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# Army Corps Supplemental Appropriations: Recent History, Trends, and Policy Issues

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## Summary

Under its civil works program, the U.S. Army Corps of Engineers (Corps) plans, builds, operates, and maintains a range of water resource facilities. The Corps also plays a prominent role in responding to domestic natural disasters, in particular riverine and coastal flooding. In some years, natural disasters have resulted in Corps response, repair, and recovery activities with costs running into the billions of dollars. Congress has provided most of these funds through supplemental appropriations. For example, in 2016, as part of P.L. 114-254, Congress provided the Corps with \$1.026 billion in supplemental funding for the agency to respond to “recent natural disasters.” From 2005 to 2016, Congress appropriated \$31.4 billion in supplemental funding directly to the Corps; these funds amounted to more than half of the amount provided to the Corps in regular appropriations over that same period.

At issue for Congress after a disaster is whether to provide funds to the Corps and, if so, how much funding to include and for which Corps accounts and activities. In providing supplemental funding, Congress also may consider associated issues, such as whether to maintain standard nonfederal cost-sharing requirements, whether to include reporting and transparency requirements for this funding, and what type of flood damage reduction efforts to support (e.g., repair of existing infrastructure, construction of new infrastructure, etc.). At issue for Congress more broadly is the effectiveness, efficiency, and fairness of the ad hoc supplemental process after a particular disaster or set of disasters as a means of addressing the nation’s flood risk and flood recovery challenges.

**Corps Authorities.** The Corps can assist in flood fighting at the discretion of its Chief of Engineers to protect life and property, principally when state resources are overwhelmed. The Corps is also authorized to protect and repair its own facilities in the event of flooding and to operate a program, the Rehabilitation and Inspection Program (RIP), which funds the repair of participating nonfederal flood-control works (e.g., levees, dams, dunes) damaged by natural events. Additionally, the Corps undertakes a variety of other activities at the request of the Federal Emergency Management Agency (FEMA) under the National Response Framework. These FEMA activities are outside the scope of this report.

**Corps Supplemental Funding History.** Congress provided \$31.4 billion to the Corps through supplemental appropriations acts enacted between 2005 and 2016. Of this amount, \$27.2 billion (87%) was for responding to flooding and other natural disasters. The majority of this funding related to Hurricane Katrina and other 2005 storms (approximately \$16 billion) and to Hurricane Sandy in 2012 (\$5.3 billion). In addition to the disaster funding, Congress has provided the Corps with non-disaster supplemental funds, including \$4.6 billion under the American Recovery and Reinvestment Act (ARRA; P.L. 111-5) and \$39 million for facility security and other expenditures.

**Corps Accounts Receiving Supplemental Funds.** Corps natural disaster supplemental appropriations have been funded largely through two accounts: Flood Control and Coastal Emergencies (FCCE; i.e., flood fighting, repairs to damaged nonfederal flood-control projects) and Operations and Maintenance (O&M; i.e., repairs to Corps projects). Nonfederal cost sharing for FCCE and O&M typically has not been required, with some exceptions. In some instances, Congress also has provided funding for other Corps accounts, such as the Construction account and the Mississippi Rivers and Tributaries account. Maintaining or waiving local cost-sharing requirements for construction funding in particular have varied among individual bills. Hurricane Katrina funding generally required local cost sharing for construction investments, whereas funding to complete “ongoing” construction (but not new construction) after Hurricane Sandy received a waiver from local cost-sharing requirements.

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## Introduction

Under its civil works program, the U.S. Army Corps of Engineers (Corps) plans, builds, operates, and maintains a wide range of water resource facilities. The Corps also undertakes flood-fighting activities and other natural disaster response activities at its water resource facilities and nonfederal flood control structures. These emergency activities have been authorized by Congress and generally have been funded by supplemental appropriations, which have been significant relative to annual Corps appropriations since 2005.

From 1987 to 2016, Congress has appropriated approximately \$33.2 billion in Corps supplemental appropriations. Of this total, Congress provided \$31.4 billion from 2005 to 2016, which was significant relative to the agency's regular (i.e., non-supplemental) annual appropriations over that period (approximately \$55 billion). The majority of Corps supplemental appropriations funded the agency's flood-fighting activities and repairs to damaged nonfederal flood-control and federal water resources projects. However, Congress also provided \$5.0 billion for post-Hurricane Katrina improvements and \$4.6 billion as part of the American Recovery and Reinvestment Act of 2009 (ARRA; P.L. 111-5). Most recently, P.L. 114-254 provided the Corps with \$1.24 billion in supplemental funding to respond to natural disasters.

The majority of Corps natural disaster supplemental appropriations have been for activities funded by two accounts: Flood Control and Coastal Emergencies (FCCE; i.e., flood fighting, repairs to damaged nonfederal flood-control projects) and Operations and Maintenance (O&M; i.e., repairs to Corps projects). Nonfederal cost sharing for FCCE and O&M typically has not been required, with some exceptions. Congress also has provided supplemental funding for other Corps accounts, such as the Mississippi River and Tributaries (MR&T) account and the Construction account.

In the wake of major flooding and other natural disasters, Congress often considers whether to provide supplemental appropriations to the Corps and other agencies. Proponents of providing supplemental funding often argue that these investments are significant for recovery efforts and should be given special consideration by Congress (e.g., designated as emergency funding and not requiring budgetary offsets). Others argue that the annual appropriations process is the more appropriate forum for deciding on federal flood damage reduction investments, contending that post-disaster investments should be subject to the same project-development and cost-sharing requirements as other similar Corps projects and should compete in the Corps' annual budget-development process.

This report analyzes Corps supplemental funding. The report focuses on recent supplemental funding provided directly to the Corps; it does not include extensive analysis of regular Corps appropriations or other agencies. Apart from Corps disaster response, the Federal Emergency Management Agency (FEMA) has extensive authority to assist and coordinate disaster response actions under the National Response Framework, and FEMA receives significant regular and supplemental appropriations for this work.<sup>1</sup> Although the Corps performs work under some mission assignments for FEMA (i.e., funded by FEMA, under FEMA's direction), that work is not considered in this report.

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<sup>1</sup> For more on the Federal Emergency Management Agency's (FEMA's) coordinating role, see CRS Report R41981, *Congressional Primer on Responding to Major Disasters and Emergencies*, by (name redacted) and (name redacted).

## **Supplemental Funding of Corps Accounts**

The majority of natural disaster-related supplemental appropriations generally are placed into one of the following four Corps budget accounts based on the type of activity funded.

### **Flood Control and Coastal Emergencies Account**

The FCCE account is the primary account through which the Corps funds disaster-related activities. The primary activities funded under FCCE are flood fighting (e.g., sandbagging), emergency preparedness and response, and repair of damaged nonfederal flood and hurricane protection projects.<sup>2</sup> Congress authorized the Corps in the Flood Control Act of 1941 (33 U.S.C. §701n) to assist in flood fighting and flood response. The Corps can assist in flood fighting at the discretion of its Chief of Engineers to protect life and property, principally when state resources are overwhelmed. Congress also authorized the Corps to operate the Rehabilitation and Inspection Program (RIP, also known as the P.L. 84-99 program) to fund the repair of participating nonfederal flood-control works (e.g., levees, dams, dunes) damaged by natural events. Repairs under this program are funded by the Corps' FCCE account. Congress also has directed the Corps to use supplemental funds to repair and rebuild federally owned flood-control and other projects (e.g., navigation projects) through the agency's O&M and Construction accounts.

In the event of an emergency, Congress has given the Secretary of the Army (generally delegated to the Assistant Secretary of the Army [Civil Works]) discretion to transfer from existing appropriations the monies necessary for the emergency work referenced above, until funds become available in the applicable account through supplemental appropriations or other avenues.<sup>3</sup> In recent floods, the Corps has exercised this authority to transfer regular annual appropriations from ongoing projects (i.e., projects funded by regular appropriations) to pay for emergency actions. The Corps has then internally reimbursed itself for this funding once supplemental appropriations have become available.

### **Operations and Maintenance Account**

The O&M account funds activities related to existing Corps projects, including upkeep of physical infrastructure and other activities (i.e., dredging of ports and waterways). Common disaster activities funded under this account include repair of damaged federally operated flood and hurricane protection projects (e.g., dams, levees, floodwalls) and dredging of authorized federal navigation channels.

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<sup>2</sup> The Corps may receive annual appropriations in the Flood Control and Coastal Emergencies (FCCE) account in anticipation of natural disasters. However, Congress generally has not provided funding for the Corps in advance of major disasters; instead, the majority of FCCE funding has come through supplemental appropriations. Since 2003, the FCCE account has received a total of \$68 million in regular annual appropriations. Congress provided the Corps with funding for the FCCE account in regular appropriations in FY2012 (\$112 million), 2013 (\$26 million), 2014 (\$28 million), and 2015 (\$28 million). Prior to FY2012, no regular appropriations had been provided for the FCCE account since FY2003.

<sup>3</sup> 33 U.S.C. §701n.

## Mississippi River and Tributaries Account

The MR&T account consists of flood-control and navigation projects for the lower Mississippi River Valley. Supplemental expenditures under this account consist primarily of repair to damaged MR&T levees, floodways, and other project features.

## Construction Account

The Construction account funds new project construction and major upgrades to existing projects. Supplemental construction funding has been used at times to improve flood protection provided by existing projects and for new construction projects to increase protection.

## Analysis of Corps Supplemental Appropriations

Congress has provided the Corps with approximately \$33.2 billion (nominal dollars) in supplemental funding in 26 laws enacted between 1987 and 2016.<sup>4</sup> Of this total, \$31.4 billion was provided in 12 appropriations laws enacted between 2005 and 2016. Adjusting prior-year appropriations for inflation, Congress provided the Corps with approximately \$38 billion (in 2016 dollars) in supplemental appropriations between 1987 and 2016. Of this total, 92% was provided between 2006 and 2016.

Individual supplemental appropriations acts over the last 29 years that provided funding to the Corps are shown below in **Table 1**. Supplemental appropriations also are shown by year in **Figure 1** and broken down by account for three major events in **Figure 2**.

The discussion below differentiates between four types of supplemental funding that the Corps received:

- funding for the 2005 hurricanes;
- funding for Hurricane Sandy response and recovery;
- funding for “all other” hurricanes and other natural disasters; and
- funding for other non-disaster purposes, such as economic recovery and facility security.

Separately, the **Appendix** lists the disaster events that have been explicitly referenced in enacted supplemental appropriations since 2003.

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<sup>4</sup> CRS analysis using enacted supplemental appropriations bills and data provided by the Corps.

**Table I. Corps Supplemental Appropriations by Public Law, 1987-2016**

(nominal dollars in millions)

<b>Public Law (Year Enacted)</b>	<b>General Expenses</b>	<b>Investigations</b>	<b>Construction</b>	<b>MR&amp;T</b>	<b>O&amp;M</b>	<b>FCCE</b>	<b>FUSRAP</b>	<b>Total</b>
(2016)	—	—	\$55	\$291	\$260	\$420	—	<b>\$1,026</b>
P.L. 113-2 (2013)	10	50	3,461	—	821	1,008	—	<b>5,350</b>
P.L. 112-77 (2011)	—	—	—	802	534	388	—	<b>1,724</b>
P.L. 111-212 (2010)	—	5	—	19	173	20	—	<b>217</b>
P.L. 111-32 (2009)	—	—	—	—	43	754	—	<b>797</b>
<i>P.L. 111-5 (2009)</i>	—	25	2,000	375	2,075	—	100	<b>4,575</b>
P.L. 110-329 (2009)	—	—	1,539	82	740	416	—	<b>2,777</b>
P.L. 110-252 (2008)	2	—	2,897	18	298	3,153	—	<b>6,367</b>
P.L. 110-28 (2006)	—	8	36	—	3	1,562	—	<b>1,609</b>
P.L. 109-234 (2006)	—	3	549	—	3	3,145	—	<b>3,700</b>
P.L. 109-148 (2006)	2	37	101	154	328	2,278	—	<b>2,899</b>
P.L. 109-62 (2005)	—	—	—	—	200	200	—	<b>400</b>
P.L. 108-324 (2004)	—	—	63	6	145	148	—	<b>362</b>
P.L. 108-83 (2003)	—	—	—	—	—	60	—	<b>60</b>
<i>P.L. 108-11 (2003)</i>	—	—	—	—	39	—	—	<b>39</b>
P.L. 107-206 (2002)	—	—	—	—	108	—	—	<b>108</b>
P.L. 107-20 (2001)	—	—	—	—	87	50	—	<b>146</b>
P.L. 106-246 (2000)	4	3	—	—	—	—	—	<b>7</b>
P.L. 105-174 (1998)	—	—	—	—	105	—	—	<b>105</b>
P.L. 105-18 (1997)	—	—	—	20	150	415	—	<b>585</b>
P.L. 104-134 (1996)	—	—	—	—	30	135	—	<b>165</b>

<b>Public Law (Year Enacted)</b>	<b>General Expenses</b>	<b>Investigations</b>	<b>Construction</b>	<b>MR&amp;T</b>	<b>O&amp;M</b>	<b>FCCE</b>	<b>FUSRAP</b>	<b>Total</b>
P.L. 104-208 (1996)	—	—	—	—	19	—	—	<b>19</b>
P.L. 103-211 (1994)	—	—	—	—	—	70	—	<b>70</b>
P.L. 103-50 (1993)	—	—	1	—	—	—	—	<b>1</b>
P.L. 102-368 (1992)	—	—	—	3	3	40	—	<b>46</b>
P.L. 101-302 (1990)	15	—	—	—	40	20	—	<b>75</b>
<b>Total Supplementals</b>	<b>28</b>	<b>133</b>	<b>10,705</b>	<b>1,778</b>	<b>6,204</b>	<b>14,281</b>	<b>100</b>	<b>33,230</b>

**Source:** Multiple appropriations bills (as shown in table), compiled by the Congressional Research Service (CRS).

**Notes:** Amounts do not include rescissions, transfers, or other reductions. Italicized lines indicate supplemental funding for purposes other than natural disaster response (the American Recovery and Reinvestment Act [ARRA; P.L. 111-5], was provided for economic recovery, and P.L. 108-11 was provided for facility security upgrades). A summary of individual locations receiving disaster funding is provided in the **Appendix** to this report.

MR&T = Mississippi River and Tributaries Account.

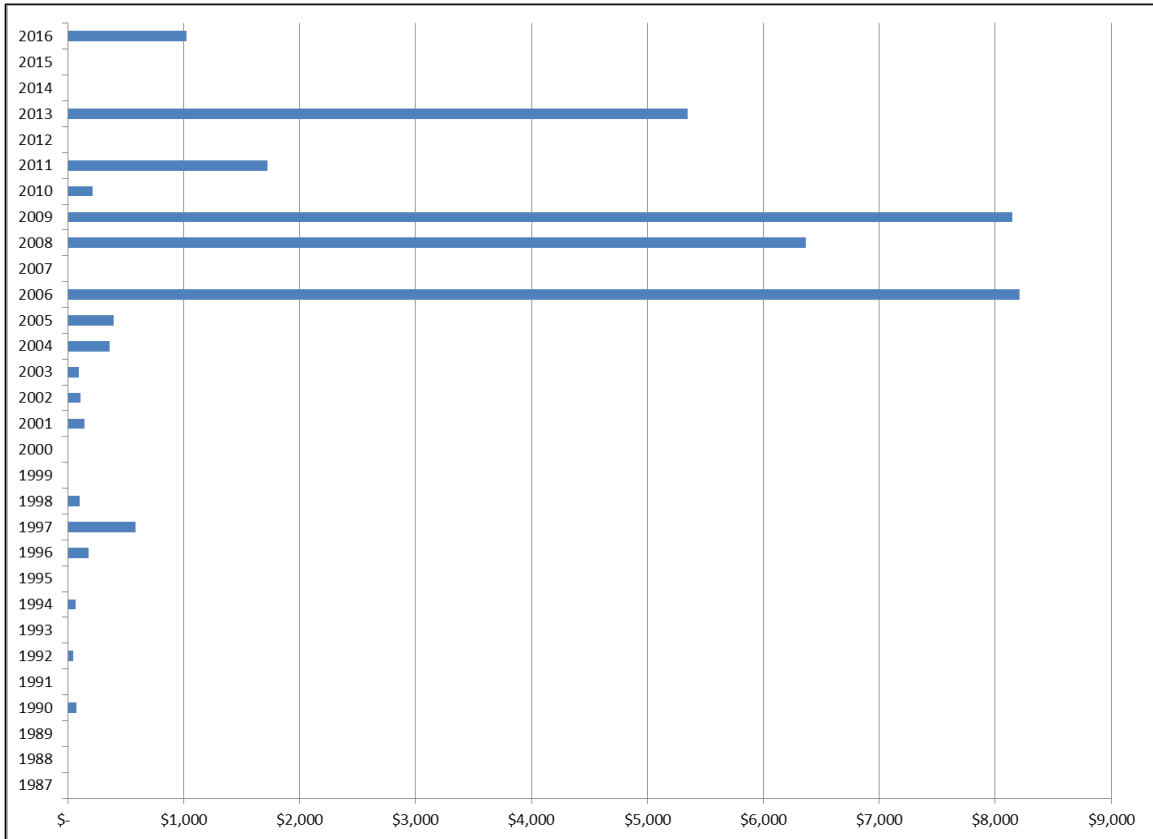
O&M = Operations and Maintenance Account.

FCCE = Flood Control and Coastal Emergencies Account.

FUSRAP = Formerly Utilized Sites Remedial Action Program.



**Figure I. Corps Supplemental Appropriations, 1987-2016**  
(nominal dollars in millions)



**Source:** CRS analysis of enacted supplemental appropriations bills.

**Notes:** Amounts do not include rescissions, transfers, or other reductions to initial appropriations. Amounts reflect both natural disasters and other supplemental appropriations (e.g., ARRA in 2009).

## 2005 Hurricanes

As noted above, the 2005 hurricanes (primarily Hurricane Katrina) account for much of Corps supplemental appropriations since 2003. The \$16 billion received for these storms is more than three times the size of the Corps’ annual civil works budget. These appropriations were provided in six separate supplemental appropriations bills passed between 2005 and 2009, and most of these funds were designated for rebuilding and in some cases significantly strengthening Corps facilities, principally in Southeast Louisiana. Approximately 94% of the supplemental funds appropriated for Corps hurricane response and recovery went to activities in Louisiana,<sup>5</sup> including \$14.5 billion for protective measures in Southeast Louisiana. These funds were used for significant repair and strengthening of 350 miles of levees and floodwalls in New Orleans and new surge-protection barriers, including the Inner Harbor Navigation Canal Surge Barrier, which is one of the largest surge barriers in the world.

Although the federal government funded 100% of the costs of FCCE and O&M infrastructure in Southeast Louisiana, most of the supplemental funds for construction projects were subject to federal-nonfederal cost-sharing requirements (generally a 65/35 federal/nonfederal split). That is,

<sup>5</sup> CRS analysis of data provided by the Army Corps of Engineers, July 2009.

the state of Louisiana is contributing \$1.7 billion, consisting of \$0.2 billion for real estate acquisition and \$1.5 billion for the state's cash-share contribution, for its share of the \$5.0 billion in improvements funded through supplemental appropriations to the Corps construction account. Under a specially negotiated arrangement, Louisiana's cash contribution initially was provided through federal appropriations and is being repaid over 30 years.<sup>6</sup>

Hurricane Katrina significantly damaged the Mississippi coast. In contrast to the congressional response to fund hurricane-protection construction through supplemental appropriations for Southeast Louisiana, Congress directed the Corps to develop a plan for how to protect coastal Mississippi. As part of a supplemental appropriations bill for the Corps (P.L. 109-148), Congress directed the Corps to design comprehensive improvements and modifications to Mississippi coastal counties to provide hurricane protection, prevent erosion, preserve fish and wildlife habitat, and achieve other purposes. This effort is known as the Mississippi Coastal Improvements Program (MsCIP). In a 2009 supplemental bill (P.L. 111-32), Congress authorized and funded \$439 million in Corps FCCE activities under this program. The Corps' final MsCIP plan was submitted to Congress for authorization in January 2010. Congress in the Water Resources Reform and Development Act of 2014 (P.L. 113-121) authorized an additional \$1.07 billion in MsCIP activities based on the final plan. These projects were planned in compliance with the standard 65% federal and 35% nonfederal cost share for this type of Corps construction project. Because Congress designated most of these funds for Hurricane Katrina recovery, the funds are generally not available to other projects or emergencies.<sup>7</sup>

## Hurricane Sandy, 2012

Other than the appropriations following the 2005 hurricanes, the largest supplemental appropriation for the Corps was under the Disaster Relief Appropriations Act of 2013 (P.L. 113-2), for response and recovery related to Hurricane Sandy's 2012 landfall. The act provided \$5.35 billion in supplemental appropriations to address damages caused by Hurricane Sandy and to reduce future flood risks in the areas impacted by the storm. Generally, funding under the O&M and FCCE accounts (\$821 million and \$1.008 billion, respectively) was to "address the consequences" of Hurricane Sandy. The majority of funding appropriated to the Construction account (\$2.9 billion of \$3.4 billion in this account) was set aside to "reduce future flood risks in ways that will support the long-term sustainability of the coastal ecosystem and communities and reduce the economic costs and risks associated with large-scale flood and storm events ... within the boundaries of the North Atlantic Division of the Corps that were affected by Hurricane Sandy."<sup>8</sup>

The supplemental appropriations received by the Corps for Hurricane Sandy included terms that were unique in a number of ways. Among other things, P.L. 113-2 allowed not only for the repair of damaged projects to pre-storm conditions but also for the restoration of some projects to their authorized "design profiles" (i.e., their original construction designs). Additionally, Congress made available funding in the Construction account for new construction projects (i.e., projects that were undergoing study or authorized for construction prior to the storm) but made release of

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<sup>6</sup> Testimony by L. G. Robert Van Antwerp, Chief of Engineers, before U.S. Congress, Senate Committee on Homeland Security and Governmental Affairs, Ad Hoc Subcommittee on Disaster Recovery, *Five Years Later: Examination of Lessons Learned, Progress Made, and Work Remaining from Hurricane Katrina*, 111<sup>th</sup> Cong., 2<sup>nd</sup> sess., August 26, 2010.

<sup>7</sup> Ongoing work in the region includes projects to reduce urban flood damage, nonfederal levee improvements, and work on the outfall canals into Lake Pontchartrain.

<sup>8</sup> See P.L. 113-2, Title II.

this funding dependent on the Corps publishing certain interim reports also required under the legislation.<sup>9</sup> Finally, the legislation waived cost-sharing requirements for ongoing construction projects (although it provided no such waiver for the aforementioned new construction projects).<sup>10</sup>

## **Other Supplementals: ARRA and Facility Security**

The Corps also has received supplemental funds for maintenance and facility upgrades. Specifically, the Corps received funding for facility security upgrades in 2002 and 2003 following the terrorist attacks of 2001. It also received funding for facility upgrades (including more than \$2 billion in the O&M account) and new project construction (\$2 billion in the construction account) under ARRA. A combined breakdown of this non-natural disaster-related supplemental funding is provided in **Figure 2**.

## **Other Flooding and Natural Disasters**

Outside of the aforementioned three sections (funding for response and repair related to the 2005 hurricane season, the 2013 landfall of Hurricane Sandy, and other non-disaster supplementals), between 1987 and 2016 Congress provided the Corps with approximately \$7.1 billion to respond to various other natural disasters (e.g., riverine and coastal flooding).<sup>11</sup> The vast majority of this funding was provided between 2005 and 2016.

A considerable portion of the funding for these other flood events was for Corps actions under the O&M account and the FCCE account (38% and 40%, respectively); the MR&T account received roughly 17% of these appropriations, as shown in **Figure 2**. Other than funding for Hurricane Sandy, the other most recent supplemental appropriation for the Corps (P.L. 114-254), passed in December 2016, is included in this category. That appropriation focused on repair to Corps facilities in response to flooding in Louisiana and in Florida (although neither state was explicitly referenced in the enacted legislation); the majority of these funds were for the MR&T and O&M accounts (specific account totals are available in **Table 1**). Similar to other Corps supplementals, these disaster response activities were primarily for Corps-owned and -operated facilities and waterways.

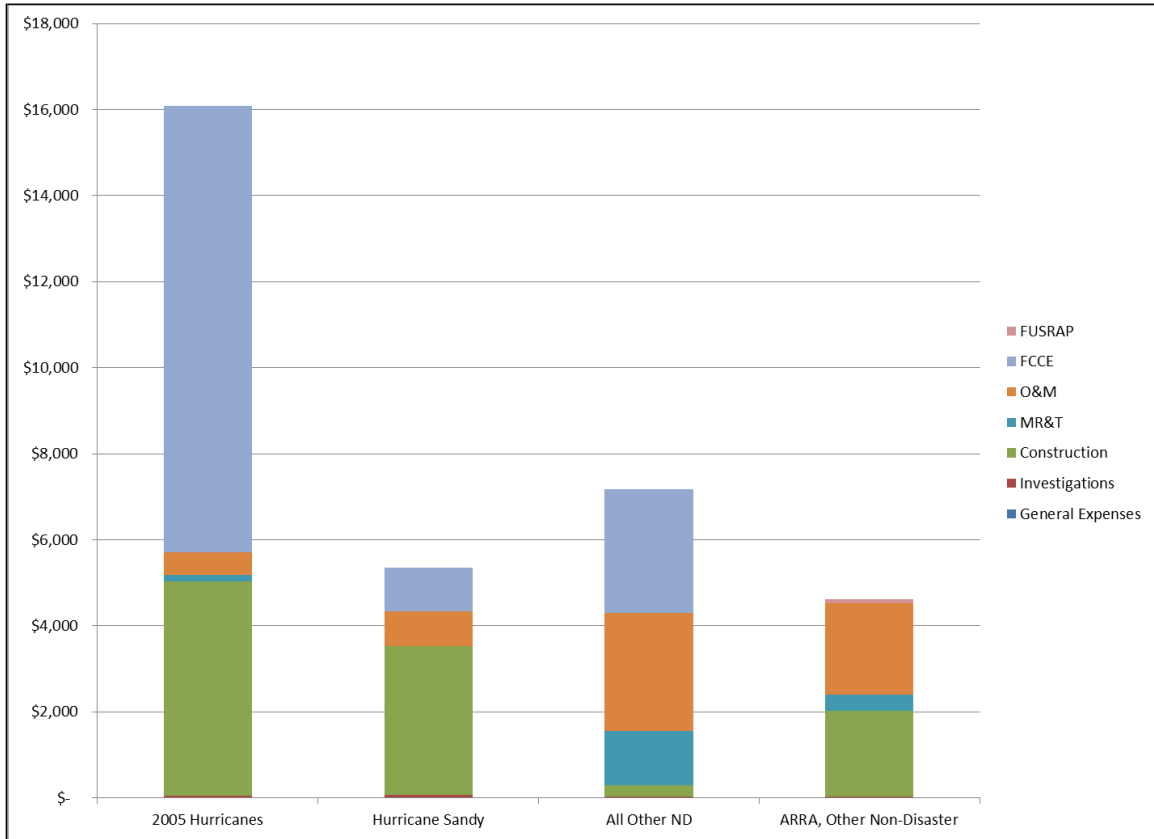
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<sup>9</sup> These reports are available at U.S. Army Corps of Engineers, “Sandy-Related USACE Reports to Congress,” at [http://www.nan.usace.army.mil/About/Hurricane\\_Sandy/SandyRelatedUSACEReportstoCongress.aspx](http://www.nan.usace.army.mil/About/Hurricane_Sandy/SandyRelatedUSACEReportstoCongress.aspx).

<sup>10</sup> Similar to construction appropriations for the 2005 storms, those projects that do not have their local cost-share requirements waived are eligible to finance these requirements under a 30-year term.

<sup>11</sup> See the **Error! Reference source not found.** to this report for a list of natural disaster events and locations and corresponding Corps supplemental appropriations bills.

**Figure 2. Corps Supplemental Appropriations: Distribution by Account**  
(1987-2016, nominal dollars in millions)



**Source:** CRS estimates based on various appropriations acts and data from the Corps.

**Notes:** FUSRAP = Formerly Utilized Sites Remedial Action Program.

FCCE = Flood Control and Coastal Emergencies account.

O&M = Operations & Maintenance account.

MR&T = Mississippi River and Tributaries account.

## Observations on Corps Supplemental Funding

Given current federal fiscal constraints and the multiple natural disasters that have occurred in recent years, the enactment and reliance on emergency supplemental funding is receiving more attention. For Corps natural disaster supplemental funding, some of the topics receiving attention include the following:

- regularity of natural disaster activities;
- transparency of natural disaster funding;
- use of supplemental bills for post-disaster infrastructure improvements; and
- nonfederal cost sharing of natural disaster repair and recovery.

Each of these topics is discussed below.

## **Regularity of Natural Disaster Activities**

As shown in **Figure 1**, supplemental appropriations for the Corps have been a fairly regular occurrence over the last 15 years and have increased significantly compared to historical baselines.<sup>12</sup> Congress is faced with deciding whether to address the funding needs for these Corps natural disaster activities through emergency supplemental bills or to build these expenses into the regular appropriations process. As previously noted, Congress generally has not provided the Corps with appropriations in advance of natural disasters through the FCCE account in regular appropriations. Assuming no overall increases to the Corps budget, covering the Corps' natural disaster-related activities within the regular appropriations process would make a competitive annual Corps appropriations process even more competitive, but could reflect the regularity of the agency's natural disaster spending more accurately.

## **Transparency of Natural Disaster Funding**

After the initial appropriation, public reporting on Corps expenditure of supplemental funding has generally been limited.<sup>13</sup> There are very few overarching requirements for reporting on Corps supplemental expenditures, including the amount and extent of transfers from regular appropriations to initially cover emergency response and repairs, the actual expenditures of supplemental appropriations, and the projects or areas that benefited from the appropriations. In some of the early post-Katrina supplemental bills and the Sandy supplemental appropriations bill, Congress set reporting requirements for Corps appropriations, including regular reports to the Committee on Appropriations. Additionally, as noted above, Congress conditioned release of some of the Corps construction funding in the Sandy supplemental bill on the Corps completing and releasing information on projects that qualified for these funds. However, outside these reports and ARRA spending (which was tracked through a public website), detailed data on Corps expenditures of supplemental appropriations have not been required or widely available in the same manner as the annual budget.

## **Post-disaster Infrastructure Improvements**

Congress is faced with deciding whether to use Corps supplemental funding for improving flood protection in impacted areas to reduce future flood risk. Congress funded Corps infrastructure investments to improve hurricane storm protection infrastructure for Southeast Louisiana in post-Katrina supplemental bills. More than half of the \$5.3 billion in supplemental funding provided to the Corps for Hurricane Sandy recovery was designated for new or ongoing construction to reduce flood risks. However, Congress did not use supplemental Corps construction funds for such improvement for the 2008 Hurricane Ike-impacted Texas coast, the Midwest areas impacted by the 2011 and 1993 floods, or the 1992 Hurricane Andrew-impacted areas.

Proponents of supplemental construction funds for flood-impacted areas argue that these investments are significant to the recovery effort and that flooding events often bring to light flood risks warranting attention. Others argue that the annual appropriations process is the more appropriate forum for identifying nationwide flood infrastructure investment priorities. The argument is that other Corps flood damage-reduction activities in other parts of the country may be of a higher national priority because those activities protect more lives and have higher

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<sup>12</sup> See Congressional Budget Office, *Potential Increases in Hurricane Damage in the United States: Implications for the Federal Budget*, Publication 51518, Washington, DC, June 2016, <https://www.cbo.gov/publication/51518>.

<sup>13</sup> Reporting to congressional authorizing and appropriations committees has been regularly required in these bills.

benefit-to-cost ratios. The Corps has a backlog of authorized flood and storm damage-reduction projects across the country, which compete for the less than \$1 billion typically provided for flood damage-reduction activities in the annual budget process.

### **Nonfederal Cost Sharing of Natural Disaster Repair and Recovery**

Although many Corps civil works activities are cost shared with nonfederal sponsors, much of the supplemental appropriations for flood fighting and repair of damaged infrastructure and projects have not been subject to significant cost sharing. In addition to these activities, Congress occasionally has provided funding for upgrades and construction of new infrastructure in supplemental appropriations. Congress provided supplemental appropriations for construction activities to improve infrastructure in areas affected by Hurricane Katrina, particularly in Louisiana. These construction activities generally have been cost shared either at the standard 65% federal/35% nonfederal split or consistent with the cost-sharing arrangement for the original Corps project.<sup>14</sup> Most recently, for supplemental appropriations related to Hurricane Sandy, cost-sharing requirements were waived for ongoing construction projects but not for new construction.

The appropriate cost share for Corps construction activities has been the subject of debate, with proposals ranging from standard cost shares to requirements for the federal government to handle most or all of a project's costs. Some also have proposed relaxing cost-sharing requirements for specific project types (e.g., cost-sharing waivers for ongoing construction projects, as noted above) and changing what costs should be counted toward the nonfederal share.

Various justifications for altering the standard arrangement have been advanced, including the potentially limited ability of many communities impacted by disasters to pay the standard nonfederal share. Assuming some sort of nonfederal cost share is required, another issue is who is responsible for the nonfederal share and the time period over which that share will be repaid. In the case of Louisiana, Congress required that Louisiana create a single state or quasi-state entity to act as its nonfederal construction partner for post-Katrina Corps repairs and improvements and allowed the entity 30 years to repay its share of the construction costs (which was covered by the federal government with funds provided in P.L. 109-148).

The status of other existing cost-sharing requirements as they relate to supplemental funding is an ongoing issue. Although certain categories of funding for federal navigation projects normally require cost sharing from the Harbor Maintenance Trust Fund (HMTF) and the Inland Waterway Trust Fund, similar cost-sharing arrangements generally have not been required for supplemental funding for natural disasters.<sup>15</sup> That is, neither of these two trust funds has been responsible for navigation-related natural disaster response and recovery costs funded in supplemental appropriations over the last decade. However, a few supplemental appropriations bills in the late 1990s required cost sharing from the HMTF.<sup>16</sup>

For its part, the Corps Rehabilitation and Inspection Program (RIP) essentially functions as an insurance program for many nonfederal flood-control and coastal-protection projects and is active

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<sup>14</sup> The standard split for these projects in regular appropriations is 65% federal/35% nonfederal, with the nonfederal share including costs for lands, easements, rights-of-way, relocations, and disposal areas (known collectively as LERDs; 33 U.S.C. §221).

<sup>15</sup> Cost-sharing requirements for the Inland Waterway Trust Fund also were waived for non-disaster supplemental appropriations provided in the American Recovery and Reinvestment Act of 2009 (ARRA; P.L. 111-5).

<sup>16</sup> P.L. 105-174 (1998) and P.L. 105-18 (1997) both required applicable costs to be shared with the Harbor Maintenance Trust Fund, in accordance with existing statute. This requirement made the supplemental appropriation cost sharing consistent with the annual appropriations process.

in addressing post-disaster repairs and rehabilitation. Approximately 14,000 miles of levees participate in RIP: 2,250 miles of locally constructed and operated levees; 9,650 miles of Corps-constructed, locally operated levees; and 2,100 miles of federally operated levees. For locally constructed projects, 80% of the cost to repair the damage is paid using federal funds and 20% is paid by the levee owner. For federally constructed projects, the repair cost is entirely a federal responsibility (except for the cost of obtaining the sand or other material used in the repair). For damage to be repaired, the Corps must determine that repair has a favorable benefit-cost ratio. There is no annual cost or premium for participating in the RIP program beyond maintaining the project to RIP standards.

## **Concluding Remarks**

At issue for Congress is when to provide supplemental appropriations to the Corps (including what scale of disaster response needs justify these appropriations), as well as the ideal amount and allocation of funding for Corps flood-fighting and response activities going forward. What requirements should accompany these appropriations is another question that may be considered in future appropriations debates.

Another question for Congress when considering supplemental funding for the Corps to respond to riverine and coastal flooding events is the extent to which response funding should provide for the construction of new, potentially more resilient infrastructure to reduce flood risk. Supplemental appropriations in response to Hurricane Katrina in 2005 and Hurricane Sandy in 2013 took such an approach to a much greater extent than did funding for other previous flooding events. In providing appropriations along the lines of infrastructure investments to promote recovery and greater resilience, an issue is the sharing of costs between the federal and nonfederal project sponsors.

## Appendix. Table of Supplemental Appropriations by Event Table

**Table A-1. Selected Supplemental Appropriations Allocations, 2003-2016**  
(events or locations referenced in enacted Corps supplemental appropriations)

<b>P.L. Number (enacted date)</b>	<b>Event Type or Location</b>	<b>Funding Allocation (nominal \$ in millions)</b>
P.L. 108-324 (2004)	West Virginia Floods	10
P.L. 109-62 (2005)	Hurricane Katrina	400
P.L. 109-148 (2005)	Hurricane Katrina	2,143
	Hurricane Ophelia	69
	Hurricane Rita	91
	Hurricane Wilma	57
	Hurricane Katrina	3,651
P.L. 109-234 (2006)	Hurricane Rita	2
	California	30
	Hawaii	2
	Pennsylvania	16
	Hurricane Katrina	1,325
P.L. 110-28 (2007)	Mississippi	108
	Missouri River Flood	12
	Alabama-Coosa River	3
	Nor'easter Flood	23
	Texas	3
	Drought Assistance	7
	Midwest Flooding	302
P.L. 110-252 (2008)	Hurricane Katrina	5,900
P.L. 110-329 (2008)	Hurricane Katrina	1,500
P.L. 111-32 (2009)	Hurricane Katrina	439
P.L. 113-2 (2013)	Hurricane Sandy	5,350

**Source:** CRS using Corps data.

**Notes:** Table includes legislation referencing specific locations and/or events only. The funding provided under P.L. 110-329 was appropriated to cover the nonfederal share of certain construction costs related to Hurricane Katrina and is being repaid by the state of Louisiana over 30 years.



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