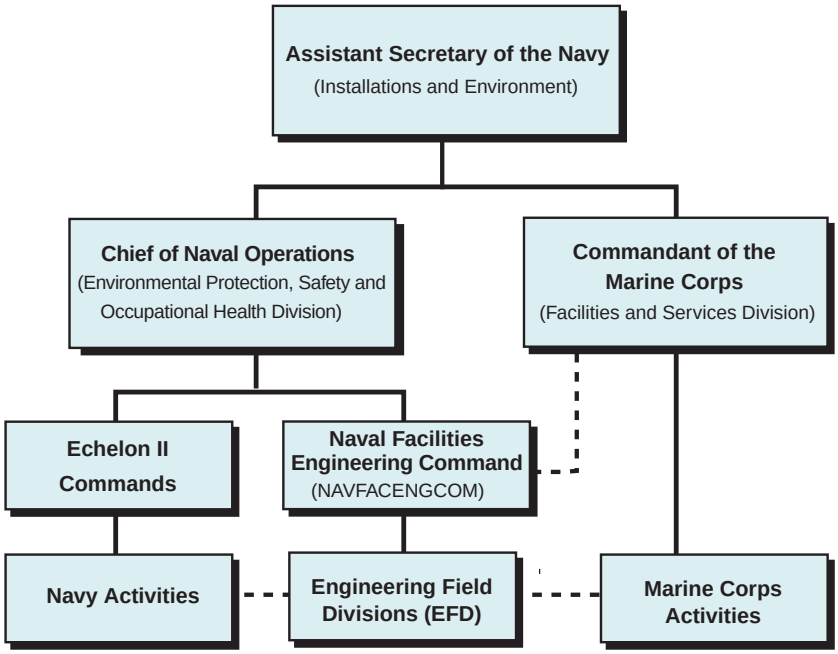
The regionally centralized approach offered by the EFD/As provides DON with a number of benefits, including:

- Consistency
- Efficiency
- Economies of scale.

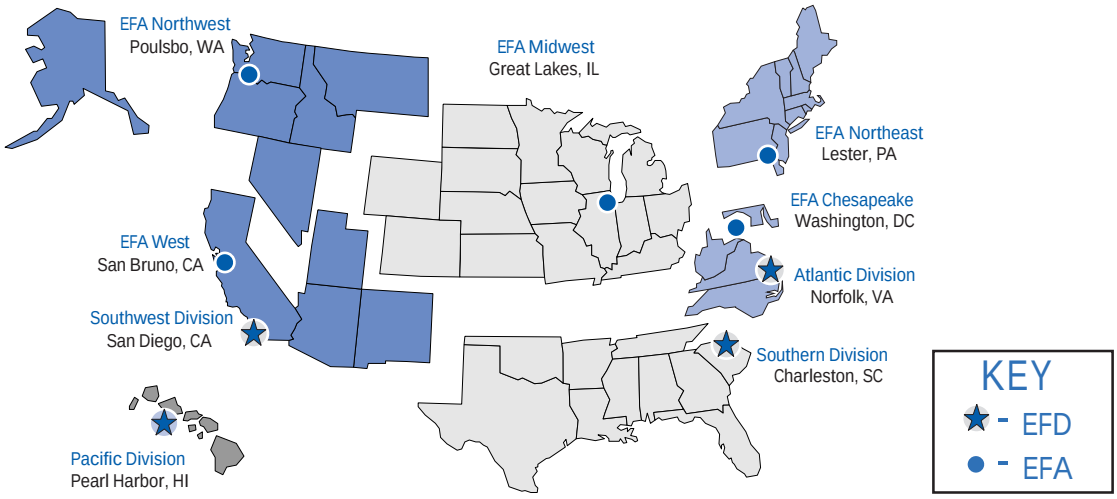
Funding

In FY02, the DON obligated $255.2 million for IRP work at active installations, including $8 million for munitions response activities. The FY03 funding level is projected to be $255.5 million, and the FY04 funding level is projected to be $256.2 million, including $8 million in each year designated for munitions response activities. These values are illustrated in the DON Environmental Restoration Funding Profile charts on page 128.

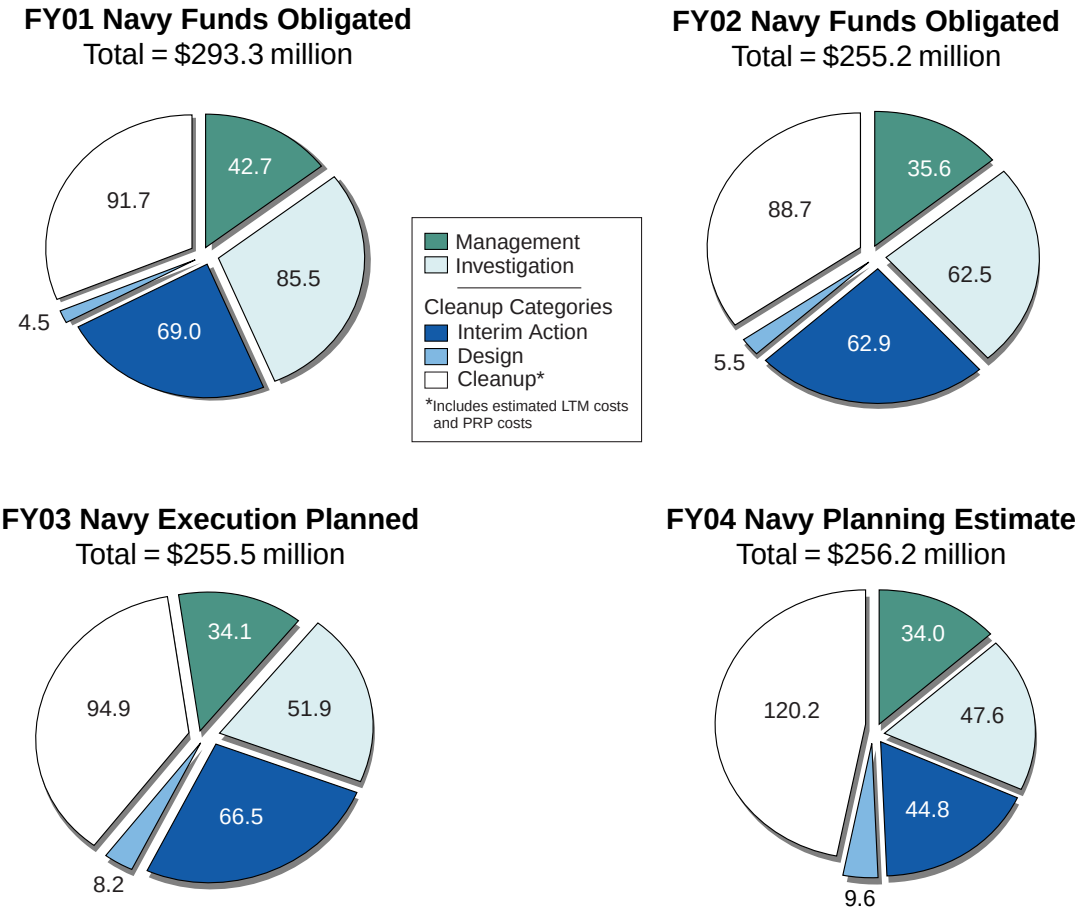
Department of the Navy



Department of the Navy Engineering Field Divisions and Activities Map



Navy Environmental Restoration Funding Profile
(in millions of dollars)



Due to rounding, category subtotals may not equal fiscal year totals.

In FY02, DON spent approximately 62 percent of ER, Navy funds on design work, interim or final cleanup actions, and operations and maintenance. In FY03, the proportion of program funds spent on similar efforts is expected to be 65 percent.

DON's accomplishments in FY02 included reaching RIP/RC at 192 sites, of which 88 sites are high relative risk. An additional 11 sites were reported RIP/RC prior to FY02 that had not been reported previously. DON has reached RIP/RC status on 70 percent of all its IRP sites. DON reached RIP/RC on 820 high relative-risk sites (59 percent), exceeding the DoD goal of 50 percent. Additionally, RIP/RC was achieved on all IRP sites at seven installations.

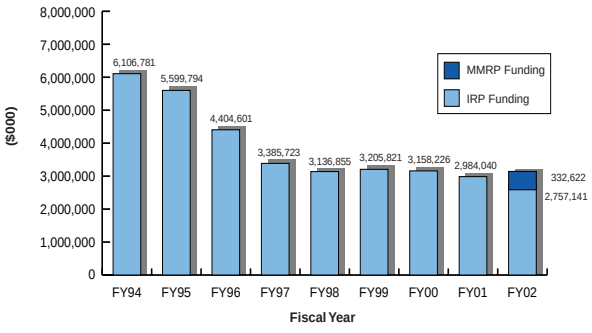
In FY02, the Navy spent $214.8 million on environmental restoration work at BRAC installations, not including funds for compliance or planning. Navy's planned FY03 and FY04 investment levels for BRAC environmental restoration are $245.4 million and $158.3 million, respectively. Including compliance and planning costs, the total Navy BRAC environmental investments for FY03 and FY04 are $258.1 million and $169.2 million, respectively.

DON's BRAC accomplishments in FY02 included achieving RIP/RC at 49 IRP sites, or 83 percent of all BRAC IRP sites. The DON projects 82 percent of its acreage will be environmentally suitable for transfer by the end of FY05.

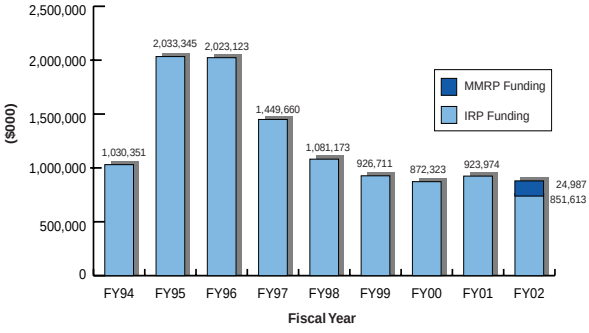
Both the active and BRAC cost-to-complete (CTC) trend lines continued to decrease in FY02, as shown in the CTC trend charts below. Some site-specific cost increases occurred at Hunter's Point, South Weymouth, El Toro, and Tustin due to the discovery of greater contamination than originally anticipated. During FY02, the DON conducted a CTC validation effort that included a technical review of all selected remedies and costs for BRAC sites.

In FY02, the DON BRAC completed two early transfers at Naval Shipyard Mare Island, Vallejo, California, with a total of 672 acres transferred in the eastern parcel and 2,815 in the western parcel.

Navy ER
Cost-to-Compelete Trends
(in $000)



Navy BRAC
Cost-to-Complete Trends
(in $000)



Note: Funding represents site-level data and does not include management and support or other miscellaneous costs not directly attributable to specific sites.

At active and closing installations, the cost of completing the environmental restoration program for the Navy and the Marine Corps is now estimated at $3.6 billion, not including program management or munitions response costs.

Management Initiatives and Improvements

DON has completed the process of verification, validation and accreditation for the CTC system of estimating budget requirements and financial statement liabilities. This process will allow DON to provide an improved planning, programming, and budgeting system that supports development of credible budgetary requirements and financial statement liabilities.

DON's environmental restoration program continually seeks to match the type of work to be performed with the most cost-effective contractual vehicle. DON's goal is to incorporate a variety of contract tools to meet program requirements while addressing legislative mandates. Highlights of this strategy include increased use of fixed-price contracting mechanisms; a continued trend toward increased small-business participation; expedited closeout of task orders; and the use of environmental in-house expertise for specific aspects of environmental cleanup (e.g., initial discovery of sites through remedy selection, monitoring, and optimization studies). All of these elements are a part of DON's acquisition strategy.

In FY02, DON achieved a modest increase from 9 percent to 13 percent in small business participation. A number of small business contract initiatives were begun, providing the opportunity to meet aggressive goals for FY03 and continuing in FY04. Approximately 32 percent of Navy's contract obligations went to fixed-price vehicles in FY02. Contract vehicles such as Environmental Multiple Award Contracts and other fixed-price Indefinite Delivery Indefinite Quantity (IDIQ) vehicles have been particularly useful in well-defined remediation projects. As part of its acquisition strategy, DON continues to focus on closing out task orders on all of its IDIQ contracts, as well as the contracts themselves.

Relative Risk Implementation

DON uses the DoD RRSE model to rank and prioritize its cleanup sites. Sites are ranked as high, medium, or low relative-risk based on the model. Sites for which insufficient information is available for completion of the evaluation are classified as "not evaluated." Sites where response is complete, a final remedy is in place and operational, or long-term management (LTM) is under way are classified as "not required." See charts on page 123.

The DERP requires that sites ranked as high relative-risk receive priority for funding. In FY02, 41 percent of sites in progress had a high relative risk ranking, receiving 74 percent of the funding.

Information and Technology Transfer

The area of information and technology transfer (T2) is one of DON's many strengths. The key groups in DON's technology transfer effort are:

- Naval Facilities Engineering Service Center (NFESC)
- Navy Environmental Leadership Program (NELP)
- Alternative Restoration Technology Team (ARTT).

NFESC provides the cleanup program with specialized engineering, scientific, and technical products and services. The center is oriented towards the transfer of technology through consultation and technical assistance, licensing, cooperative research and development agreements, execution of inter-service support agreements with other agencies, and direct rapid response to requests for technical 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:

- T2 tools and expert support
- Broad Agency Announcement (BAA) program
- Remediation Innovative Technologies Seminars (RITS) series.

Technology Transfer Tools and Expert Support

T2 tools promote and implement innovative technologies that allow more efficient completion of site response actions. T2 tools are tailored to particular technologies to most effectively help the end users implement the new technologies in the field. In FY02, the DON focused on developing T2 tools that are easily accessed through Web sites including decision tools, technical and regulatory guidance documents, environmental journal articles, and environmental conference presentations. Furthermore, NFESC provides expert technical consultation, third-party independent review, and other technical support by offering centralized and timely access to a wide array of internal and external organizations. The center also operates the NAVFAC's Environmental Booth, which provides highly visible technical support for the Navy and NAVFAC at conferences and workshops across the country each year. During FY02, NFESC focused on numerous technology advances, including:

- Coastal contamination migration monitoring
- Developing approaches for accessing risk to amphibians
- Environmental effects of underwater exploded and unexploded ordnance (UXO)
- Degradation of munitions constituents in marine sediments.

Broad Agency Announcements

Since October 1997, NFESC has promoted the use of private-sector innovative technological advances within the Navy and DoD through the annual issuance of a BAA on the FedBizOpps Web site. 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, 26 field application projects are complete, 30 contracts are in progress, and 2 are pending. New awards for field application projects in FY02 totaled approximately $4.2 million. The BAA program has been highly successful and will continue to promote environmental technology innovation into the foreseeable future.

Remediation Innovation Technologies Seminars

Since 1996, 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 offered training on a wide variety of technologies, including rapid sediment screening technologies, diffusion samplers, thermal remediation technologies, UXO cleanup, in-situ enhanced bioremediation, phytoremediation, and constructed wetlands. These seminars have been instrumental in providing RPMs with in depth information on innovative technologies and in giving them the latest tools for implementing these technologies at their sites. During FY02, the RITS focused on contaminated sediment characterization, sediment cleanup alternatives, and advances in permeable barrier technologies. In addition, a RITS "Special Edition" provided RPMs with computer training on several innovative technology web tools.

Navy Environmental Leadership Program

Another important contributor to DON's technology transfer initiatives is the NELP. Based at Naval Station Mayport, Florida, and Naval Air Station 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. Two notable innovative technologies deployed at NELP North Island are in-situ chemical oxidation treatment of groundwater and steam-enhanced soil vapor extraction.

Alternative Restoration Technology Team

The ARTT, established in 1994, advances its chartered objectives by promoting practical and cost-effective innovative solutions for the Navy IRP. The team consists of members from EFD/As, the Chief of Naval Operations, NAVFACENGCOM and Marine Corps headquarters. The ARTT disseminates information on technology among its member organizations through reviews, technical evaluations, newsletter articles, and findings on emerging technologies. In FY02, the ARTT promoted numerous technologies including diffusion samplers, chemical oxidation process to remediate chlorinated solvents, vegetative landfill caps, and electro-resistance heating of chlorinated solvents.

The team also assists the Naval School, Civil Engineer Corps Officers, NFESC, and other federal agencies, such as the ITRC and the Federal Remediation Technologies Roundtable, in identifying relevant training topics and contributing to curriculum and training materials. An integral partner in the testing and evaluation of innovative technologies, ARTT helps improve the technical selection process, reviews technical proposals, and provides project recommendations to the Environmental Security Technology Certification Program and Strategic Environmental Research and Development Program.

Military Munitions Response Program Highlights

DON has been actively involved in the development of DoD's MMRP. This new initiative, funded under the DERP, sets program eligibility for conducting responses to discarded military munitions, including unexploded ordnance (UXO) at locations other than operational ranges.

Challenges

One of the challenges we face is gaining an understanding among federal and state regulators, tribes, and other stakeholders that responses to military munitions are very different than typical hazardous waste contamination found in the IRP. Not only must we address the environmental impacts of munitions constituents—chemical residues from military munitions such as lead, RDX, or TNT found in soils and groundwater—we must also address the more immediate explosive safety risks associated with UXO and discarded military munitions. This includes not only safety risks to the public, but also the risks to response personnel in the detection and removal of ordnance items. Because of the inherent risks posed by UXO or discarded military munitions, and, because of age or physical condition, a visual inspection may not always determine whether or not the item is inert. All encountered UXO is initially treated as if it were live; adding a layer of complexity to the detection, removal, and cleanup process, requiring a unique set of skills possessed only by trained UXO professionals.

Mapping a Plan for the Future

Although the DON MMRP is in its infancy, progress continues to be made. In August 2002, Navy completed a second inventory of munitions sites, as a follow on effort to the previously conducted inventory. This second, more extensive inventory identified 130 Navy sites that will form the program baseline from which we will determine our CTC and future programming requirements. The Marine Corps conducted their own inventory developing a program baseline of 82 sites. Archive searches, the equivalent of preliminary assessments, were conducted at a number of Marine Corps activities.

Current DON MMRP funding is $8 million per year through FY07. This level of funding will allow DON to begin assessments at identified sites and begin remedial activities at some sites. An intensive, three-year effort is under way to conduct preliminary assessments for all identified sites to determine what further actions may be required and to begin the site prioritization process. Additional funding will be programmed as necessary.

DoD is in the process of developing a Munitions Response Directive that will set overarching policy for conducting munitions responses at all locations other than operational ranges. DON played an integral part in its development and, when completed, will publish policy and guidance for the Navy and Marine Corps to implement.

DON also supported another tri-service initiative to develop a munitions response site prioritization protocol. In addition to having a Navy and Marine Corps member on the development team, NAVFAC's munitions response work group and the Navy Ordnance Safety and Security Activity, provided technical input and testing of the proposed protocol.

In an ongoing effort to engage our regulatory partners, DON participates in the Munitions Response Committee (MRC) a partnership between DoD, other federal partners such as EPA, Department of Interior and Department of Agriculture, and individual states. The goal of the MRC is to establish a common framework and understanding between all partners when addressing sites under the MMRP.

Understanding the Program—Addressing the Risks

A key element to successfully implementing the MMRP is awareness and understanding of the unique risks posed by UXO and discarded military munitions. Over the last year, in collaboration with the CECOS, DON developed two munitions-related training courses. The first course, focused on explosives safety, provides basic identification and avoidance training for installation personnel and remedial project managers to alert them to the dangers of unexpected encounters with UXO or discarded military munitions. The second, more comprehensive, DON Munitions Response Site Management Training, is designed for RPMs, remedial technical managers, and BRAC environmental coordinators, who all plan, scope, manage, or provide oversight of cleanups at munitions response sites. The course describes the types, functions, and hazards of munitions; states the applicable policies and regulations; discusses technologies; and identifies essential elements of projects where munitions are encountered. A number of course offerings were provided during FY02, with additional offerings planned for FY03.

DON, through the NAVFAC, established a munitions response workgroup to serve as a conduit for sharing technical and policy information. The workgroup members provide project updates, share lessons learned, identify technical challenges and provide field level input to policy development.

Research and Development

Little information is known about the impacts of munitions and their constituents in the marine environment. Navy is undertaking a research and development project to provide data needed to understand and model the potential environmental risks of underwater munitions. An initial study evaluated existing information, identified the technology gaps, and defined the RDT&E needs. Based on this study, the project is now focused on four major efforts:

- Multi-Species Marine Sediment Toxicity Research—this task will develop a comprehensive data set on the toxicity of munitions constituents to marine species used in risk assessments and define potential bioaccumulation, cellular level impacts, and trophic transfer;

- Degradation of Munitions Constituents in Marine Matrices—this effort will develop a comprehensive data set regarding the degradation rates of munitions constituents in marine water and sediments, and will determine key end products;
- Prediction of Underwater Munitions Corrosion—this task will evaluate the current state of understanding for determining corrosion behavior of munitions casings in the marine environment and will develop a model to be used as a predictive exposure tool, and
- Transport of Underwater Munitions—this effort will evaluate the current state of understanding of the mobility of underwater munitions and will develop predictive capability that can be applied on a site-by-site basis.

Continuation of all four of these efforts is planned through FY04. The results obtained from these tasks will directly support DON policy, providing a more robust, scientifically verifiable knowledge base from which to make management decisions regarding the effect of UXO and military munitions left in the marine environment.

Outreach

DON continued its commitment to involve stakeholders in the environmental restoration program. Communities and other stakeholders are critical constituents of the restoration program, providing 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 DON will continue to embrace stakeholder advice and contributions in resolving issues and improving the restoration program.

TAPP Program Involves Stakeholders

In FY02, DON continued to provide avenues for the community to learn more about the technical issues that the IRP 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 has provided community stakeholders with a better understanding of the highly technical aspects of the program. During FY02, TAPPs were approved or awarded at Naval Weapons Industrial Reserve Plant, Bethpage, New York; Naval Weapons Industrial Reserve Plant, Calverton, New York; Former Hunters Point Shipyard, San Francisco, California; Naval Weapons Station Seal Beach Detachment, Concord, California; and Former U.S. Naval Ammunition Support Detachment, Vieques, Puerto Rico.