

Appendix G: Restoration Budget Overview

Since Fiscal Year (FY) 2001, the Department of Defense (DoD) has invested more than \$15 billion in cleanup efforts through the Defense Environmental Restoration Program (DERP). In its earlier years, DERP funding primarily financed the identification, investigation, and cleanup of land impacted by decades of defense operations and training activities. As the program matures and expands, DERP appropriations increasingly fund long-term management (LTM) of sites, along with investigation and cleanup of military munitions at DoD installations and Formerly Used Defense Sites (FUDS).

As illustrated in Figure G-1, funding for the DERP is allocated through the Environmental Restoration (ER) account, which funds environmental cleanup at active installations and Formerly Used Defense Sites (FUDS), and the Base Realignment and Closure (BRAC) account, which funds restoration at BRAC installations.

Three program categories— the Installation Restoration Program (IRP), the Military Munitions Response Program (MMRP), and the Building Demolition/Debris Removal (BD/DR) Program— are funded through the ER and BRAC accounts. The IRP includes hazardous substances, pollutants, and contaminants, whereas the MMRP includes response actions to address unexploded ordnance (UXO), discarded military munitions (DMM), and munitions constituents (MC). The BD/DR Program addresses unsafe buildings and structures.

This appendix provides detailed information about how ER and BRAC environmental funding at the DoD and Component levels meets restoration requirements. It also explains how funding relates to the progression of sites through the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) cleanup process over the last five years, from FY2004 through FY2008.

Progress Through Cleanup Phases

DoD tracks funding levels across each stage of the restoration process—investigation, cleanup, and LTM— as well as program management. The investigation stage includes a determination of the extent of contamination, and an evaluation of alternatives for remediation. The cleanup stage includes the design, construction, and operation of the remedy. Although costs incurred during the LTM phase are generally associated with environmental monitoring of site conditions, program management primarily captures any oversight costs. As IRP sites and munitions response sites (MRSs) move through the cleanup process, site investigations are completed and cleanup activities commence. As this happens, funding trends mirror this site progress and the proportion of IRP and MMRP funding spent on

investigations decreases as the proportion of funding spent on cleanup activities increases.

The Department conducted an inventory to identify MRSs in FY2001, following the formal creation of the MMRP. This inventory identified many new sites, most of which entered the program in the investigation stage. This temporarily increased the proportion of DERP funding spent on investigation; however, the overall trend will decline as more sites progress to the remedial phase and site closeout.

Relative Risk Reduction

DoD gauges DERP progress through the program metric to address the “worst first” in site cleanup. Funding limitations require that DoD prioritize sites based on the potential risk a site poses to human health and the environment relative to other sites in the program. Using the Relative Risk Site Evaluation (RRSE), IRP sites are classified by relative risk category as high, medium, and low. These rankings are based on the nature and extent of the site’s contamination, the likelihood that contaminants will migrate, and potential impacts on populations and ecosystems. Sites may be classified as “Not Evaluated” if there is insufficient information available to complete an RRSE, or “Not Required” if the site has reached remedy in place (RIP), and is in the remedial action operation phase, or has achieved response complete (RC).

Sites with high relative risk are given priority by DoD, and receive a large portion of DoD funds as remedies are implemented. Subsequently, medium risk, and then low risk sites will be addressed. In addition to high, medium, and low relative risk sites, DoD also apportions funds for sites that have not yet been evaluated for relative risk, most of which are still in the investigation stage.

Similarly, sites in the MMRP are addressed in the order of potential relative risk posed to human health and the environment. With more than 3,600 sites in its inventory, DoD does not have the resources to address all munitions sites

simultaneously. Therefore, DoD developed the Munitions Response Site Prioritization Protocol (MRSP), which, similar to the RRSE, is a system that classifies sites by relative risk taking explosive hazards into account. The relative priority is based on the site conditions and potential hazards present; it will be the primary factor for sequencing response actions. Components were first given the option to report MRSP scores in FY2007. In FY2008, these scores completely replaced the previously reported Risk Assessment Codes. DoD will address environmental restoration at MRSs and appropriate funding based on the MRSP scores.

Figure G-1 DoD Restoration Budget Summary (millions)

Environmental Restoration*†				
Component	FY2007 Actual	FY2008 Actual	FY2009 Appropriated	FY2010 Requested
Army	\$402.8	\$437.4	\$456.8	\$415.9
Navy and Marine Corps	\$301.7	\$313.0	\$290.2	\$285.9
Air Force	\$401.5	\$456.2	\$495.3	\$494.3
DLA	\$11.0	\$11.3	\$9.6	\$8.0
FUDS	\$262.8	\$286.7	\$290.7	\$267.7
Other Defense-Wide Programs	\$3.3	\$3.5	\$3.6	\$3.1
Total	\$1,383.0	\$1,508.2	\$1,546.2	\$1,474.8
BRAC Environmental*†				
Component	FY2007 Actual	FY2008 Actual‡	FY2009 Appropriated	FY2010 Requested
Army	\$135.7	\$114.7	\$135.2	\$241.1
Navy and Marine Corps	\$236.9	\$279.7	\$247.5§	\$175.2
Air Force	\$118.5	\$129.1	\$139.5	\$135.2
DLA	\$6.7	\$3.6	\$2.7	\$2.7
Total	\$497.8	\$527.1	\$524.9	\$554.2

* Funding shown includes IRP, MMRP, BD/DR, and management and support costs.

† Funding shown includes IRP, MMRP, compliance, planning, and management and support costs for all BRAC rounds in all fiscal years.

‡ Does not include prior year funding executed during the reporting year.

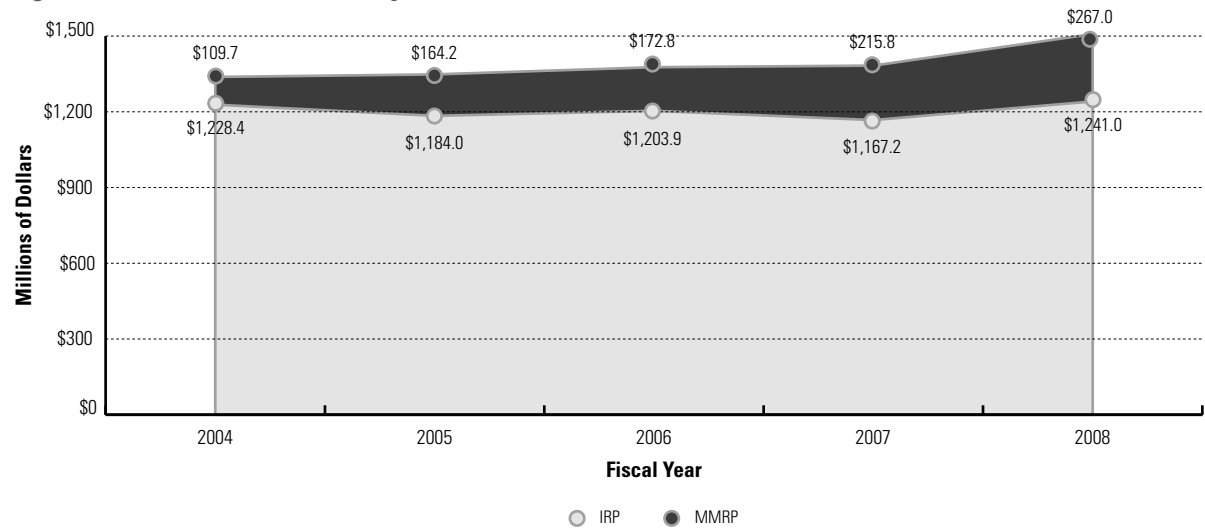
§ Includes a separate \$50.0 million appropriation to the Navy for BRAC cleanup activities.

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

DoD

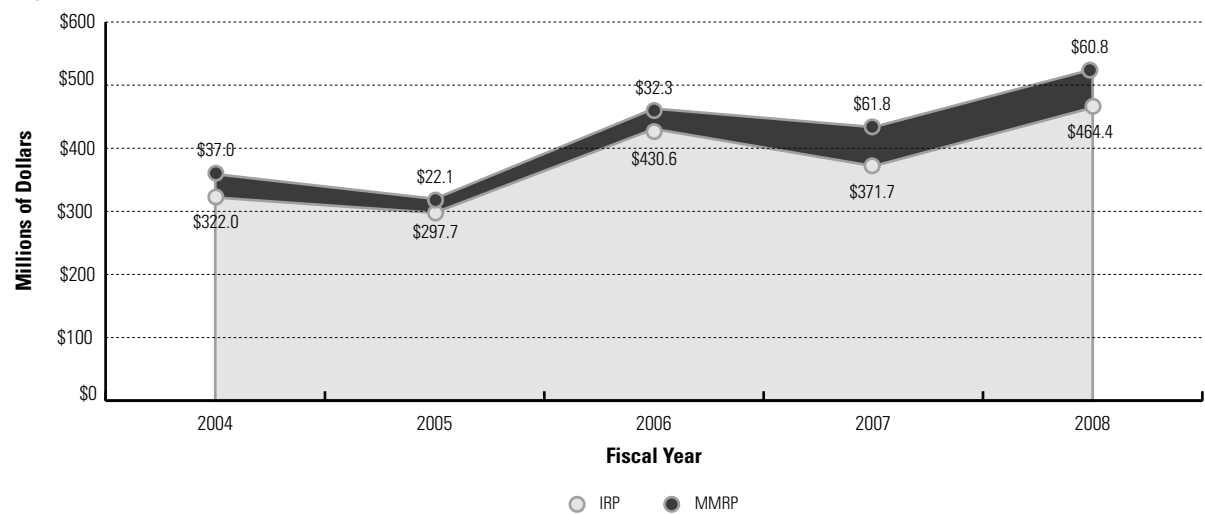
In FY2008, DoD invested more than \$1.5 billion in ER funding for restoration activities at active installations and FUDS properties, and \$525.2 million for restoration activities at BRAC installations. This excludes planning and compliance costs, and land sale revenue that the Components use to supplement BRAC restoration activities. Figures G-2 and G-3 illustrate ER and BRAC restoration funding, respectively, distributed among the IRP and MMRP. While the ER IRP funding has remained relatively constant over the previous four years, the BRAC IRP budget has increased by 44 percent since FY2004. The MMRP continued to grow from FY2004 to FY2008 with the ER obligation more than doubling, and the BRAC obligation increasing by 64 percent. By FY2008, the MMRP constituted 16 percent of the total restoration funding.

Figure G-2 DoD ER IRP and MMRP Funding Trends*



* Includes BD/DR costs.

Figure G-3 DoD BRAC IRP and MMRP Funding Trends**



* Does not include planning or compliance costs.

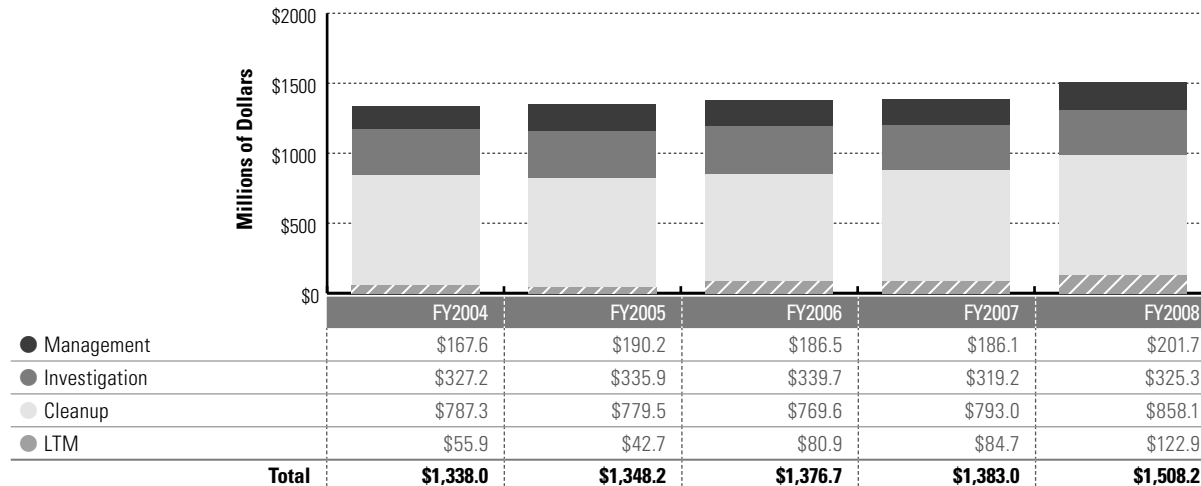
† Includes BRAC 2005 costs beginning in FY2007.

Figure G-4 shows a breakout of ER funding by cleanup phase. Fifty-seven percent, or \$858.1 million, of the FY2008 ER budget was obligated to cleanup activities. The amount obligated for cleanup activities in FY2008 was the highest it had been since FY2004. Similarly, DoD's FY2008 ER obligation of LTM funds more than doubled since FY2004, as more sites achieved RC.

Figure G-5 shows a breakout of BRAC Restoration funding by cleanup phase. In FY2008, investigation activities decreased by 54 percent from the previous year, and constituted only \$61.2 million, or 12 percent, of the total BRAC budget. Funding for BRAC investigation activities in FY2007 was relatively larger than in previous years because the Department continued to characterize sites with potential munitions and explosives of concern (MEC) and MC hazards. Accompanying a decrease in investigation spending, funding for cleanup activities increased by 88 percent to \$372.2 million since FY2007.

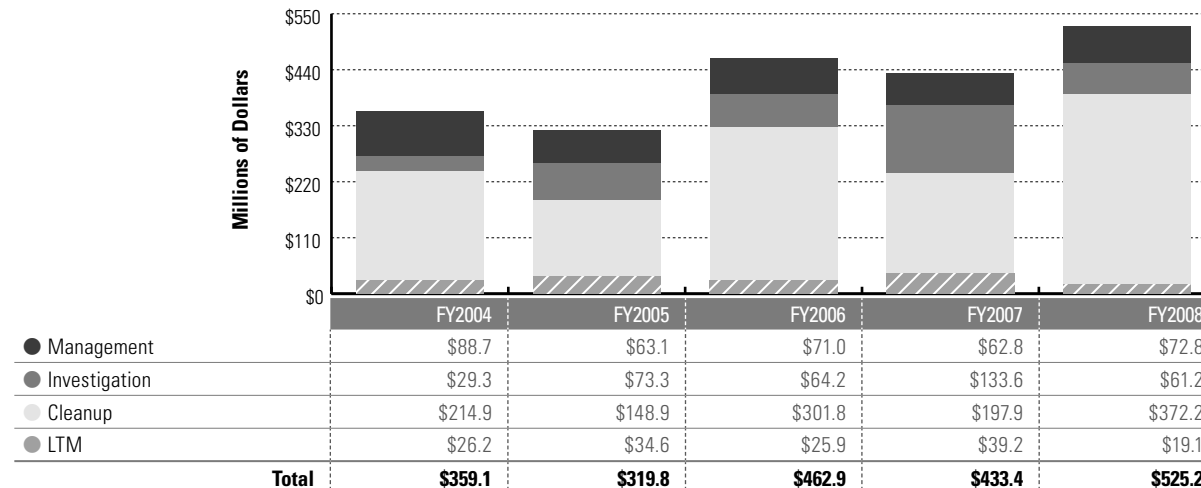
DoD spent \$245.1 million of the FY2008 ER IRP budget on investigation and cleanup activities at high relative risk sites. Likewise, DoD obligated \$167.0 million, of the BRAC IRP budget to high relative risk IRP sites in FY2008.

Figure G-4 DoD ER Funding Trends by Cleanup Phase**



* Due to rounding, subtotals may not equal fiscal year totals.
 † Includes BD/DR costs.

Figure G-5 DoD BRAC Restoration Funding Trends by Cleanup Phase**



* Due to rounding, subtotals may not equal fiscal year totals.
 † Does not include planning or compliance costs.
 ‡ Includes BRAC 2005 costs beginning in FY2007.

Army

Army cleanup programs are a vital element of its sustainability ethic because these programs build trust with the American public. In FY2008, the Army obligated a total of \$529.3 million for restoration activities, excluding compliance and planning, a \$1.9 million increase from FY2007. Approximately 83 percent of total funding, or \$437.4 million, was invested in restoration at active installations.

The Army allocated \$396.2 million and \$41.2 million for IRP and MMRP activities at active installations, respectively. As Figure G-6 shows, this marks a \$34.6 million increase in spending from FY2007. Since FY2004, the ER IRP has grown by 3 percent. The ER MMRP funding at active sites has grown to comprise 9 percent of total ER funding in FY2008.

Funding for restoration at Army BRAC installations decreased to \$91.9 million in FY2008, compared with \$124.6 million in FY2007. Figure G-7 illustrates the Army's BRAC restoration budget trends for IRP sites and MRSs. Since FY2004, restoration funding at BRAC installations has increased by \$32.5 million. During this time, MMRP funds have increased from \$22.2 million to \$54.0 million in FY2007 and to \$33.8 million in FY2008. This increase reflects the Army's commitment to characterize property for cleanup and transfer to communities.

Figure G-6 Army ER IRP and MMRP Funding Trends

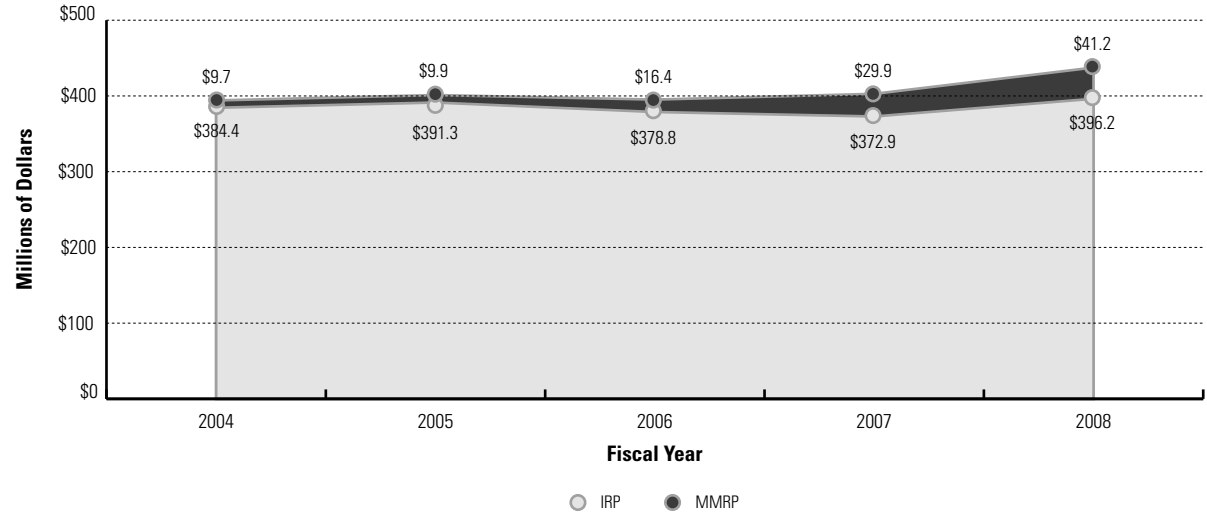
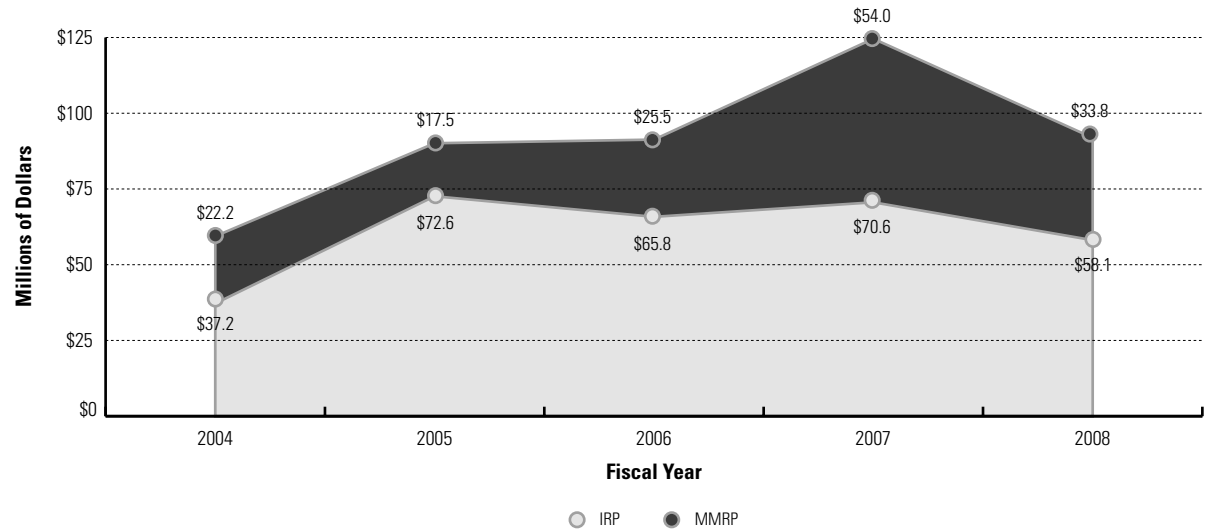


Figure G-7 Army BRAC IRP and MMRP Funding Trends†



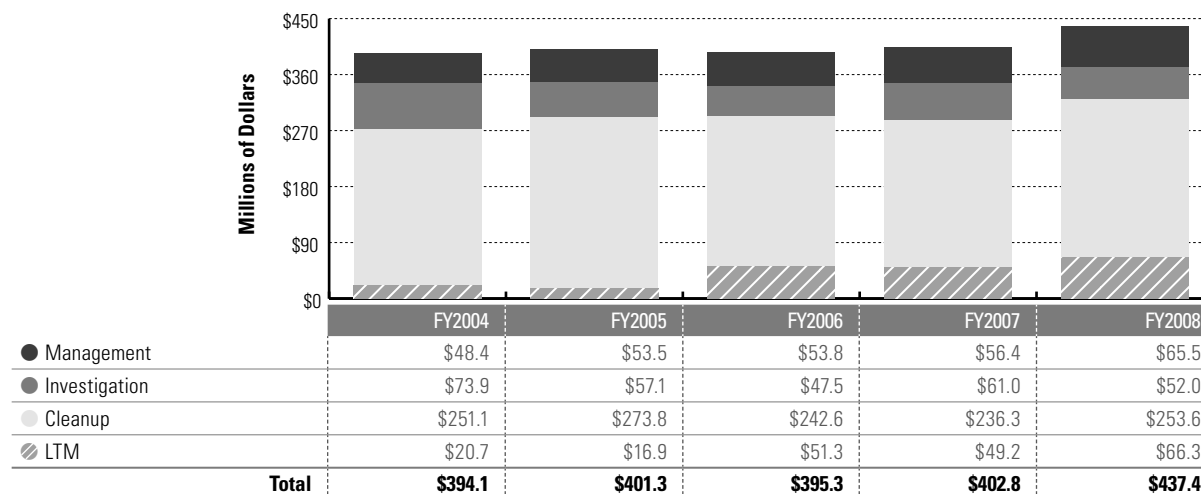
* Does not include planning or compliance costs.

† Includes BRAC 2005 costs beginning in FY2007.

Figure G-8 shows the Army's ER funding trends by cleanup phase. Of the overall Army ER budget, \$253.6 million, or 58 percent, of the funds were obligated for cleanup activities, and 12 percent went toward investigation activities. The \$9 million decrease in investigation spending was accompanied by a \$17.3 million increase in cleanup activities from FY07 to FY08.

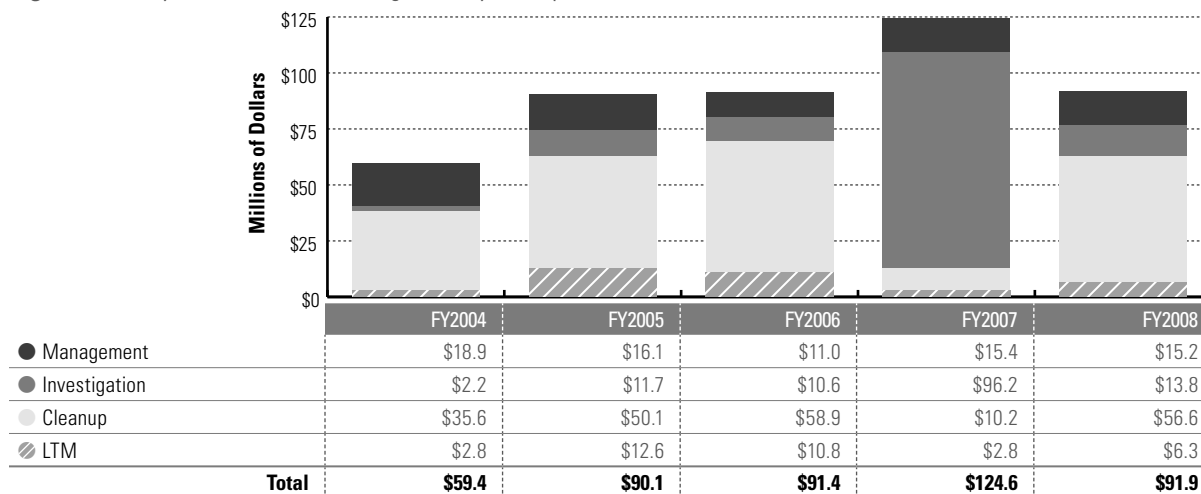
Figure G-9 shows the Army BRAC Restoration funding trends by cleanup phase. In FY08 the Army obligated 62 percent of its BRAC restoration funding to cleanup activities. As expected, this increase of funds expended on cleanup activities occurred with a decrease in investigation costs. Overall, FY2008 BRAC Restoration expenditures remained consistent with Army BRAC's relatively steady funding levels to support BRAC 2005 closures and realignments.

Figure G-8 Army ER Funding Trends by Cleanup Phase*



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

Figure G-9 Army BRAC Restoration Funding Trends by Cleanup Phase††



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

† Does not include planning or compliance costs.

‡ Includes BRAC 2005 costs beginning in FY2007.

Navy and Marine Corps

The Department of the Navy's (DON's) restoration budget, which includes ER and BRAC funds for the Navy and Marine Corps, totaled \$622.4 million in FY2008, excluding compliance and planning costs at BRAC locations. Figures G-10 and G-11 show how DON has historically used ER and BRAC funding respectively, for the IRP and MMRP. DON obligated \$313.0 million in ER funding in FY2008, \$261.2 million for IRP, and \$51.7 million for MMRP. Although ER funding for the IRP has remained relatively constant, the MMRP has grown from \$8.0 million in FY2004 to \$51.7 million in FY2008. The MMRP received 17 percent of DON's total ER funding during FY2008. This significant increase was largely attributable to DON's efforts to meet DoD's goals for 100% completion of all preliminary assessments by FY2007 and all site inspections by FY2010.

In FY2008, \$309.5 million of DON's BRAC Restoration funding was obligated: \$284.3 million for IRP and \$25.2 million for MMRP. Total DON FY2008 BRAC funding marks a \$114.7 million increase from FY2007 and is at its highest level in recent years. In FY2006, land sale revenue (LSR) was approved and authorized to support BRAC environmental work. Both LSR and budget funds continue to support BRAC environmental work from FY2006 through FY2008.

Relative to the total BRAC budget, the MMRP exhibited its greatest increase to date in FY2008 to \$25.2 million, or 8 percent of the total DON BRAC budget, which is up from 4 percent in FY2007.

Figure G-10 Navy and Marine Corps ER IRP and MMRP Funding Trends

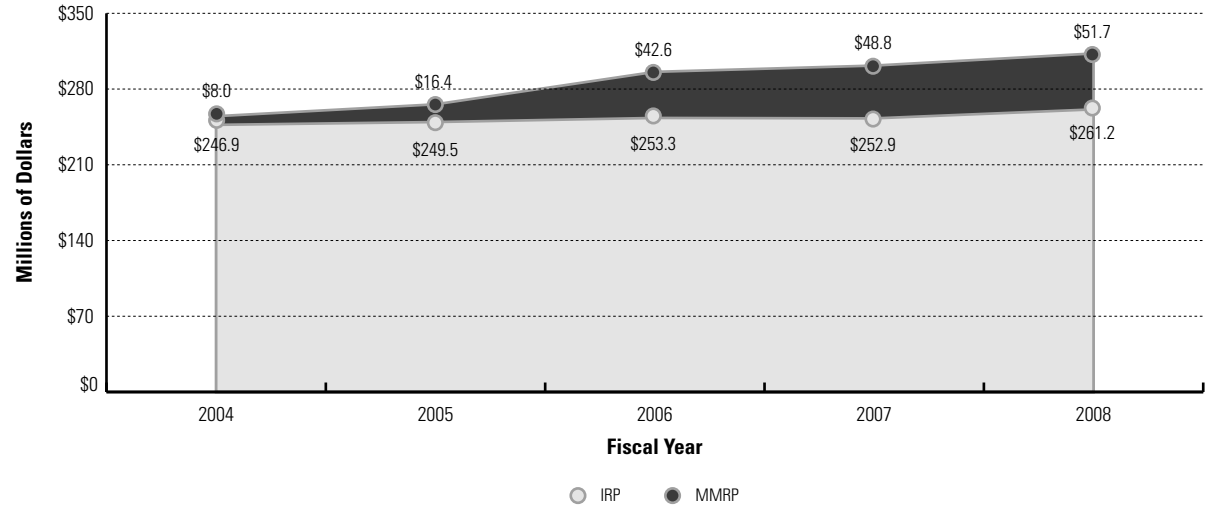
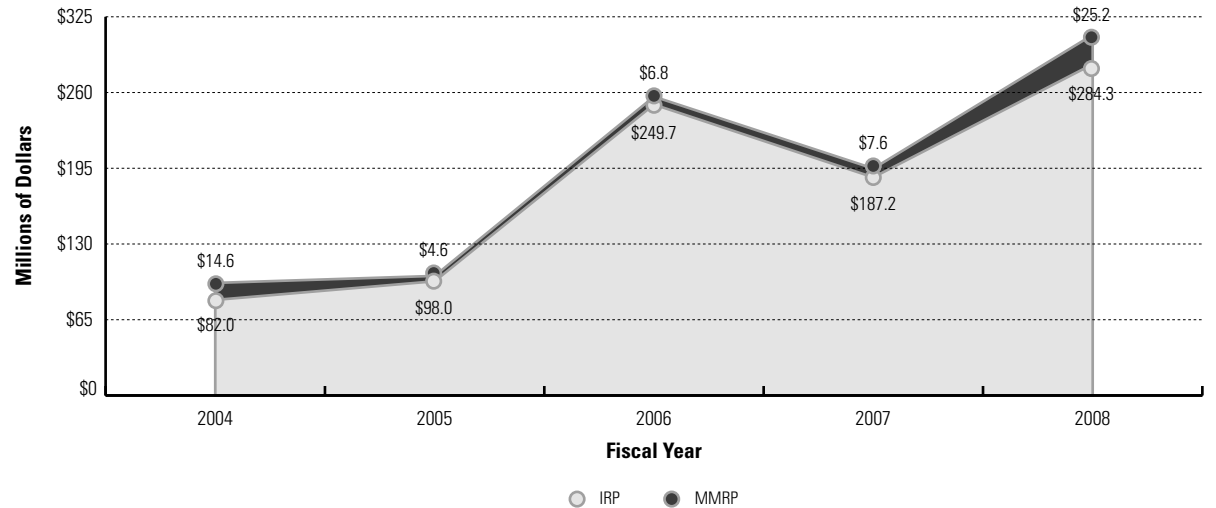


Figure G-11 Navy and Marine Corps BRAC IRP and MMRP Funding Trends^{††}

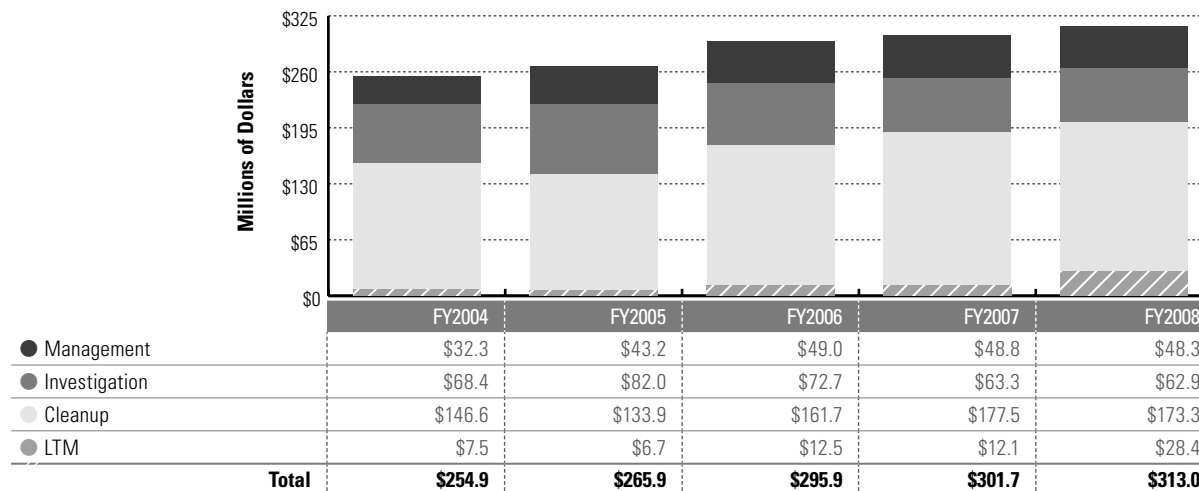


- * Does not include planning or compliance costs.
- † Includes BRAC 2005 costs beginning in FY2007.
- †† Includes land sale revenue.

Figure G-12 illustrates DON's ER funding distributions by cleanup phase. From FY2004 to FY2008, ER funds have been relatively constant by cleanup phase. In FY2008, DON obligated \$173.3 million, or 55 percent of total ER funding, toward cleanup activities. A slight decrease in investigation activities and an increase LTM accompanied this decline.

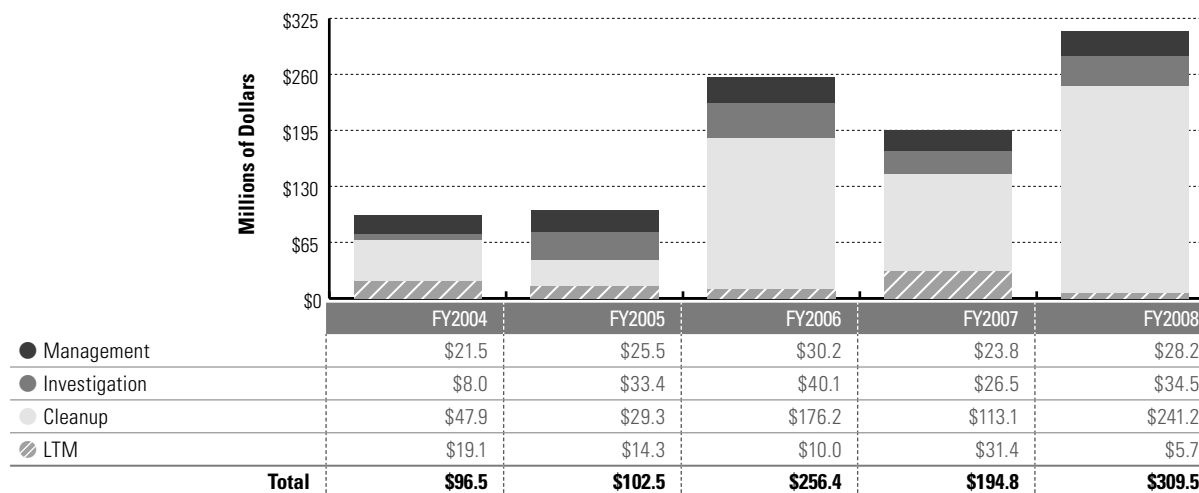
Figure G-13 illustrates DON's BRAC Restoration funding distributions by cleanup phase. In FY2008, \$241.2 million, or 78 percent, of DON's BRAC environmental cleanup funding was obligated, a larger amount than spent in each of the previous 4 years. This was attributable to previous FY funds that were obligated for BRAC cleanup in FY2008. Funding for LTM dropped in FY2008 to its lowest level in the last 4 years, while investigation funding increased by \$8 million. Funding for program management activities has generally remained constant, though decreasing in percentage of total budget since FY2004.

Figure G-12 Navy and Marine Corps ER Funding Trends by Cleanup Phase*



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

Figure G-13 Navy and Marine Corps BRAC Restoration Funding Trends by Cleanup Phase†‡§



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

† Does not include planning or compliance costs.

‡ Includes BRAC 2005 costs beginning in FY2007.

§ Includes land sale revenue and prior year funding executed during the reporting year.

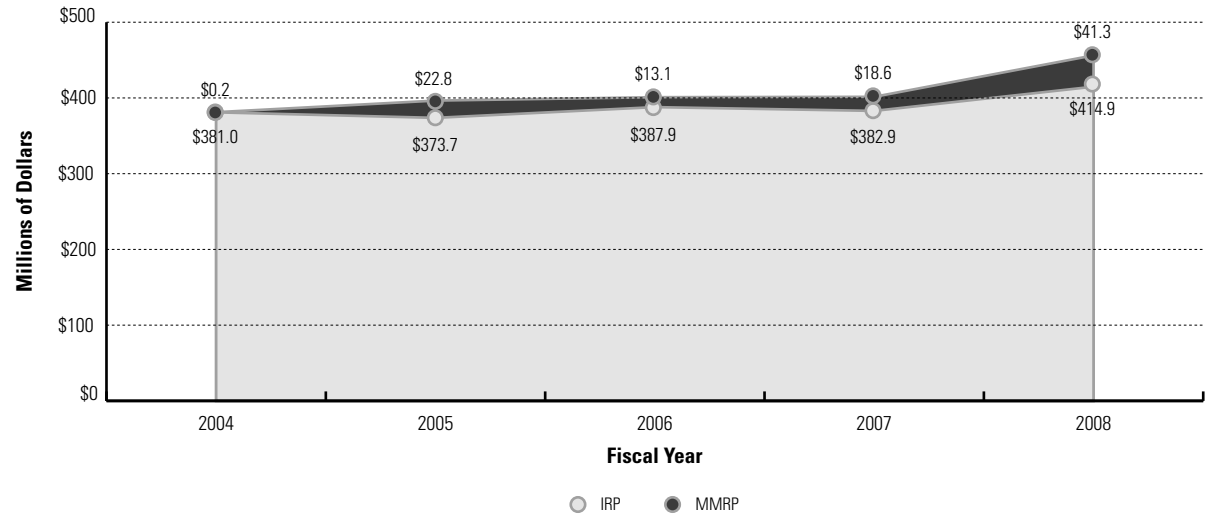
Air Force

The Air Force obligated \$576.3 million for installation restoration activities in FY2008, excluding compliance and planning activities at BRAC locations. Funds obligated for active installations totaled \$456.2 million, whereas those for BRAC installations were \$120.1 million.

ER funding has increased steadily for the Air Force, increasing by 20 percent from FY2004 to FY2008. As Figure G-14 shows, the Air Force invested \$414.9 million of ER funding in IRP sites, marking an increase in spending of 9 percent since FY2004. The Air Force also increased its MMRP spending to \$41.3 million. In FY2004, the Air Force was in preliminary stages of identifying its MMRP requirements. Since then, the MMRP has grown to 9 percent of Air Force's total ER funding in FY2008.

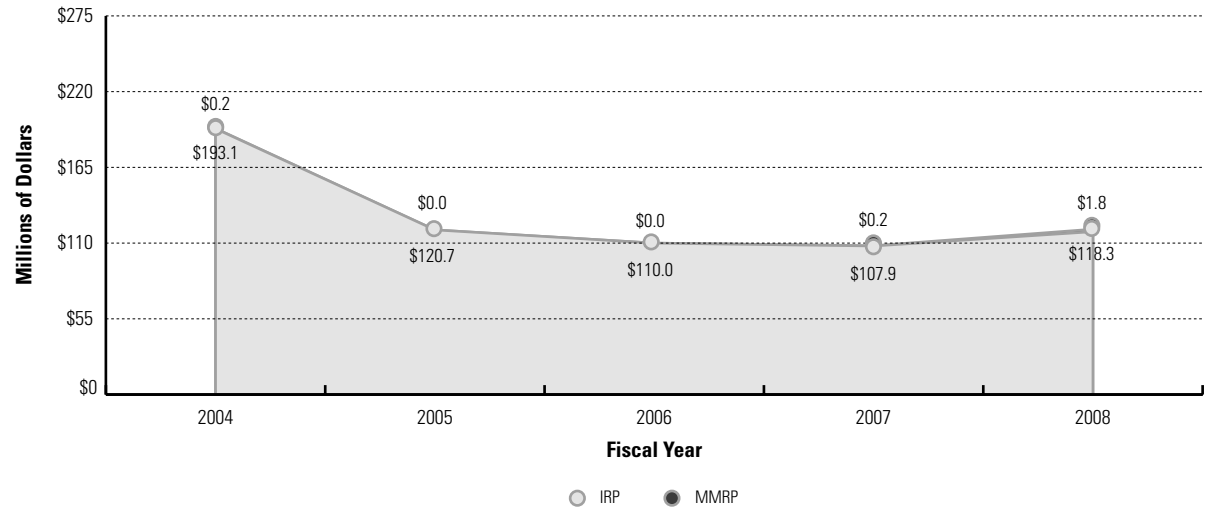
In FY2008, Air Force BRAC Restoration funding was \$120.1 million, with \$118.3 million for the IRP, and \$1.8 million for the MMRP. Total funding increased from \$108.1 million in FY2007, but as Figure G-15 exhibits, Air Force BRAC funding has decreased by 38 percent since FY2004. This decrease was the result of program maturation, coupled with innovative contracting techniques, such as performance-based contracts. The increase in funding from FY2007 to FY2008 can be attributed to Air Force's efforts to continue to move sites through the cleanup phases.

Figure G-14 Air Force ER IRP and MMRP Funding Trends*



* Includes BD/DR costs.

Figure G-15 Air Force BRAC IRP and MMRP Funding Trends†



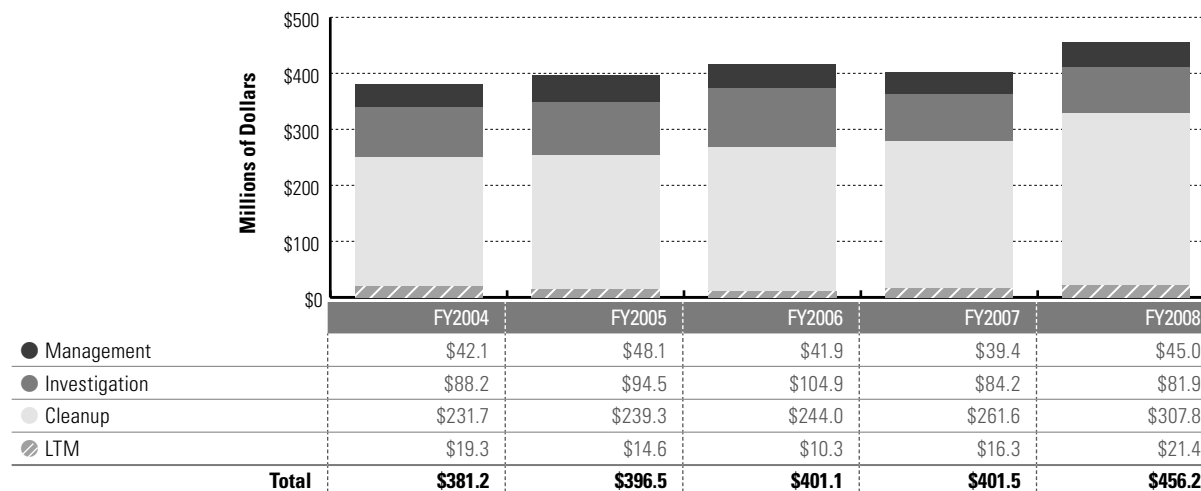
* Does not include planning or compliance costs.

† Includes BRAC 2005 costs beginning in FY2007.

Figure G-16 shows the distribution of ER funding by cleanup phase. Funding for ER cleanup activities continued its steady growth since FY2004, and constituted \$307.8 million, or 67 percent of Air Force's budget at active installations in FY2008. The Air Force also obligated \$81.9 million, or 18 percent of total ER funding on investigation in FY2008.

The distribution of BRAC Restoration funding by cleanup phase is illustrated in Figure G-17. Of the overall BRAC budget, the Air Force obligated \$73.2 million, or 61 percent, to cleanup activities. Management activities increased by 21 percent, and investigation funding increased by 20 percent from FY2007. Although funding has generally decreased since FY2004, funding allocated to LTM has increased by 65 percent.

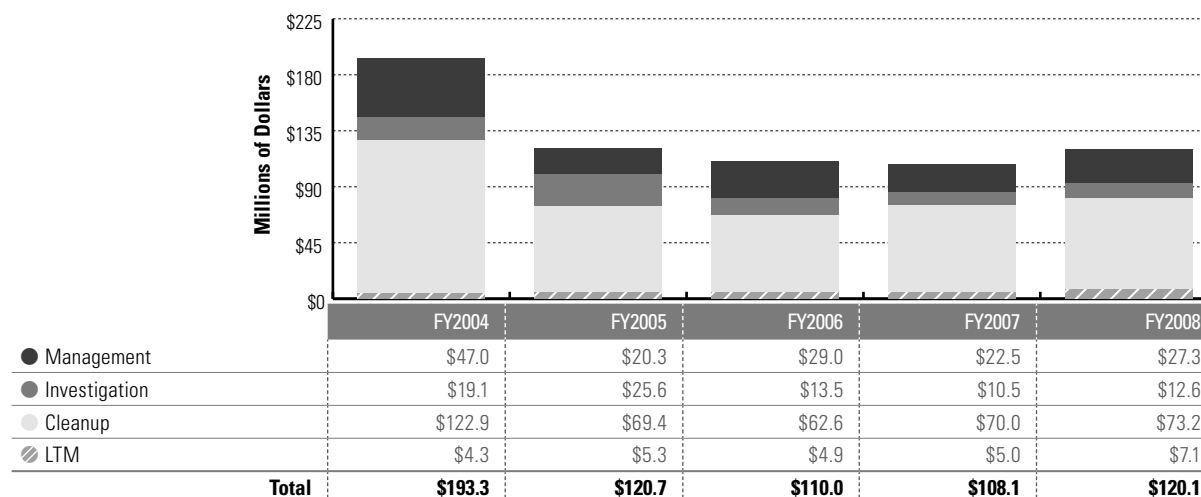
Figure G-16 Air Force ER Funding Trends by Cleanup Phase*†



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

† Includes BD/DR costs

Figure G-17 Air Force BRAC Restoration Funding Trends by Cleanup Phase**



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

† Does not include planning or compliance costs.

‡ Includes BRAC 2005 costs beginning in FY2007.

DLA

During FY2008, the Defense Logistics Agency (DLA) obligated \$14.9 million for restoration activities. Figures G-18 and G-19 show DLA ER and BRAC IRP funding trends, respectively. To date, DLA has not identified any MRSs at its installations.

The FY2008 budget included \$11.3 million for active restoration activities and \$3.6 million for BRAC restoration activities. Since FY2004, funding had decreased significantly. DLA's ER IRP funding increased in FY2006 due to improved cost estimating through the cost to complete process that led to optimization of restoration projects at multiple field activities. Additionally, select restoration requirements were forward funded in an effort to expedite the cleanup process in FY2006. Subsequently, the DLA ER funding has continued its downward trend, attributed to DLA's progress toward achieving restoration goals and reducing the amount of cleanup required. In FY2008, ER funding was 41 percent lower than in FY2004.

Similarly, BRAC Restoration funding in FY2008 was 63 percent less than in FY2004. While there was an increase in total funding from FY2006 to FY2007, this increase was in large part due to an increase in anticipated costs to remediate groundwater contamination at BRAC IV sites Defense Depot Memphis Tennessee, and Defense Supply Center Philadelphia.

Projections for DLA's restoration budget for FY2009 and FY2010 suggest budget reductions to \$12.3 million and \$10.7 million, respectively, continuing its overall downward trend.

Figure G-18 DLA ER IRP Funding Trends

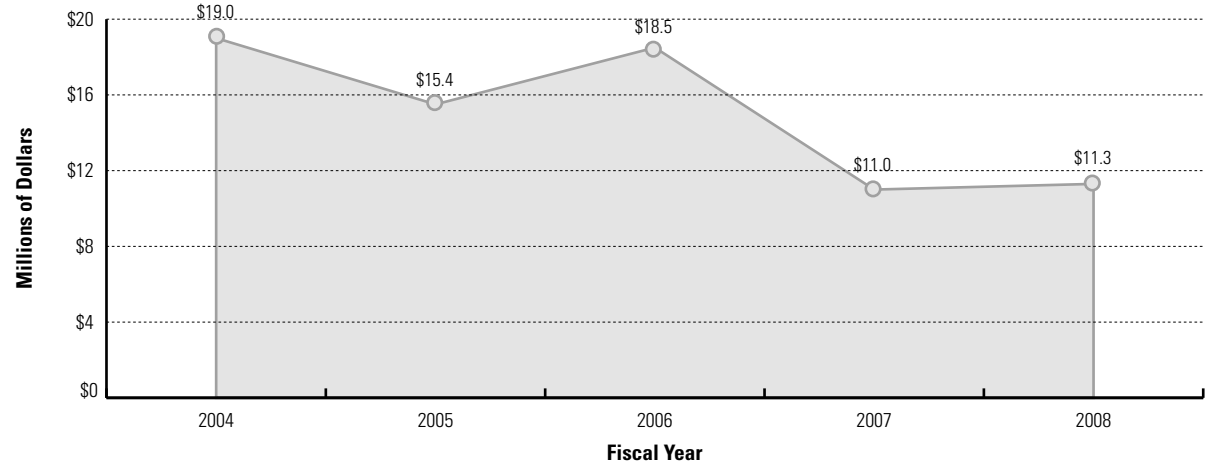
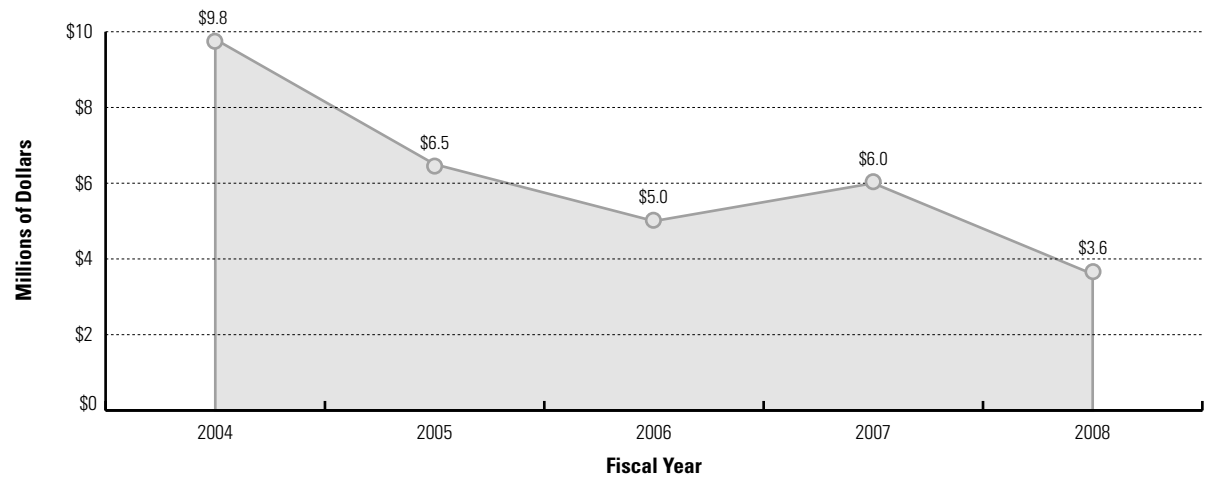


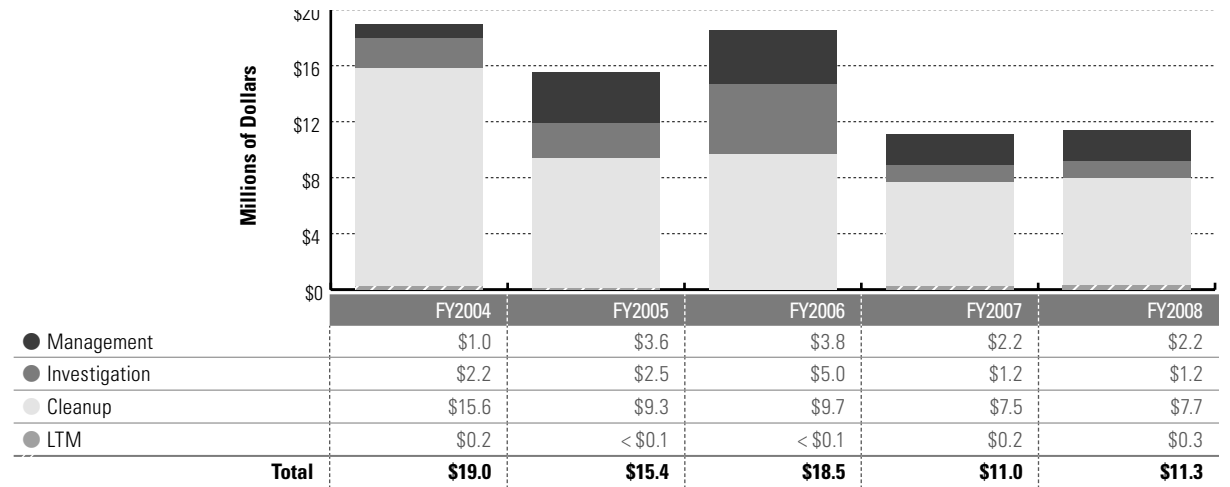
Figure G-19 DLA BRAC IRP Funding Trends*



* Does not include planning or compliance costs.

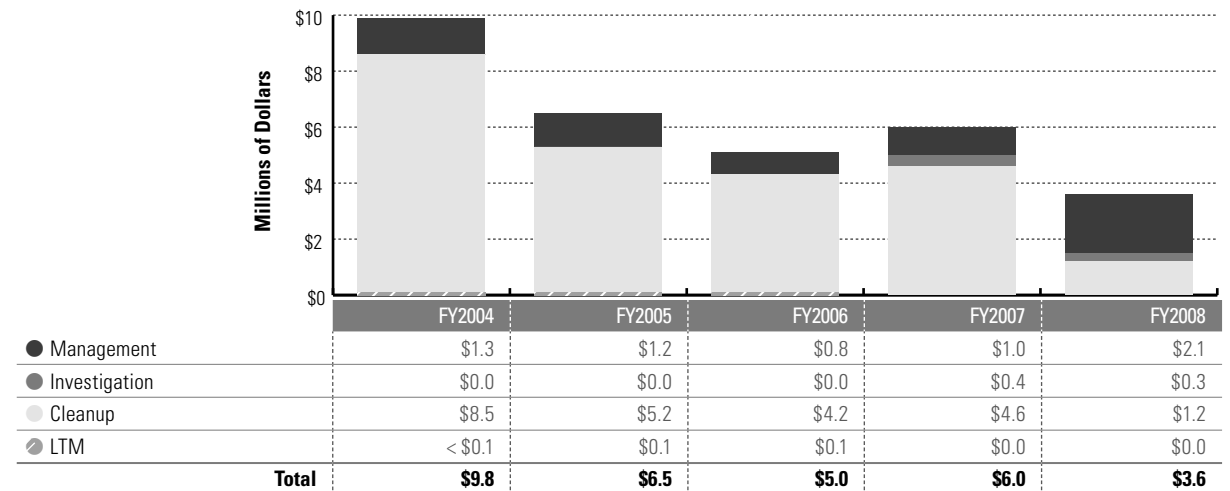
Figures G-20 and G-21 display DLA's ER and BRAC Restoration funding trends by cleanup phase, respectively. Of the \$11.3 million obligated to active installations, DLA allocated \$7.7 million, or 68 percent, for cleanup activities and \$1.2 million, or 11 percent, for site investigations. DLA obligated the remaining funds for LTM and program management. For the BRAC program, DLA obligated \$1.2 million, or 33 percent, for cleanup activities. DLA obligated the remaining funds for investigations and program management.

Figure G-20 DLA ER Funding Trends by Cleanup Phase*



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

Figure G-21 DLA BRAC Restoration Funding Trends by Cleanup Phase**



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

† Does not include planning or compliance costs.

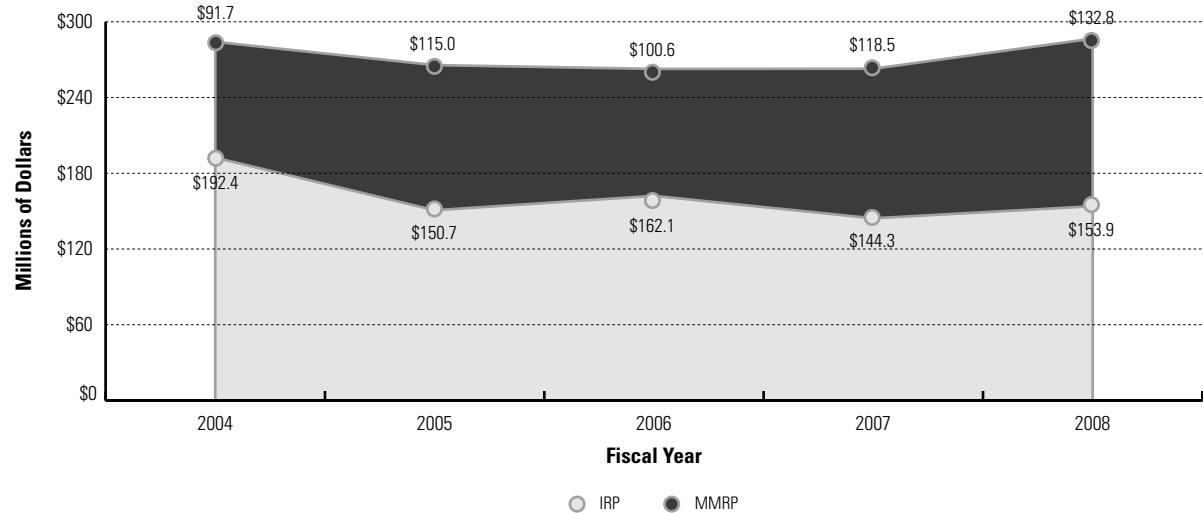
‡ Includes BRAC2005 costs beginning in FY2007.

FUDS

In FY2008, the U.S. Army Corps of Engineers (USACE), which oversees the FUDS program, obligated \$286.7 million for restoration activities at FUDS properties: \$153.9 million and \$132.8 million for IRP sites and MRSs, respectively. Figure G-22 shows FUDS ER funding trends since FY2004 by IRP and MMRP. Overall funding has generally remained constant, with the MMRP exhibiting a higher growth rate than the IRP. Since FY2004, funding for the MMRP has increased by \$41.1 million, representing 46 percent of FUDS restoration funding in FY2008. USACE appropriated \$258.6 million for restoration activities for FY2009 and requested \$267.7 million for FY2010.

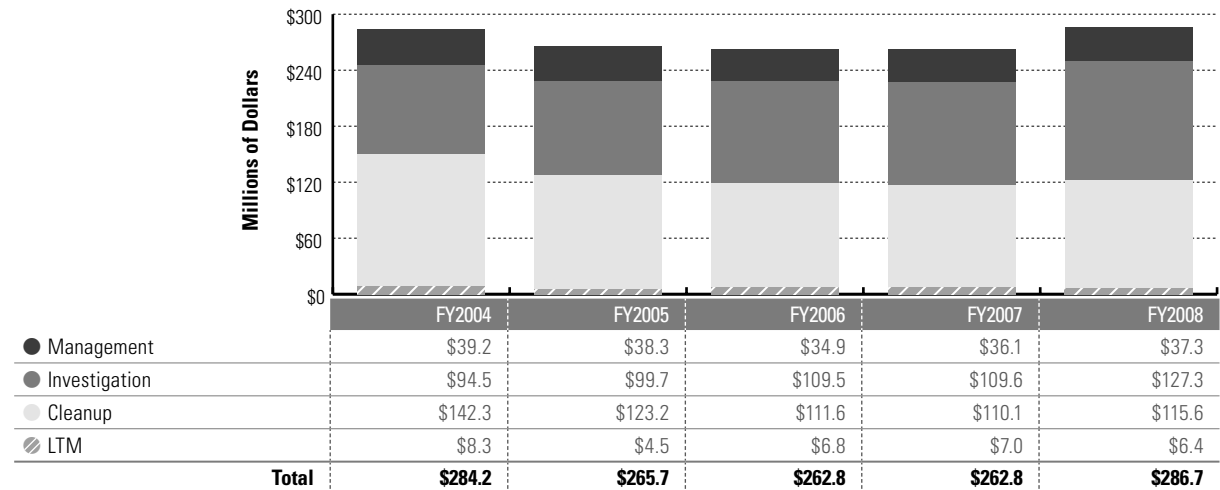
Figure G-23 illustrates FUDS Restoration funding by cleanup phase. DoD designated \$115.6 million, or 40 percent of its ER budget for cleanup actions at FUDS properties, and \$127.3 million to investigation activities, the largest amount allocated for this phase since FY2004. The significant amount allocated to investigations is attributed to the large number of MRSs that require further site characterizations. USACE used the remaining funds for LTM activities and program management.

Figure G-22 FUDS ER IRP and MMRP Funding Trends*



* Includes BD/DR costs.

Figure G-23 FUDS ER Funding Trends by Cleanup Phase†



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

† Includes BD/DR costs.