

# Everglades Restoration: Federal Funding and Implementation Progress

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## Summary

The Everglades is a unique network of subtropical wetlands in South Florida that is approximately half of its historical size, due in part to degradation from federal water projects. In 2000, Congress authorized a plan, termed the Comprehensive Everglades Restoration Plan (CERP), for the restoration of the Everglades ecosystem in southern Florida. When originally authorized, it was estimated that CERP would cost a total of \$8.2 billion and take approximately 30 years to complete. More recent estimates indicate that the plan would take approximately 50 years to implement, and would cost approximately \$1.63 billion more than originally thought, plus additional adjustments for inflation.

Under CERP, the federal government (through the U.S. Army Corps of Engineers and the Department of the Interior) is required to fund half of the costs for restoration, with an array of state, tribal, and local agencies paying the other half. In addition to activities under CERP, a number of ongoing federal and state efforts that pre-date CERP (known collectively as “non-CERP,” or “Foundation” activities) also contribute to Everglades restoration. While non-CERP efforts are technically not included in CERP, the two sets of activities are widely viewed as complementary.

Since passage of CERP in 2000, the federal investment in Everglades restoration has increased. As of the end of FY2014, the federal government had provided more than \$1 billion in funding for CERP, with the state providing matching funds for CERP projects, as well as advanced funding for land acquisition and construction for expected future CERP projects. Federal funding for non-CERP activities (most of which pre-date CERP) has also continued over this time period. Together with CERP, all Everglades restoration efforts are estimated to have totaled more than \$5 billion since FY1993. While estimates of nonfederal (i.e., state) funding contributions to CERP and related restoration efforts vary widely depending on what methodology and assumptions are used, most agree that to date, the state of Florida has spent significantly more on Everglades restoration than has the federal government.

Progress has been made on a number of Everglades restoration projects, although overall progress to date has fallen short of initial goals. As of late 2014, eight CERP projects were authorized, the majority of the land necessary for restoration projects under CERP had been acquired, and significant progress has been made on non-CERP activities (including improved water deliveries to Everglades National Park). Construction had been initiated on four CERP projects, and studies have been completed or are underway for a number of other projects. Despite this progress, some projects have seen setbacks in the form of schedule delays and cost escalations. Additionally, new or revised authorizations will be required for other major CERP projects, such as the Central Everglades Planning Project (CEPP), to go forward. These and other impediments have been noted as possible causes of further delays to restoration benefits in the future.

Reductions to state funding and the enactment of four new CERP project authorizations in the Water Resources Reform and Development Act (WRRDA, P.L. 113-121) in June 2014 have increased attention to the congressional role in facilitating Everglades restoration. Debate and resolution of these issues has implications, both for ecosystem restoration in the Everglades and for large-scale restoration initiatives elsewhere. This report provides information on federal funding for Everglades restoration. It also provides an overview of the federal role in Everglades restoration, including funding structures and major accomplishments to date.

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## Introduction

The Florida Everglades is a unique network of subtropical wetlands that is now half its historical size. The federal government has a long history of involvement in the Everglades, beginning in the 1940s with the U.S. Army Corps of Engineers (the Corps) constructing flood control projects that shunted water away from the Everglades to make way for agricultural and urban development. Additional factors, including nonfederal development efforts, have contributed to the shrinking and altering of the Everglades ecosystem.

In recognition of the unique ecosystem services provided by the Everglades, federal and state agencies began ecosystem restoration activities in the Everglades in the early 1990s. However, it was not until 2000 that federal and state restoration activities were coordinated under an integrated plan. In the Water Resources Development Act of 2000 (WRDA 2000, P.L. 106-541), Congress approved the Comprehensive Everglades Restoration Plan (CERP) as a framework for Everglades restoration and authorized an initial round of projects by the Corps and the Department of the Interior (DOI). According to the process, additional Everglades projects are to be presented to Congress for authorization as their planning is completed. To date, eight CERP projects have been authorized, including one in WRDA 2000, three in WRDA 2007 (P.L. 110-114), and four in the Water Resources Reform and Development Act of 2014 (WRRDA, P.L. 113-121). Pilot projects authorized in WRDA 1999 and WRDA 2000 have also been installed. Other projects are undergoing study and pending authorization.

To date, some progress has been made on Everglades restoration, but much more time and funding will be required to complete restoration as currently contemplated. Previously some have highlighted the overall slow pace of restoration as an argument for expedited support. Conversely, others have argued that restoration activities in the Everglades already receive too much funding relative to other priorities, and that the level of support provided for these activities is not appropriate given larger fiscal concerns and the uncertainty of results.

Stakeholders involved with planning other large-scale restoration initiatives look to the Everglades as a model and a test case. Some believe the types of activities funded and the level of funding for the Everglades may set a precedent for other restoration initiatives, and should thus be a priority. Others assert that Everglades restoration efforts have been disproportionately favored relative to similar projects, and should be subject to the same cost-cutting efforts as other areas of the budget.

This report summarizes historical and current funding trends for Everglades restoration, with a focus on federal funding totals and issues for Congress. It also provides a brief summary of some of the major accomplishments in Everglades restoration since the enactment of CERP in 2000, as well as ongoing challenges facing the effort.

## Everglades Projects: CERP and Non-CERP

Federal CERP funding was first authorized in WRDA 2000, with a focus on increasing storage and treatment of excess water in the rainy season to provide more water during the dry season for the ecosystem and for urban and agricultural users. As of 2010, it was estimated that CERP will

take more than 50 years and \$13.5 billion to complete.<sup>1</sup> The federal government is expected to pay half of CERP's costs, and an array of state, tribal, and local agencies (i.e., nonfederal sponsors) will pay the other half. This same cost-share is expected to apply to all project operation and maintenance costs.

WRDA 2000 authorized initial projects (including pilots), established federal/nonfederal cost-sharing ratios for Everglades restoration, and created a process for additional projects to be authorized as part of the CERP framework. WRDA 2007 authorized an additional three CERP projects. Four other projects completed the study phase in 2012 and were authorized for construction in WRRDA 2014, while two other CERP projects remained in the study phase and were thus not yet authorized. The status of these projects is discussed later in this report.

Federal Everglades restoration activities not authorized under CERP are often referred to as “non-CERP” or “Foundation” activities. This includes, among other things, work related to the Modified Water Deliveries Project, which is expected to augment flows to Everglades National Park. Depending on how broadly this category is defined, it can encompass a wide variety of Everglades restoration activities undertaken by multiple agencies.<sup>2</sup> Most (but not all) of the authorities for this funding predate the enactment of CERP in 2000. However, similar to CERP funding, most funding for non-CERP Everglades restoration is provided to the Department of the Interior and the Corps of Engineers. Thus, the Corps and DOI are often the focal point for funding debates surrounding the Everglades.

## Funding for Everglades Restoration

Federal funding for Everglades restoration is largely provided through DOI and the Corps, and is concentrated in two appropriations bills—the Interior and Environment appropriations bill (which provides funds to DOI) and the Energy and Water Development appropriations bill (which provides funds to the Corps). Additionally, funding in other appropriations bills is sometimes noted as contributing to Everglades restoration, but is not formally tracked under the Administration's non-CERP totals.

Although the Administration's budget request identified restoration funding totals for CERP and non-CERP in the budget request, appropriations laws and conference reports typically do not specify appropriations levels for Everglades restoration activities (including CERP and non-CERP totals). Rather, actual expenditure information for previous appropriations is tracked by the South Florida Ecosystem Restoration Task Force. A summary of funding for both CERP and non-CERP activities within DOI and the Corps for recent years is provided in **Table 1**.

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<sup>1</sup> This figure represents the estimated cost to the federal government in October 2009 dollars according to the Corps. See U.S. Army Corps of Engineers, *Comprehensive Everglades Restoration Plan, 2010 Report to Congress*. Available at <http://www.sfrestore.org/documents/index.html>. Hereinafter *2010 CERP Report to Congress*. More recent estimates are not available.

<sup>2</sup> In addition to the Corps and DOI, the South Florida Ecosystem Restoration Task Force also tracks funds that are provided to the National Oceanic and Atmospheric Administration, the U.S. Environmental Protection Agency, and the U.S. Department of Agriculture, among others. However, in its annual budget request, the Administration typically only tracks “non-CERP” funding for the Corps and DOI. For additional information, see crosscut budget documents available at <http://www.sfrestore.org/documents/index.html>.

**Table 1. Corps and DOI Funding for Everglades Restoration, FY2010-FY2015**  
(thousands of dollars)

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015 Proposed
<b>DOI</b>	<b>79,424</b>	<b>70,600</b>	<b>99,884</b>	<b>66,355</b>	<b>70,452</b>	<b>62,000</b>
CERP	8,449	8,401	8,347	7,883	8,376	8,000
Non-CERP	70,975	62,199	91,537	58,472	62,076	54,000
<b>Corps</b>	<b>167,364</b>	<b>131,066</b>	<b>142,486</b>	<b>96,008</b>	<b>47,616</b>	<b>66,000</b>
CERP	119,966	79,860	57,886	76,212	38,499	61,000
Non-CERP	47,398	41,108	84,600	19,796	9,117	5,000
<b>Total</b>	<b>246,788</b>	<b>201,666</b>	<b>242,370</b>	<b>158,683</b>	<b>118,068</b>	<b>128,000</b>

**Source:** FY2015 Congressional Budget Justifications for the U.S. Department of the Interior and Army Corps of Engineers and the South Florida Ecosystem Restoration Crosscut Budget Report for FY2014.

**Notes:** “ARRA” represents funding under the American Recovery and Reinvestment Act (P.L. 110-5).

## DOI Funding

Funding within the Interior and Environment bill is allotted to four agencies within DOI: the National Park Service (NPS), the Fish and Wildlife Service (FWS), the U.S. Geological Survey (USGS), and the Bureau of Indian Affairs (BIA). Within these agencies, two types of Everglades funding are often highlighted: funding for CERP and funding for the Modified Water Deliveries Project for Everglades National Park (also known as the “Mod Waters” project). The latter is a non-CERP project that has received significant attention from Congress, and that aims to improve water deliveries to Everglades National Park by removing barriers in and around the Tamiami Trail. DOI’s CERP funding is typically provided to NPS and FWS, while funding for the Modified Waters project has been provided to NPS in recent years.<sup>3</sup> Although Mod Waters is technically a non-CERP project, it is widely considered to be a keystone project for Everglades restoration, with an important nexus to CERP. Recent DOI funding totals are shown in **Table 1**.

The FY2015 Administration request for Everglades funding was \$62 million in DOI funding for Everglades restoration, including \$8 million for CERP projects and \$54 million for non-CERP projects. No funding was requested for the Mod Waters project, as the initial construction of its 1-mile bridge component was completed.<sup>4</sup>

## U.S. Army Corps of Engineers Funding

Funding for Corps Everglades restoration projects in the Energy and Water Development bill is listed under project-level headings within the Corps Construction account. Currently, these projects include the Central and Southern Florida Project, Kissimmee River Restoration project, and Everglades and South Florida Restoration. Historically, funding was also included for two

<sup>3</sup> Originally, this funding was provided to the Corps.

<sup>4</sup> For additional information on this project, see the “Challenges” section at the end of this report.

other areas, Florida Keys Water Quality Improvement and Modified Waters Deliveries Project.<sup>5</sup> Corps funding is directed toward planning and construction of projects authorized under CERP and other authorities. Within Corps totals, funding for CERP is considered a key benchmark for Everglades restoration commitment and progress.

**Table 1** shows funding totals for Corps Everglades restoration in recent fiscal years and the FY2015 President's request. For FY2014, the enacted amount for Corps Everglades restoration work for FY2014 was \$47.6 million, and the FY2015 requested level for the Corps was \$66 million. This funding level was below previous years due to a number of factors, including the availability of unobligated funds from prior years, the drawdown of needed funding for authorized, ongoing projects, and the lack of new and modified project authorizations prior to the enactment of WRRDA in June 2014.

## Funding Trends

The federal government has funded restoration of the Everglades in some form since at least the early 1990s. Overall, from FY1993 to FY2014, the total federal investment in Everglades restoration (including agencies other than the Corps and DOI) is estimated to have exceeded \$5 billion. From FY1993 through FY2000, prior to the enactment of CERP, federal appropriations for Everglades restoration activities totaled more than \$1.2 billion. More recently, since the enactment of CERP (i.e., since FY2001), total federal funding from all agencies is estimated to have exceeded \$4 billion, with Corps and DOI funding for Everglades restoration accounting for more than \$3.15 billion of that amount.<sup>6</sup>

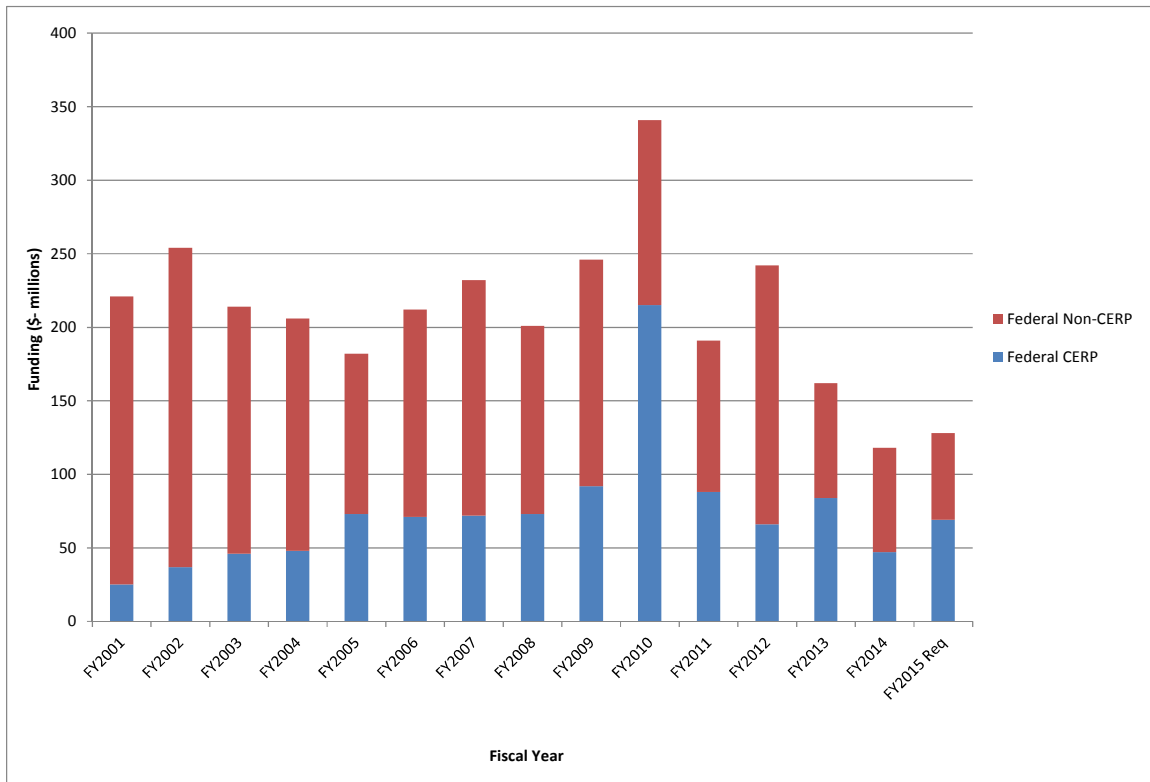
As previously noted, Everglades funding for the Corps and DOI typically receives the most attention from Congress. **Figure 1** shows Everglades funding since 2001 for those two agencies, including CERP and non-CERP totals. As shown in that figure, while overall funding for Everglades restoration by these agencies has remained somewhat constant since the enactment of CERP, the distribution between CERP and non-CERP funding has changed over time. CERP projects gradually increased from FY2001 to FY2010 (including ARRA). Over the same period, funding for non-CERP projects (such as Mod Waters) decreased from their earlier levels. Finally, over the last two years, overall spending in both categories has decreased. Total funding for CERP projects from FY2001 to FY2014 is estimated to have exceeded \$1 billion.

Fluctuations in Everglades federal funding can be explained by a number of factors. For instance, after authorization in FY2007, federal funding for "Generation 1" CERP projects increased as project construction commenced, and began declining in FY2012. The subsequent decrease in funding for CERP beginning at that time was a combined result of "Generation 1" CERP Projects (i.e., projects authorized in WRDA 2007) winding down certain construction activities while "Generation 2" projects (i.e., projects with completed project implementation reports that were proposed and eventually authorized in WRRDA 2014) were awaiting authorizing legislation before they could be funded. For non-CERP projects, more recent decreases in funding can in part be attributed to the completion of the initial phases of construction on the Mod Waters project.

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<sup>5</sup> As noted above, in recent years Mod Waters funding has been provided solely to DOI. Florida Keys Water Quality Improvement was completed in FY2009.

<sup>6</sup> CRS analysis of departmental data for FY1993-FY2014.

**Figure 1. Corps/DOI Funding for Everglades Restoration**

**Source:** CRS estimates based on Corps and DOI budget documents from FY2001-FY2015.

**Notes:** Does not include agency funding for non-CERP activities outside of the Corps and DOI. FY2010 includes additional funding under P.L. 111-5 (ARRA).

## Comparing Federal and State Funding

Many view the status and amount of federal CERP funding relative to nonfederal funding for this initiative as an important indicator of the federal government's commitment to Everglades restoration, and there is widespread agreement that the state has invested more funding in CERP than has the federal government. However, comparisons between federal and state funding levels for Everglades restoration are complicated for a number of reasons.

As previously noted, CERP funding is to be cost-shared equally between the federal government and nonfederal entities in Florida. Notably, much of the nonfederal funding for Everglades restoration efforts has been for land acquisition related to the expected "footprint" of future CERP projects, rather than construction funding for federal projects that have been authorized by Congress. That is, state CERP funding has anticipated or accelerated multiple Everglades restoration projects that have yet to be federally approved.<sup>7</sup>

<sup>7</sup> Funding is not formally "credited" by the Corps toward CERP project cost-shares until a number of requirements have been met. These requirements include completion of a project implementation report (PIR) and authorization for construction of the project by Congress, as well as signing of a project partnership agreement, or PPA.



Although some reference large nonfederal contributions toward CERP, the proportion of these expenditures that have been formally credited toward CERP is actually much smaller. Indeed, it is possible that, depending on subsequent actions of the Corps and Congress, some of the aforementioned nonfederal funds will never be credited to federal CERP projects. Thus, the size, scope, and priority of new federal CERP projects and their relation to previous state expenditures receives significant attention, and may in some cases be a matter of disagreement.

Differences between initial reported state expenditures and the amounts actually credited under CERP result in a wide range of state funding levels being attributed to Everglades restoration. For instance, in its annual crosscut budget the South Florida Ecosystem Restoration Task Force previously estimated that from 2001 to 2011, it spent approximately \$3 billion on CERP, or considerably more than the federal government spent over that time. However, actual credited state and federal expenditures over the same period were comparable.

In recent years, the state of Florida's funding on CERP has decreased due to a number of factors, including a decline in state tax revenues and a focus on other aspects of Everglades restoration, such as funding for projects under its Restoration Strategies Regional Water Quality Plan, which is intended to address EPA narrative and numeric nutrient criteria in the Everglades.<sup>8</sup> It is unclear whether state funding for CERP will return to previous levels in the future. Previous estimates indicated that approximately \$584 million in previous state expenditures would be "available" for crediting when the "Generation 2" projects were authorized by Congress (as occurred in June 2014). Assuming no major influx of new funding by the state of Florida in the near future, the status of federal authorizing legislation for subsequent Everglades restoration projects may receive added attention.

## Implementation Progress/Challenges

Congress has mandated several reports that regularly evaluate Everglades restoration. Pursuant to congressional direction, the National Research Council (NRC) publishes reviews of Everglades restoration biennially, with the most recent report published in 2014.<sup>9</sup> Separately, a report to Congress focusing specifically on CERP is published every five years, with the most recent report completed in 2010.<sup>10</sup> Both reports outline accomplishments and challenges related to both CERP and non-CERP projects.

## Status and Accomplishments

Since passage of CERP in 2000, progress has been made on Everglades restoration for both CERP and non-CERP projects. Significant actions have included the construction of pilot projects, the completion of studies, and the initiation of several construction projects (including completion of the initial phases of some projects). As discussed below, some of the non-CERP "foundation" projects are nearing completion, and some Generation 1 CERP projects are expected

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<sup>8</sup> These efforts, which began in 2012, are being undertaken in response to a court-ordered Amended Determination by the EPA.

<sup>9</sup> Committee on Independent Scientific Review of Everglades Restoration, National Research Council, *Progress Toward Restoring the Everglades: The Fifth Biennial Review*, Washington, DC, 2014.

<sup>10</sup> *2010 CERP Report to Congress*.

to be completed in the near future. In addition to progress on construction, baseline information and processes have also been established, and the scientific understanding of many of the issues associated with Everglades restoration has improved. Tangible ecosystem benefits resulting from progress to date are for the most part yet to be realized or noted. In many cases, these benefits are expected to lag several years behind project construction and restoration of hydrologic conditions, and are expected to require extensive monitoring and adaptive management to confirm and refine.

Selected CERP and non-CERP accomplishments as of 2014 are discussed below.

### **Foundational Elements: Land Acquisition and Pilot Efforts, and Non-CERP Projects**

As noted above, as of 2014, Everglades restoration had achieved several milestones. Major achievements included accomplishment of several foundational steps required for the eventual completion of larger restoration projects. This includes the purchase by nonfederal project sponsors of most of the land expected to be required for CERP projects (a necessary first step in project construction by the Corps). As discussed previously, many of these projects are expected to be credited toward the nonfederal cost-share for individual projects.

Early pilot projects that will influence the eventual prioritization and construction of larger CERP projects are also largely completed. Specifically, design and installation of six pilot projects authorized in WRDA 1999 and WRDA 2000 have taken place in recent years. Examples include Aquifer Storage and Recovery (ASR) Pilot projects, authorized in WRDA 1999 and WRDA 2000, which assessed the feasibility of this technology at specific sites as they applied to Everglades restoration. Based on the findings from these projects (published in 2013), ASR is expected to be among the options considered for future water storage projects in South Florida. Other projects are achieving benefits already and may be added to in future years. A pilot groundwater seepage barrier to the southeast of the Mod Waters project was completed and has been found to be successful in blocking subsurface migration of groundwater. This pilot project may be expanded in the future.

As previously noted, non-CERP projects are a key part of Everglades restoration that pre-date CERP and are therefore in several cases more established than CERP projects. Some non-CERP accomplishments as of 2013 included the completion of the Florida Keys Water Quality Improvement Project, as well as the NPS-constructed 1-mile bridge component of the Modified Water Deliveries project, which may be expanded in the future.<sup>11</sup> Another major restoration project that pre-dated CERP, the Kissimmee River Project (authorized in 1992 and initiated in 1999), was nearing completion. Some outside observers have noted that this project has already resulted in significant benefits that demonstrate the potential for planned CERP projects.<sup>12</sup> Another project, the Seminole Big Cypress Reservation Water Conservation Plan Critical Project, was expected to be complete by 2015.

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<sup>11</sup> Another planning project, known as the Next Steps project, is being directed by the National Park Service and may eventually lead to the bridging of up to an additional 5.5 miles of the roadway.

<sup>12</sup> Committee on Independent Scientific Review of Everglades Restoration, National Research Council, *Progress Toward Restoring the Everglades, the Fourth Biennial Review*, Washington, DC, 2014, p 102. Hereinafter referred to as the Fourth Biennial Review.

## **Generation 1 CERP Projects**

Among the “Generation 1” CERP projects authorized in WRDA 2007 (Picayune Strand Restoration, Site 1 Impoundment, Indian River Lagoon-South or IRL-South, and the programmatic authority for Melaleuca Eradication that was authorized by Congress in WRDA 2000), as of 2014 planning/design was complete and construction was underway to some extent for all four projects. However, none of these projects is fully operational, and two of them (Picayune Strand and Site 1 Impoundment) may require additional congressional authorization in the near future.

## **Generation 2 CERP Projects**

As previously noted, the Water Resources Reform and Development Act of 2014 (WRRDA 2014, P.L. 113-121) authorized four additional “Generation 2” CERP projects with completed project implementation reports: the C-111 Spreader Canal, Biscayne Bay Coastal Wetlands, C-43 West Basin Storage Reservoir, and Broward County Water Preserve Areas (WPAs). Congressional authorization of WRRDA will allow construction to be initiated on two new projects (C-43 Reservoir and Broward County WPAs) and will allow federal funding to flow toward two other projects (the C-111 Spreader Canal and Biscayne Bay Coastal Wetlands) whose construction was previously initiated by the state. At the time of their authorization, these four projects were expected to have a total cost of approximately \$1.9 billion.

## **Generation 3 CERP Projects**

Two other CERP projects, the Central Everglades Planning Project (CEPP) and the Loxahatchee River Watershed Project, were still in the study process when WRRDA 2014 was enacted and were thus not authorized for federal construction. These “Generation 3” projects are currently expected to be among the next CERP projects authorized for construction. CEPP in particular is widely considered to be a high-priority project for Everglades restoration, and its status has received considerable attention (see box below).

The exact path to authorization for Generation 3 projects remains uncertain. Notably, pursuant to a new process established in WRRDA 2014, these projects could potentially be approved outside of the traditional authorization process for water resources projects.<sup>13</sup> However, if this process is not available in the future, federal work on these projects could not take place until they receive full federal authorization.

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<sup>13</sup> For more information, see CRS Report R43298, *Water Resources Reform and Development Act of 2014: Comparison of Select Provisions*, by Nicole T. Carter et al.

### **Central Everglades Planning Project**

The Central Everglades Planning Project (or CEPP) is an Everglades restoration study under the CERP framework that was initiated in 2011 by the Corps and the Department of the Interior, with the state of Florida. It is expected to recommend a suite of restoration projects in the central Everglades that would be a part of the broader CERP program aiming to address problems associated with the timing and distribution of freshwater flows in the central Everglades.

CEPP was initiated due to a perceived need to prioritize restoration projects in the central portion of the Everglades ecosystem and enhance the prospects for Everglades restoration overall. To date, most restoration projects in the Everglades have focused on the periphery of the historic Everglades (rather than flows to the Central Everglades). CEPP would incorporate multiple CERP projects that were envisioned in the original 1999 plan, at a preliminary estimated cost of approximately \$1.9 billion.

Due to the interest in expediting CEPP's authorization and construction, the Corps included this study among those investigations being undertaken as part of its National Planning Pilot Program. The aim of this effort is to complete feasibility studies in less time than is traditional for Corps investigations. Among other goals, studies initiated under the pilot are expected to adhere to a "3x3x3" rule, which means that feasibility studies will be completed with no more than \$3 million in federal costs, in three years or less, and with the involvement of the three levels of Corps review (districts, divisions, and Headquarters). Initially, final approval of CEPP was envisioned for December 2013. However, the Chief's Report was delayed and the project was not authorized with the other Generation 2 Everglades projects in WRRDA 2014. Thus, the status of CEPP moving forward will depend on how (and when) Congress approaches water resources project authorizations.

## **Challenges**

Despite the achievement of some milestones, outside reviewers have frequently noted the relatively slow overall pace of Everglades restoration compared to the ambitious timetables laid out in original program documents in 1999 and, more recently, in 2011. These observers have pointed out that while there has been some progress toward restoring the Everglades, project implementation has been considerably slower than expected due to a number of factors, such as inadequate appropriations and delayed project authorization.<sup>14</sup> At the same time, estimated costs for Everglades restoration have gone up. While CERP was originally estimated to cost a total of \$8.2 billion, the 2010 update to these estimates indicated that it would take 50 years to complete, at a cost of \$13.5 billion. According to the report, approximately \$1.63 billion of the increased costs since the initial estimates could be attributed to price/scope changes (i.e., costs other than inflation).<sup>15</sup>

Individually, some CERP projects have been implemented more slowly than anticipated. As of 2014, no major CERP project receiving federal funds had been completed, and many of the projects and schedules envisioned in earlier program documents have proven to be inaccurate.<sup>16</sup> Only a fraction of the project implementation reports originally envisioned under CERP have been finalized or completed in draft form. Further, of these, only eight projects have been authorized by Congress and four have had federal construction initiated.<sup>17</sup>

<sup>14</sup> The lack of project authorizations in a WRDA appears to have occurred mostly during the 2012-2014 time period, since PIRs for three projects were completed and awaiting congressional authorization beginning in 2012.

<sup>15</sup> According to the Corps, the increased cost estimates since 2000 are attributed to (1) \$3.63 billion in inflation adjustments; and (2) \$1.63 billion in price/scope changes.

<sup>16</sup> While WRDA 2000 conditionally authorized 10 projects, many of these projects will need to have their authorizations amended due to substantive changes in project scope.

<sup>17</sup> In several other cases, CERP projects have yet to be authorized by Congress, but nonfederal construction work has begun.

Reviewers have noted that funding has been a challenge for authorized Everglades restoration projects, and this challenge could grow in future years. Recently authorized Generation 2 CERP projects will presumably have to compete for funds with ongoing Generation 1 and non-CERP projects, as well as with other water resource projects and appropriations priorities. Even if funding were to stay at current levels, project implementation could slow if funding is spread out among multiple projects. Attaining new state funding where required for project cost-shares may also be challenging in light of decreased funding and the shift toward other restoration priorities by the state of Florida in recent years. If these trends continue, the pace of implementation for some projects could slow further.

Another challenge for Everglades restoration may be the status of potential new project authorizations under Water Resources Development Acts (WRDAs). CERP originally anticipated regular enactment of WRDAs and related Everglades restoration projects as they were studied and recommended to Congress. However, since 2000, only two WRDAs have been enacted, in 2007 and 2014. With enactment of WRRDA 2014, attention has largely shifted to the status of a large CERP project in the Central Everglades, the Central Everglades Planning Project, whose current path to authorization is unclear. Absent new authorizations, federal work on Everglades restoration could slow considerably if ongoing projects wind down and the Corps is not authorized to expend funds and match prior state expenditures for some projects (as was the case in recent years). Such a scenario would likely delay CERP further relative to the current expected timeline.

Once construction projects are complete, ecological benefits associated with restoration are not expected immediately, and they will be dependent on a number of factors. While preliminary benefits in the early stages of project operations are possible, it will likely take time for projects to individually and collectively refine their operations and demonstrate maximum positive effects on species and the environment. In many cases, benefits may depend on the successful completion of one or more other projects, further highlighting the interconnected nature of the overall restoration effort. Thus, completion of project construction represents only one hurdle for Everglades restoration, with refined operations and monitoring of performance representing challenges in their own right.

Other challenges to Everglades restoration have been widely noted. These challenges include ongoing issues associated with water quality in the Everglades and south Florida that are being addressed by the state, the adequacy of some restoration efforts in recreating historical hydrologic conditions, and ongoing degradation of species and ecosystems in south Florida, which has in some cases accelerated in recent years. The interaction of one or more of these factors may impact the operational status of federal restoration projects. For instance, although construction has been completed on the 1-mile bridge portion of the Mod Waters project, a number of other hurdles related to water quality, land easements, and operational planning must be overcome before the project can actually be operated to achieve the flows and benefits that were originally expected. Similar variables and complications could impact the implementation of other Everglades restoration projects in the future.

**Table 2. Corps and DOI Funding for Everglades Restoration, FY2007-FY2015**

(thousands of dollars)

	<b>FY2007</b>	<b>FY2008</b>	<b>FY2009</b>	<b>ARRA</b>	<b>FY2010</b>	<b>FY2011</b>	<b>FY2012</b>	<b>FY2013</b>	<b>FY2014</b>	<b>FY2015 Proposed</b>
<b>DOI</b>	<b>75,152</b>	<b>87,355</b>	<b>128,862</b>	<b>23,264</b>	<b>79,424</b>	<b>70,600</b>	<b>99,884</b>	<b>66,355</b>	<b>70,452</b>	<b>62,000</b>
<i>CERP</i>	<i>8,481</i>	<i>8,383</i>	<i>9,459</i>	—	<i>8,449</i>	<i>8,401</i>	<i>8,347</i>	<i>7,883</i>	<i>8,376</i>	<i>8,000</i>
<i>Non-CERP</i>	<i>66,671</i>	<i>78,972</i>	<i>119,403</i>	<i>23,264</i>	<i>70,975</i>	<i>62,199</i>	<i>91,537</i>	<i>58,472</i>	<i>62,076</i>	<i>54,000</i>
<b>Corps</b>	<b>157,553</b>	<b>112,694</b>	<b>115,712</b>	<b>95,412</b>	<b>167,364</b>	<b>131,066</b>	<b>142,486</b>	<b>96,008</b>	<b>47,616</b>	<b>66,000</b>
<i>CERP</i>	<i>64,000</i>	<i>64,000</i>	<i>83,640</i>	<i>87,896</i>	<i>119,966</i>	<i>79,860</i>	<i>57,886</i>	<i>76,212</i>	<i>38,499</i>	<i>61,000</i>
<i>Non-CERP</i>	<i>93,553</i>	<i>48,694</i>	<i>32,072</i>	<i>7,516</i>	<i>47,398</i>	<i>41,108</i>	<i>84,600</i>	<i>19,796</i>	<i>9,117</i>	<i>5,000</i>
<b>Total</b>	<b>232,705</b>	<b>200,049</b>	<b>244,574</b>	<b>118,676</b>	<b>246,788</b>	<b>201,666</b>	<b>242,370</b>	<b>158,683</b>	<b>118,068</b>	<b>128,000</b>

**Source:** CRS estimates based on Congressional Budget Justifications for the U.S. Department of the Interior and Army Corps of Engineers, FY2007-FY2015.

**Notes:** DOI funding includes funding for the National Park Service, the Fish and Wildlife Service, the U.S. Geological Survey, and the Bureau of Indian Affairs. “ARRA” represents funding under the American Recovery and Reinvestment Act (P.L. 110-5). For FY2013, no funding breakdown for CERP and Non-CERP funding for the Corps was available.

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