

Defense Environmental Programs
Annual Report to Congress
for FY 2013



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INTRODUCTION

This FY 2013 Defense Environmental Programs Annual Report to Congress presents the funding invested in and progress of the Department of Defense (DoD) environmental programs – Environmental Restoration, Environmental Quality (EQ), and Environmental Technology. This report satisfies the requirements of Title 10, United States Code, section 2711. In FY 2013, DoD obligated approximately \$3.8 billion for its environmental programs: \$1.8 billion for environmental restoration activities; \$1.8 billion for EQ activities; and \$195.1 million for environmental technology.

One of DoD’s main priorities is to protect the environment on its installations, not only to preserve irreplaceable resources for future generations, but to ensure that it has the land, water, and airspace it needs to sustain military readiness. To achieve this objective, DoD made a commitment to continuous improvement, greater efficiency, and adoption of new technology. In the President’s FY 2015 budget, DoD requested \$3.5 billion to continue ensuring the protection of human health and the environment to sustain indefinitely the resources required to support the readiness of our Nation’s Armed Forces.

Table 1 summarizes overall DoD environmental program funding from FY 2009 through FY 2015.

Table 1: Overall DoD Environmental Program Funding (millions of dollars)

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Estimated	FY 2015 Requested
Environmental Restoration							
Active Installations and Formerly Used Defense Sites (FUDS)	\$1,494.2	\$1,564.9	\$1,592.0	\$1,521.2	\$1,352.6	\$1,393.3	\$1,104.5
BRAC Locations	\$526.2	\$677.9	\$474.2	\$509.6	\$447.4	\$379.3	\$264.3*
Restoration Total	\$2,020.4	\$2,242.8	\$2,066.2	\$2,030.8	\$1,800.0	\$1,772.6	\$1,368.8
Environmental Quality (EQ)							
Compliance	\$1,513.2	\$1,492.1	\$1,423.0	\$1,388.4	\$1,347.3	\$1,491.5	\$1,457.7
Natural and Cultural Resources	\$350.0	\$437.4	\$394.7	\$387.7	\$384.3	\$409.7	\$381.0
Pollution Prevention	\$114.4	\$90.9	\$85.6	\$97.9	\$65.5	\$105.6	\$119.3
EQ Total	\$1,977.6	\$2,020.4	\$1,903.3	\$1,874.0	\$1,797.1	\$2,006.8	\$1,958.1
Environmental Technology							
Technology Total	\$252.5	\$255.8	\$217.9	\$213.6	\$195.1	\$206.2	\$171.9
DoD Total*	\$4,250.5	\$4,519.0	\$4,187.4	\$4,118.4	\$3,792.2	\$3,985.6	\$3,498.8

* Request includes \$42.9 million of prior year funds.

+ Due to rounding, subtotals may not equal FY totals.

For more information on DoD’s environmental programs, please visit: <http://www.denix.osd.mil>.

I. ENVIRONMENTAL RESTORATION PROGRAM

The Department began environmental restoration in 1975 under its Installation Restoration Program (IRP). The IRP addresses contamination from hazardous substances or

pollutants or contaminants at active installations, Formerly Used Defense Sites (FUDS), and Base Realignment and Closure (BRAC) locations in the United States. In 2001, DoD established its Military Munitions Response Program (MMRP) to address sites (referred to as munitions response sites (MRSs)) known or suspected to contain unexploded ordnance (UXO), discarded military munitions (DMM), or munitions constituents (MC). Through these programs, DoD complies with applicable environmental laws, such as the Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund.

The Department measures cleanup progress against two milestones:

- Remedy In Place (RIP), which occurs when cleanup systems are constructed and operational; and
- Response Complete (RC), which occurs when the cleanup activities are complete (though DoD or a subsequent owner may continue to monitor the site).

The Department's focus remains on continuously improving its restoration program: minimizing overhead; developing new and advancing technologies to reduce costs and accelerate cleanup; and refining and standardizing its cost estimating process. These initiatives help ensure that DoD makes the best use of available resources to complete cleanup. The Department is making steady progress, moving sites through the cleanup process and achieving program goals while protecting human health and the environment. Of the almost 39,000 IRP sites and MRSs in the inventory, DoD has achieved the RC milestone at nearly 30,000 sites.

To adapt to the maturing environmental restoration program, DoD performed a thorough review and analysis of the existing environmental restoration goals and updated and consolidated the goals in March 2013. These updated goals further enable the DoD Components to advance sites through the final phases of cleanup to site closeout. These goals also allow DoD to apply resources cost-effectively and where needed most, and will enable DoD to demonstrate progress in a more streamlined, transparent fashion. The Department also established a program goal in February 2014 that focuses on reducing the risk to human health and the environment potentially posed by FUDS MRSs.

Table 2 lists the updated goals and summarizes DoD's progress. The table presents the number of sites subject to the goals; the number and percentage of sites that have achieved the goals from the beginning of the program through FY 2013; the number and percentage of sites projected to achieve the goals in FY 2014 and FY 2015; and the number and percentage of sites projected to achieve the goals from the beginning of the program through FY 2015.

Table 2: Environmental Restoration Goals and Progress*

Goal	Number of Sites Subject to the Goal	Number (and Percentage) of Sites that Achieved the Goal through FY 2013	Number (and Percentage) of Sites Projected to Achieve the Goal in FY 2014	Number (and Percentage) of Sites Projected to Achieve the Goal in FY 2015	Number (and Percentage) of Sites Projected to Achieve the Goal through FY 2015
Achieve RIP at 95% of IRP sites at active installations and BRAC locations by the end of FY 2014	30,865	26,690 (86%)	1,123 (4%)	1,076 (3%)	28,890 (94%)
Achieve RC at 90% and 95% of IRP sites and MRSs at active installations and BRAC locations, and IRP sites at FUDS properties, by the end of FY 2018 and FY 2021, respectively	36,727	28,990 (79%)	995 (3%)	1,819 (5%)	31,804 (87%)

* Excludes potentially responsible party sites, which are sites where DoD has identified that an individual or company is potentially responsible for contributing to the contamination. Also excludes sites where a DoD Component cannot obtain rights of entry to complete investigations. Site counts and percentages may not add correctly due to reopening a small number of sites based on regulator request and for administrative actions.

Through FY 2013, DoD achieved RIP at 86 percent of IRP sites at active installations and BRAC locations. The Department also achieved RC at 79 percent of IRP sites and MRSs at active installations and BRAC locations, and IRP sites at FUDS properties. Although DoD is currently on track to meet its RC goals, DoD is not on target to achieve its RIP goal by the end of FY 2014. The complex nature of IRP sites, such as technically challenging groundwater sites, and the limitations of available technology to address those sites, have impacted DoD’s progress. To address these challenges, DoD is working with other Federal agencies to develop an approach that effectively uses resources while protecting human health and the environment. Specific DoD efforts are described in the Environmental Technology Programs section of this report. The Department will focus on optimizing remedies and working with regulators, contractors, and other Federal agencies to develop and implement strategies to address these complex sites.

To move sites towards RIP and RC milestones and ensure protection of human health and the environment, DoD focused on developing policies to reduce risk and improve performance in FY 2013. For example, DoD updated and reissued DoD Instruction 4715.07, “Defense Environmental Restoration Program (DERP).” The updated instruction incorporates DoD’s new policies on improving risk management prior to implementing final cleanup actions, considering green and sustainable cleanup opportunities, and maximizing the transparency of DoD’s cleanup efforts.

Another example of DoD’s efforts to improve performance is DoD’s revised cost estimating procedures. In FY 2013, DoD began developing procedures to more effectively track the Components’ progress on buying down liability. This procedure presents a forward-looking approach to financial management of cleanup activities that will increase the consistency and transparency of the cost estimating process.

The Department faces challenges managing the potential threat to human health posed at sites that DoD does not expect to clean up for an extended period of time. Cleanup delays are

due to factors such as the number of sites requiring response actions, site complexity, funding limitations, regulatory requirements, and not having access to sites that are no longer under DoD control (e.g., FUDS). Given these delays and the potential risks to human health at these sites, DoD developed an Interim Risk Management (IRM) policy in FY 2013 to manage such risks during this period. IRM activities will vary based on the site-specific conditions and the availability of information about the known or suspected hazards present. Examples of IRM activities include notifying property owners, posting signage, installing fencing, conducting community outreach and education programs, coordinating with local government officials, and providing drinking water.

In FY 2013, DoD also addressed issues that slowed down or delayed cleanup activities. For example, the Air Force signed a Federal Facilities Agreement (FFA) for Tyndall Air Force Base with the United States Environmental Protection Agency (EPA) and the State of Florida outlining how the Air Force will proceed with cleanup. This FFA resolved a decade-long dispute with EPA. Also in FY 2013, DoD issued a policy clarifying its dispute resolution process to improve its relationship with the states. The policy increases trust levels between the states and the DoD Components, thereby expediting cleanup program completion.

The Munitions Response Advanced Geophysical Classification Process (hereinafter referred to as Advanced Classification) addresses a significant challenge to cleaning up MRSs in a timely and cost effective manner. Advanced Classification distinguishes subsurface metallic objects (e.g., scrap metal, horse shoes, nails, cultural debris, fragments and/or munitions debris) from what are potentially dangerous subsurface military munitions that require investigation. The Department developed a transfer plan and framework to transition Advanced Classification to regular use in the field. The Department intends for the transition activities to build a common understanding, knowledge, and confidence among regulators, the contracting community, and other stakeholders about the technology's capabilities, benefits, and limitations for MRSs. The fundamental elements of the plan include determining the appropriate use of Advanced Classification, assessing and documenting relevant issues, providing education and training to regulators and other stakeholders, resolving data quality issues, and developing contracting language to support using Advanced Classification. The Department will begin implementing the plan in FY 2014. One forum for exchanging information and communicating about the plan is the Munitions Response Dialogue (MRD). The MRD is composed of representatives from the Office of the Secretary of Defense (OSD), the DoD Components, EPA, state environmental regulators, and Federal land managers. The MRD is also a valuable forum for communicating and collaborating on other issues related to managing and implementing the MMRP.

IRP Site Status and Funding

Table 3 summarizes the status of IRP sites at active installations, FUDS properties, and BRAC locations. The table presents the number of sites in the inventory; the number of sites at RIP and RC through FY 2012 and FY 2013; and the changes in RIP and RC status from FY 2012 to FY 2013.

Table 3: IRP Site Status*

	Total IRP Inventory (FY 2013)	RIP			RC		
		Number of IRP Sites at RIP through FY 2012	Number of IRP Sites at RIP through FY 2013	Change in RIP Status from FY 2012 to FY 2013	Number of IRP Sites at RC through FY 2012	Number of IRP Sites at RC through FY 2013	Change in RC Status from FY 2012 to FY 2013
Active Installations							
Army	11,023	10,253	10,188	-65 ⁺	10,027	9,954	-73 ⁺
Department of Navy (DON)**	4,005	3,527	3,617	90	2,958	3,108	150
Air Force	7,138	5,131	5,148	17	4,485	4,487	2
Defense Logistics Agency (DLA)	368	343	344	1	325	326	1
Active Total	22,534	19,254	19,297	43	17,795	17,875	80
FUDS Properties							
FUDS Total	3,022	2,251	2,336	85	2,227	2,315	88
BRAC Locations							
Army	2,114	1,962	1,967	5	1,911	1,913	2
DON**	1,133	1,027	1,061	34	864	877	13
Air Force	5,036	4,266	4,317	51	4,067	4,140	73
DLA	48	48	48	0	47	47	0
BRAC Total	8,331	7,303	7,393	90	6,889	6,977	88
DoD Total	33,887	28,808	29,026	218	26,911	27,167	256

* The change in RIP and RC status from FY 2012 to FY 2013 may not reflect actual progress due to reopening a small number of sites based on regulator request and for administrative actions.

⁺ The number of sites at RIP and RC decreased because the Army reopened sites where additional actions are necessary to ensure continued protection of human health and the environment and to comply with a new DoD policy that establishes procedures for improved tracking of performance-based contracts and sites transferred out of DoD control where DoD no longer conducts cleanup.

** DON includes Navy and Marine Corps, as these DoD Components manage Environmental Restoration as a combined program.

Table 4 summarizes IRP funding from FY 2009 through FY 2015 at active installations, FUDS properties, and BRAC locations.

Table 4: IRP Funding* (millions of dollars)

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Estimated	FY 2015 Requested
Active Installations							
Army	\$344.1	\$337.7	\$266.8	\$274.8	\$212.8	\$256.4	\$163.6
DON⁺	\$252.7	\$254.2	\$256.6	\$259.3	\$239.0	\$264.6	\$228.4
Air Force	\$388.2	\$396.3	\$448.8	\$481.2	\$431.2	\$405.9	\$374.9
Defense-wide^{**}	\$11.4	\$15.2	\$10.1	\$11.6	\$10.7	\$11.3	\$8.5
Active Total	\$996.4	\$1,003.4	\$982.3	\$1,026.9	\$893.7	\$938.2	\$775.4
FUDS Properties							
FUDS Total	\$180.5	\$182.2	\$256.3	\$226.5	\$195.2	\$224.6	\$177.2
BRAC Locations							
Army	\$63.0	\$89.7	\$61.6	\$90.2	\$86.4	\$71.3	\$37.0
DON⁺	\$221.8	\$215.2	\$143.2	\$213.4	\$164.9	\$115.3	\$77.1
Air Force	\$112.3	\$123.1	\$113.7	\$92.3	\$118.9	\$117.9	\$84.5
Defense-wide^{**}	\$4.7	\$4.0	\$0.0	\$0.0	\$3.7	\$3.0	\$2.2
BRAC Total	\$401.8	\$432.0	\$318.4	\$395.9	\$373.9	\$307.6	\$200.8
DoD Total⁺⁺	\$1,578.7	\$1,617.6	\$1,557.0	\$1,649.3	\$1,462.9	\$1,470.3	\$1,153.3

* This table includes funding for all program management requirements at active installations, FUDS properties, and BRAC locations.

⁺ DON includes Navy and Marine Corps, as these DoD Components manage Environmental Restoration as a combined program.

^{**} Defense-wide accounts include other defense agencies and DLA.

⁺⁺ Due to rounding, subtotals may not equal FY totals.

MRS Status and Funding

Table 5 summarizes the status of MRSs at active installations, FUDS properties, and BRAC locations. The table presents the number of MRSs in the inventory; the number of MRSs at RIP and RC through FY 2012 and FY 2013; and the changes in RIP and RC status from FY 2012 to FY 2013.

Table 5: MRS Status*

	Total MRS Inventory (FY 2013)	RIP			RC		
		Number of MRSs at RIP through FY 2012	Number of MRSs at RIP through FY 2013	Change in RIP Status from FY 2012 to FY 2013	Number of MRSs at RC through FY 2012	Number of MRSs at RC through FY 2013	Change in RC Status from FY 2012 to FY 2013
Active Installations							
Army	1,387	900	1,064	164	899	1,064	165
DON ⁺	376	143	149	6	131	142	11
Air Force	972	356	506	150	347	505	158
DLA ^{**}	7	0	0	0	0	0	0
Active Total	2,742	1,399	1,719	320	1,377	1,711	334
FUDS Properties							
FUDS Total	1,827	787	817	30	787	817	30
BRAC Locations							
Army	180	105	106	1	105	106	1
DON ⁺	38	15	17	2	15	16	1
Air Force	130	124	124	0	122	122	0
DLA ^{**}	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BRAC Total	348	244	247	3	242	244	2
DoD Total	4,917	2,430	2,783	353	2,406	2,772	366

* The change in RIP and RC status from FY 2012 to FY 2013 may not reflect actual progress due to reopening a small number of sites based on regulator request and for administrative actions.

⁺ DON includes Navy and Marine Corps, as these DoD Components manage Environmental Restoration as a combined program.

^{**} DLA does not have MRSs at BRAC locations.

Table 6 summarizes MMRP funding from FY 2009 through FY 2015 at active installations, FUDS properties, and BRAC locations.

Table 6: MMRP Funding (millions of dollars)

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Estimated	FY 2015 Requested
Active Installations							
Army	\$57.8	\$98.5	\$55.3	\$71.3	\$76.7	\$82.3	\$37.9
DON*	\$42.2	\$31.5	\$45.7	\$48.6	\$48.2	\$51.5	\$49.0
Air Force	\$107.1	\$98.1	\$52.2	\$44.5	\$56.2	\$33.9	\$33.8
Defense-wide ⁺	\$0.0	\$0.0	\$0.0	\$1.6	\$0.4	\$0.0	\$0.0
Active Total	\$207.1	\$228.1	\$153.2	\$166.0	\$181.5	\$167.7	\$120.7
FUDS Properties							
FUDS Total	\$110.2	\$151.1	\$200.2	\$101.8	\$82.0	\$62.8	\$31.2
BRAC Locations							
Army	\$43.0	\$29.2	\$30.4	\$46.6	\$38.6	\$27.7	\$12.6
DON*	\$20.0	\$9.5	\$8.5	\$33.5	\$38.1	\$14.3	\$4.7
Air Force	\$1.4	\$2.5	\$45.3	\$4.1	\$0.3	\$1.5	\$0.3
Defense-wide ⁺	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BRAC Total	\$64.4	\$41.2	\$84.2	\$84.2	\$77.1	\$43.5	\$17.6
DoD Total**	\$381.8	\$420.4	\$437.7	\$351.9	\$340.6	\$274.0	\$169.5

* DON includes Navy and Marine Corps, as these DoD Components manage Environmental Restoration as a combined program.

⁺ Defense-wide accounts include other defense agencies and DLA, which began reporting MRSs at active installations in FY 2011. DLA does not have MRSs at BRAC locations.

** Due to rounding, subtotals may not equal FY totals.

Planning, Compliance, and Other BRAC Funding

Table 7 summarizes planning, compliance, and other funding from FY 2009 through FY 2015 at BRAC locations.

Table 7: Planning, Compliance, and Other Funding* (millions of dollars)

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Estimated	FY 2015 Requested
BRAC Locations							
Army	\$21.1	\$165.7	\$49.1	\$41.6	\$38.8	\$30.8	\$4.8
DON ⁺	\$11.2	\$12.2	\$16.3	-\$31.8**	-\$30.3**	\$0.5	\$43.4 ⁺⁺
Air Force	\$29.8	\$26.8	\$6.1	\$19.8	-\$8.4 ⁺	\$0.0	\$0.0
Defense-wide ^{***}	-\$2.1**	\$0.0	\$0.0	\$0.0	-\$3.7**	-\$3.0 ⁺	-\$2.2**
DoD Total⁺⁺⁺	\$60.1	\$204.8	\$71.6	\$29.6	-\$3.7**	\$28.3	\$46.0

* Other funding includes revenue from land sales or funds reprogrammed from other FYs.

⁺ DON includes Navy and Marine Corps, as these DoD Components manage Environmental Restoration as a combined program.

** Negative values indicate that the DoD Component obligated more funds (e.g., prior year funds) than Congress authorized in the given FY.

⁺⁺ Request includes \$42.9 million of prior year funds.

^{***} Defense-wide accounts include other defense agencies and DLA.

⁺⁺⁺ Due to rounding, subtotals may not equal FY totals.

II. ENVIRONMENTAL QUALITY PROGRAMS

Compliance

The DoD Compliance Program provides resources to comply with applicable requirements such as Federal, state, and local environmental laws and regulations for installations located in the United States, and applicable compliance, remediation, and planning requirements for installations located outside of the United States (i.e., overseas installations). Under this Program, DoD activities include sampling and analyzing pollutant discharges to air and water, maintaining environmental permits for regulated activities, providing safe drinking water, and disposing of regulated waste. It also includes projects to upgrade wastewater treatment facilities and install air pollution controls to meet new regulatory standards. In FY 2013, DoD increased the Clean Water Act permit compliance rate to 94 percent, maintained the drinking water compliance rate above national average, increased the solid waste diversion rate to 63 percent, and reduced criteria air pollutant emissions by more than 5,400 tons.

Table 8 summarizes Compliance Program funding from FY 2009 through FY 2015 for the Army, Navy, Air Force, Marine Corps, and the Defense-wide accounts.

Table 8: Compliance Program Funding (millions of dollars)

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Estimated	FY 2015 Requested
Army	\$409.4	\$401.1	\$393.4	\$341.6	\$389.6	\$393.4	\$407.7
Navy	\$390.3	\$337.0	\$369.0	\$403.0	\$358.1	\$419.5	\$384.7
Air Force	\$311.7	\$354.9	\$338.9	\$295.9	\$298.5	\$355.9	\$326.3
Marine Corps	\$189.0	\$125.0	\$126.0	\$131.1	\$113.2	\$114.4	\$151.4
Defense-wide*	\$212.8	\$274.1	\$195.7	\$216.8	\$187.9	\$208.3	\$187.6
DoD Total[†]	\$1,513.2	\$1,492.1	\$1,423.0	\$1,388.4	\$1,347.3	\$1,491.5	\$1,457.7

* Defense-wide accounts include DLA and other defense agencies.

[†] Due to rounding, subtotals may not equal FY totals.

Overall Trend Analysis

Overall Compliance Program funding decreased from FY 2009 to FY 2013 due in part to one-time project fluctuations. In addition, many of the FY 2013 reductions are a result of the Budget Control Act. The Department projects a return to more stable funding levels beginning in FY 2014 and continuing in FY 2015.

Explanation of Significant Changes in Funding Amounts

- From FY 2012 to FY 2013, the Army's 14.1 percent funding increase was driven by the Army National Guard nonrecurring compliance projects to address storm water issues. The decrease in Navy funding (-11.1 percent) is attributed in part to completing a military construction project for wastewater treatment. Marine Corps funding decreased (-13.7 percent) in part due to a reduction in nonrecurring projects for the Clean Water Act. The

decrease in Defense-wide account funding (-13.3 percent) is partly attributed to completing two large Clean Water Act projects for fuel storage facilities.

- From FY 2013 to FY 2014, the Navy’s anticipated funding increase of 17.1 percent is due to the delay of both recurring and nonrecurring efforts from the reduced FY 2013 funding. Air Force costs increased by 19.2 percent due to the impacts of reduced funding in both FY 2012 and FY 2013. Funding for the Defense-wide account increased by 10.8 percent due to three military construction projects required to meet environmental standards.
- From FY 2014 to FY 2015, Marine Corps funding is anticipated to increase by 32.3 percent for a military construction project to meet drinking water standards at Marine Corps Air Station Cherry Point, North Carolina.

Natural and Cultural Resources

The Department supports mission readiness and training flexibility by managing its natural and cultural resources to enable continued access to testing and training lands while complying with existing laws (e.g., Endangered Species Act, Sikes Act, National Historic Preservation Act), and by ensuring the long-term sustainability of our nation’s natural and cultural heritage. The Department manages over 28 million acres containing approximately 420 federally listed threatened or endangered species and more than 520 at-risk species. Over 85 of these species are found only on DoD lands. The Department also manages and maintains cultural resources at more than 310 DoD installations that contain over 122,000 archaeological sites and 29,910 historic buildings, 1,850 of which are National Historic Landmarks.

Table 9 summarizes natural and cultural resources funding from FY 2009 through FY 2015 for the Army, Navy, Air Force, Marine Corps, and the Defense-wide accounts.

Table 9: Natural and Cultural Resources Funding (millions of dollars)

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Estimated	FY 2015 Requested
Army	\$180.4	\$267.1	\$177.1	\$156.7	\$182.0	\$172.2	\$188.8
Navy	\$24.2	\$34.3	\$41.4	\$75.3	\$59.3	\$67.0	\$53.7
Air Force	\$67.9	\$57.2	\$66.3	\$68.1	\$58.7	\$67.2	\$56.0
Marine Corps	\$20.1	\$20.5	\$20.2	\$35.7	\$34.8	\$32.1	\$33.1
Defense-wide*	\$57.4	\$58.3	\$89.7	\$51.9	\$49.5	\$71.2	\$49.4
DoD Total⁺	\$350.0	\$437.4	\$394.7	\$387.7	\$384.3	\$409.7	\$381.0

* Defense-wide accounts include DLA and other defense agencies.

⁺ Due to rounding, subtotals may not equal FY totals.

Overall Trend Analysis

Funding for natural and cultural resources activities increased overall between FY 2009 and FY 2013. Increased congressional funding for conservation on ranges in FY 2012 through FY 2014 helped stabilize funding levels, but the FY 2013 amounts were adversely affected by

the sequester. The Department anticipates that overall funding levels will increase in FY 2014 and decline slightly below FY 2013 levels in FY 2015.

Explanation of Significant Changes in Funding Amounts

- From FY 2012 to FY 2013, the Army's 16.1 percent funding increase returned the Army to historic funding levels, which will allow the Army to address potential listings of additional endangered species on Army bases. The significant decrease in Navy funding (-21.2 percent) is in part related to the anticipated completion of range conservation projects, including environmental surveys, modeling efforts, and assessments at various locations. The decrease in Air Force funding (-13.8 percent) mainly reflects reductions in recurring costs.
- From FY 2013 to FY 2014, the projected increase of 14.5 percent in Air Force funding is due to an increase in recurring costs. The 13 percent increase in funding for the Navy is attributed to compliance activities associated with addressing the Marine Mammal Protection Act. Defense-wide funding for FY2014 is projected to increase by 43.8 percent over FY2013, primarily due to a congressional addition for the Readiness and Environmental Protection Integration (REPI) Program.
- From FY 2014 to FY 2015, Navy funding is expected to decrease (-19.9 percent) due to completing required studies. The Air Force anticipates a decrease in funding (-16.7 percent) due to reductions in other recurring costs. Defense-wide funding is expected to decrease significantly (-30.6 percent), primarily due to decreases in the REPI program. The decreases in the FY2015 REPI request are a reflection of both the absence of the FY2014 congressional addition and Budget Control Act targeted reductions.

Pollution Prevention

The Department created the Pollution Prevention Program to reduce or eliminate waste generation, natural resources losses, and process emissions. The Department also implements energy, water, and fuel efficiency measures that further reduce pollution and better use existing resources. As a result, DoD's pollution prevention investments have the potential to reduce costs Department-wide. The Program is built on a flexible framework that helps DoD prioritize cost-effective initiatives while maintaining safe, uninterrupted operations and sustaining military readiness.

Table 10 summarizes Pollution Prevention Program funding from FY 2009 through FY 2015 for the Army, Navy, Air Force, Marine Corps, and the Defense-wide accounts.

Table 10: Pollution Prevention Program Funding (millions of dollars)

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Estimated	FY 2015 Requested
Army	\$23.2	\$18.7	\$18.6	\$37.4	\$23.9	\$33.0	\$44.4
Navy	\$16.9	\$12.8	\$15.8	\$11.7	\$6.6	\$6.9	\$9.8
Air Force	\$50.5	\$36.0	\$33.8	\$22.2	\$15.2	\$43.4	\$40.8
Marine Corps	\$19.5	\$19.9	\$14.3	\$21.4	\$15.8	\$17.3	\$19.8
Defense-wide*	\$4.3	\$3.5	\$3.1	\$5.2	\$4.0	\$5.0	\$4.6
DoD Total⁺	\$114.4	\$90.9	\$85.6	\$97.9	\$65.5	\$105.6	\$119.4

* Defense-wide accounts include DLA and other defense agencies.

⁺ Due to rounding, subtotals may not equal FY totals.

Overall Trend Analysis

Funding for the Pollution Prevention Program declined from FY 2009 through FY 2013, including a significant decrease (-42.7 percent) that occurred from FY 2012 to FY 2013. However, overall pollution prevention activities have not decreased, but are now integrated into daily operations that are funded by other programs. Funding for FY 2014 is expected to increase by 61.2 percent from FY 2013, but this is a slight increase from FY 2012 pre-Budget Control Act funding levels.

Explanation of Significant Changes in Funding Amounts

- From FY 2012 to FY 2013, the reductions in the Budget Control Act drove the overall reduction in funding (-33.1 percent). In addition, because Pollution Prevention is not directly linked to legal requirements, the DoD Components reduced funding to preserve funding in other programs.
- From FY 2013 to FY 2014, the DoD Components anticipate returning to more traditional funding levels, even with the targets in the Budget Control Act. The Army increased funding by 38.1 percent to FY 2012 levels, which will allow the Army to invest in pollution prevention management and initiatives delayed in FY 2013 due to budget reductions. The less stringent Budget Control Act targets also contribute to the anticipated 185.5 percent increase in Air Force funding.
- In FY 2015, Army funding is expected to increase by 34.5 percent from the FY 2014 level, which will allow the Army to invest in pollution prevention management and initiatives that will reduce toxic and hazardous substances in the Army's supply chain and reduce total ownership costs.

III. ENVIRONMENTAL TECHNOLOGY PROGRAMS

OSD administers the Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP). Environmental Technology is included in this report to satisfy the requirements of Title, United States Code, section 2711.

Table 11 summarizes environmental technology program funding from FY 2009 through FY 2015 for the Army, DON (including Marine Corps), Air Force, and the Defense-wide accounts.

Table 11: Environmental Technology Program Funding (millions of dollars)

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Estimated	FY 2015 Requested
Army*							
Army Total	\$76.0	\$75.0	\$53.1	\$54.2	\$45.5	\$46.1	\$43.5
DON+							
DON Total	\$46.2	\$46.6	\$41.3	\$42.4	\$39.8	\$38.6	\$29.4
Air Force							
Air Force Total	\$25.6	\$26.1	\$25.6	\$15.7	\$9.3	\$10.6	\$10.1
Defense-wide**							
SERDP**	\$63.1	\$62.3	\$64.0	\$64.2	\$58.6	\$62.3	\$57.8
ESTCP**	\$36.6	\$41.0	\$28.8	\$31.8	\$38.0	\$43.0	\$26.5
Defense Warfighter Protection	\$5.0	\$4.8	\$5.1	\$5.3	\$3.9	\$5.6	\$5.4
Defense-wide Total	\$104.7	\$108.1	\$97.9	\$101.3	\$100.5	\$110.9	\$88.9
DoD Total***	\$252.5	\$255.8	\$217.9	\$213.6	\$195.1	\$206.2	\$171.9

* The National Defense Center for Energy and Environment is included in the Army Program line.

+ DON includes Navy and Marine Corps.

** Defense-wide accounts include DLA and other defense agencies.

**+ SERDP/ESTCP values are for environment only and do not include energy projects.

*** Due to rounding, subtotals may not equal FY totals.

Overall Trend Analysis

The Department's funding for Environmental Technology declined (-22.7 percent) from FY 2009 to FY 2013, including a decrease in Army funding (-29.2 percent) from FY 2010 to FY 2011 due to a loss of congressional earmarks. Many of the FY 2013 reductions are a result of the Budget Control Act. Despite an increase in FY 2014, DoD projects a decrease in total funding (-16.6 percent) in FY 2015 to sub-FY 2013 levels.

Explanation of Significant Changes in Funding Amounts

- From FY 2014 to FY 2015, DON's projected funding reduction (-23.8 percent) is due to re-prioritizing environmental research and development programs and a decrease in marine mammals research.

- From FY 2014 to FY 2015, the anticipated reduction in funding for ESTCP (-38.4 percent) is driven by the Bipartisan Budget Act of 2013.

Progress in Achieving Objectives and Goals

OSD administers the SERDP and ESTCP Defense-wide programs and oversees the Military Services' environmental technology programs. The mission of the Defense-wide programs is to address high priority, cross-service environmental challenges. The DoD Components' environmental technology investments focus on unique Military Service requirements and complement the Defense-wide investments. SERDP, ESTCP, and the DoD Components work together to coordinate and leverage these investments.

Through advances in environmental technology, DoD has avoided spending significant resources for environmental cleanup and compliance, and has reduced life-cycle costs in the acquisition, operations and maintenance, and disposal of multiple weapon systems. As the National Academy of Sciences highlighted in their November 2012 report, "Alternatives for Managing the Nation's Complex Contaminated Groundwater Sites," SERDP and ESTCP are leading a national effort to find effective technologies to address this issue for DoD. Over many years, the Department has developed technologies to clean up these complex groundwater sites. One technology that has been successful is bioaugmentation, the addition of microorganisms to groundwater to biodegrade contaminants. SERDP initiated research in the 1990s to better understand the role of microorganisms in cleaning up contaminants on DoD sites. Application of SERDP's research progressed rapidly, and DoD demonstrated bioaugmentation through ESTCP. Today, multiple commercial biological cultures are available along with authoritative guidance documents and broad regulatory acceptance. The Department has used bioaugmentation at over 100 sites across DoD and nearly 1,000 sites in the private sector.

The Department has continuously followed this same progressive process to address the other cleanup challenge associated with distinguishing subsurface metallic objects from potentially dangerous subsurface military munitions. Although the technologies currently used to investigate an MRS for subsurface military munitions are capable of detecting munitions at sites with diverse conditions, they are extremely limited in their ability to distinguish subsurface military munitions from other metal objects. By taking a conservative approach in using these technologies, the result is unnecessarily excavating hundreds of thousands of metal objects that are not military munitions.

The estimated cost to clean up all known MRSs is more than \$13 billion. Over the past 10 years, DoD has invested in developing Advanced Classification technologies that can, with a high degree of reliability, distinguish subsurface metallic objects from potentially dangerous subsurface military munitions. By focusing removal efforts on potentially dangerous subsurface military munitions, DoD believes this technology will improve the efficiency of munitions responses, including reducing costs, while maintaining the protectiveness of response actions.