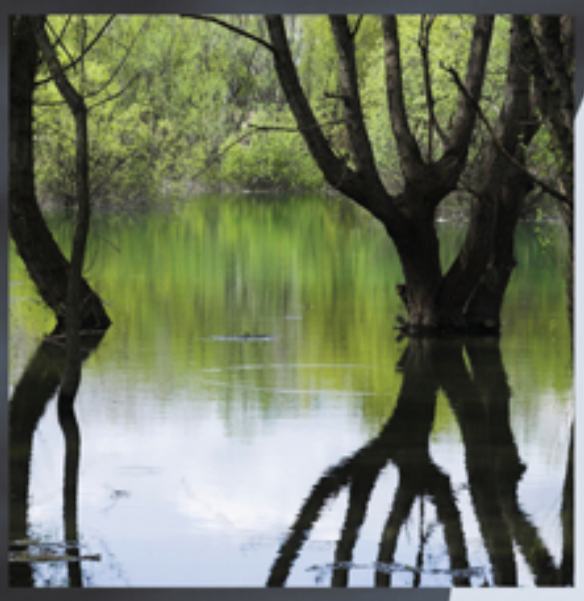


Comprehensive Everglades Restoration Plan

Central and Southern Florida Project

2009-2010 Update

Additional information can be found at the following websites:
www.evergladesplan.org
and **sfwmd.gov**

or by contacting
U.S. Army Corps of Engineers
Jacksonville District
904-232-2568

South Florida Water Management District
561-686-8800

the journey to restore America's Everglades

US Army Corps of Engineers®
Jacksonville District

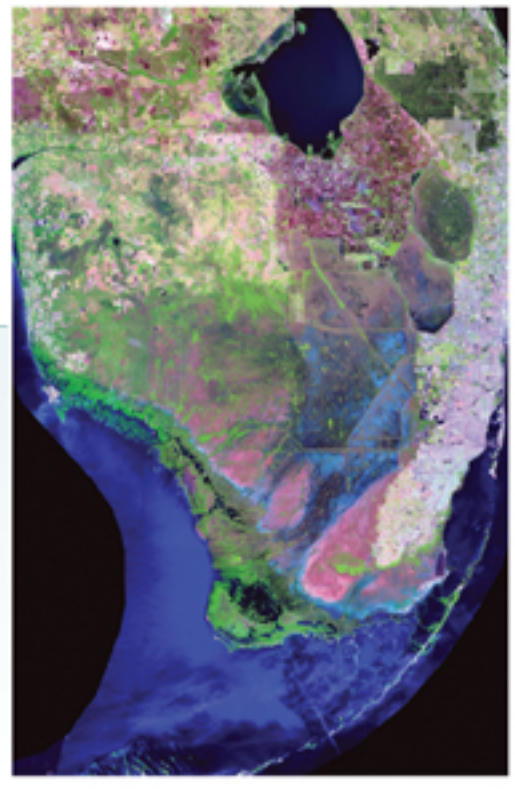
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

sfwmd.gov

A JOURNEY IS UNDER WAY
to Restore America's Everglades

This journey includes the largest environmental restoration program in history and is guided by the Comprehensive Everglades Restoration Plan (CERP). This effort will not only enhance the Everglades and associated lakes, rivers and bays in south Florida, but it will also enhance the quality of life for people and wildlife.

The CERP is more than just a collection of projects to capture and store water; it is a program that revitalizes south Florida's natural environment. This report reflects CERP restoration efforts and the status of projects through April 2010 along with estimated costs for the program as of October 1, 2009.



America's Everglades

America's Evergrlades was once a vibrant, free-flowing "river of grass," extending from central Florida's Kissimmee Chain of Lakes near Orlando to the southernmost tip on the peninsula at Florida Bay. Today, these sub-tropical wetlands still encompass unique habitats and support a rich diversity of plants, fish and other animals, and one of the nation's largest parks.

Over time, however, significant development took place within the region, allowing for tremendous population and economic growth. The construction of canals and water control structures, along with increased urban and agricultural water needs, changed natural water patterns and contributed to unintended consequences – loss of 50 percent of wetlands, disrupted timing of water flows, deterioration of water quality, fewer wading birds, declining lake and estuary health, and loss of native habitat to non-native species.

Recognizing that a healthy ecosystem is vital to a healthy economy a number of initiatives are under way to revitalize and protect this national treasure, including restoring the Kissimmee River, improving water flows to Everglades National Park and creating treatment marshes to improve water quality. A key focus is implementation of the Comprehensive Everglades Restoration Plan (CERP).

The Comprehensive Everglades Restoration Plan

The CERP is the largest environmental restoration program in history. It builds upon, and complements other state and federal initiatives to revitalize south Florida's ecosystem. The plan, submitted to Congress in 1999, is composed of a series of projects designed to address four major characteristics of water flow: quantity, quality, timing, and distribution.

Upon Congressional authorization in 2000, the federal government and the state of Florida entered into a 50/50 partnership to restore, protect and preserve water resources in central and southern Florida, including the Everglades. The U.S. Army Corps of Engineers (USACE) is the lead federal agency and the South Florida Water Management District (SFWMD) is the lead state agency for the effort.

Together, these actions will not only provide significant and lasting environmental benefits, but will also enhance water supplies and maintain flood protection for the region.

Key progress to date:

- Passage of the 2007 Water Resources Development Act (WRDA) authorized for construction the Picayune Strand Restoration, Indian River Lagoon-South and Site 1 Impoundment (Fran Reich Preserve) projects.
- The American Recovery and Reinvestment Act (ARRA) provided up to $96 million for Florida Restoration Projects.
- Initiated construction for the Merritt Pump Station feature of Picayune Strand Restoration, building on the state's work of filling and plugging seven miles of the Prairie Canal; removal of 65 miles of roadways and installation of seventeen culverts. Wading birds, black bears and the endangered Florida panther have already been observed within the 13,000 acres of restored habitat.
- Ongoing cycle testing and monitoring at two aquifer storage and recovery sites: Kissimmee River and Hillsboro Canal.
- Completed designs to prepare Indian River Lagoon-South (IRL-S) for construction.
- Awarded the first construction contract for the Site 1 Impoundment, adjacent to the Arthur R. Marshall Loxahatchee National Wildlife Refuge.
- Project Implementation Reports completed or nearly completed for: Caloosahatchee (C-43) West Basin Storage Reservoir, C-111 Spreader Canal – Western Project, Broward County Water Preserve Areas and Biscayne Bay Coastal Wetlands (Phase I).
- State rule-making for the first water reservations (associated with the Picayune Strand Restoration projects) was adopted in 2009 to ensure that water intended for natural systems is safeguarded from other uses. Two more water reservations (associated with IRL-S and Kissimmee) have been initiated.
- A second reservation was adopted in March 2010 for the North Fork of the St. Lucie River in support of the Indian River Lagoon South project.
- The third biennial System Status Report was completed. The report describes the current conditions of the ecosystem, establishing a baseline that will be used to track changes in ecosystem health. http://bit.ly/hKU8mN
- Public outreach efforts continue to engage diverse racial, ethnic and economic communities in the region on the importance of the CERP. In addition to traditional publications and newsletters, multi-language information is being provided via the internet, information kiosks, community gatherings, public meetings with elected officials and ecosystem restoration-related curricula taught in schools.

State Expedited Initiatives

To help achieve ecosystem-wide benefits early, Florida is fast tracking various Everglades water quality and restoration projects. As part of that overall initiative, the SFWMD continues to move forward with financing, design and construction aspects of selected projects, or portions of the projects, identified in the CERP. More information on the state's expedited effort is highlighted in green in the listing of current CERP projects and their descriptions.

Key progress to date:

- Completed an additional 6,000 acres of Stormwater Treatment Area (STA) with another 12,000 acres currently under construction. To date, more than 45,000 acres of effective treatment marsh are in operation and using plants to naturally remove phosphorus from water flowing into the Everglades.
- Initiated construction of the Deering Estates Flow-way, part of Phase 1 of the proposed CERP Biscayne Bay Coastal Wetlands Project to restore natural water flows to the Bay and Biscayne National Park.
- Completed construction of L-31E Culverts, part of Phase 1 of the proposed CERP Biscayne Bay Coastal Wetlands Project.
- Initiated construction of the proposed CERP C-111 Spreader Canal - Western Project to benefit Florida Bay by restoring freshwater wetlands, tidal wetlands and near-shore habitat.
- Completed Acme Basin B Discharge Phase I (C-51 pump and C-1 canal improvements) and Phase II (Section 24 Impoundment) components.
- Initiated construction on Lakeside Ranch Phase 1 (STA North and S-650 Pump Station). Phase II design (STA South and S-191A Pump Station) is under way. Completed L-8 Reservoir components of the proposed North Palm Beach
- County-Part 1 CERP project. Design and construction plan for L-8 additional storage capacity is complete.
- Approved the acquisition of an initial 26,800 acres of strategically located land south of Lake Okeechobee from the U.S. Sugar Corporation to provide construction opportunities for treatment and storage configurations never before contemplated.

A Better Tomorrow

Water is the lifeblood of the Everglades. With all of the improvements in place to capture, store, treat and deliver more natural flow, the ecosystem will become healthier and more resilient. The improved water management system will provide fresh water, flood risk management, recreation and many other benefits essential to the region's overall quality of life for generations to come.

Recognizing that a healthy ecosystem is vital to a healthy economy a number of initiatives are under way to revitalize and protect this national treasure...

FROM CONCEPT TO COMPLETION:
CERP Project Development

The CERP project development process includes:

Planning - A project Implementation Report (PIR) is developed for each project that includes all of the engineering and environmental studies, project alternative, evaluation and testing results, and summaries of public input. A recommended project plan is identified as the alternative that best meets the goals and objectives of the project and the CERP. The PIR is sent for state and federal approvals, authorizations and funding.

Design - During design, investigations are conducted to provide the information needed to develop detailed final plans and specifications for building the final project. In some cases, a pilot project (test) is conducted.

Construction - The construction period extends from the awarding of construction contract through completion, including supervision and inspection.

Operation and Maintenance - Each project has an Operations Plan that outlines operating schedules and criteria designed to achieve optimum results. Based on routine review and analyses, operations may be fine-tuned for improved performance.

Real Estate Acquisition - Many restoration projects require the acquisition of land.

Adaptive Assessment and Monitoring - This ongoing process measures the effect of restoration efforts on the greater Everglades ecosystem so, if needed, changes can be made to ensure CERP projects meet their intended objectives.

State and Federal Approvals, Authorizations and Funding

Planning → **Design** → **Construction** → **Operation and Maintenance**

Real Estate Acquisition

Adaptive Assessment and Monitoring

Going Green MOVING FORWARD TOGETHER

Construction

Picayune Strand Restoration

Construction is well under way on this project to restore habitat of the endangered Florida panther and many other native animals and plants. The area is considered an ecological jewel of southwest Florida.

Design

Indian River Lagoon

Currently in the Design phase and construction is set to begin soon on this project to reduce harmful discharges to one of the nation's most productive estuaries. Components will capture, clean and release fresh water in a much healthier manner.

Planning

Caloosahatchee River (C-43)

The Project Implementation Report (PIR) evaluated several alternatives, recommended a preferred plan, and provided an environmental-impact assessment of the preferred plan. The Record of Decision and submission to Congress is anticipated in March 2011. Construction is dependent upon congressional authorization.

Cost Estimate Update

The Comprehensive Everglades Restoration Plan (CERP) total cost was estimated at $12.5 billion in October 2008 price levels. Estimates are updated annually to account for inflation adjustments and changes to CERP projects officially recognized during the planning process, via a record of decision. The estimated cost in October 2009 price levels is $13.5 billion. The increase of $1 billion includes inflation for programs, projects and adaptive assessment and monitoring.

CERP Cost Estimate	October 2008	October 2009
Projects	$ 11.4 billion	$ 12.3 billion
Adaptive Assessment and Monitoring	$ 0.6 billion	$ 0.6 billion
Program Coordination	$ 0.5 billion	$ 0.6 billion
Total	$ 12.5 billion	$ 13.5 billion

Fiscal Year 2010 Budget

The Fiscal Year 2010 (FY10 Budget), which began October 1, 2009, included almost $120 million federal dollars for work on CERP implementation. USACE, together with SFWMD and other local sponsors, continue feasibility studies, installation and testing of the Aquifer Storage and Recovery (ASR) Pilot projects, PIR studies, data collection and analyses for Adaptive Assessment and Monitoring, and design work.

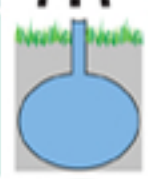
The Florida Legislature approved $50 million in FY09 and an additional $50 million in FY10 for continued support of CERP and the Northern Everglades and Estuaries Program. The Florida Forever Program, the largest conservation program of its kind in the world, added $300 million statewide in FY09 and wasn't funded for FY10. In addition, the SFWMD's FY08 budget included $495 million for the implementation of the CERP and the state expedited projects.

CURRENT
CERP Projects

More than 50 projects make up the CERP effort, with many of these being very large and complex. Because of their size and complexity, several of these projects have multiple parts or components such as reservoirs and stormwater treatment areas. In total, there are 68 individual components that make up the 50+ projects in the plan. The projects described in this report are those that are currently active. A project sequencing plan coordinates project implementation and timing to ensure maximum benefits are derived from the total mix of projects – as additional projects start, their status will be included in future reports.

CERP "gets the water right" in south Florida by addressing quantity, quality, timing and distribution (the right amount of water of the right quality delivered to the right places at the right times). This is done by utilizing several basic features. These project features capture, store, treat and redistribute water through the natural ecosystem to restore and revitalize the Everglades. Each CERP project is comprised of one or more of the following features:

Surface Water Storage Reservoirs
More than 181,000 acres of above- and in-ground reservoirs are planned to store billions of gallons of water.



Aquifer Storage and Recovery (ASR)
More than 300 underground water storage wells are proposed to store up to 1.6 billion gallons of treated water a day in confined aquifers and provide long-term water storage.

Stormwater Treatment Areas
Almost 36,000 acres of manmade wetlands will be constructed to remove pollutants from water before it is discharged to the Everglades.

Operational Changes
Changes will be made in the way the regional water management system is operated to benefit the greater Everglades ecosystem.

Seepage Management
Barriers, in combination with groundwater wells, or water level control areas will be built to slow and redirect the rapid underground seepage of water, which today results in the loss of millions of gallons water from the Everglades each year out to tide.

Removing Barriers to Sheetflow
More than 240 miles of canals and levees may be removed to restore the historic overland flow through the Everglades wetlands. For example, the Picayune Strand project reduces overdrainage in natural areas by removing roads and partially filling canals.

Other
This category includes invasive plant eradication, wetlands restoration and creation (including flow ways) and other project elements intended to increase spatial extent of wetlands.

Note: This map is intended for general illustration purposes and does not reflect exact region or project boundaries.

Current
CERP Projects

Lake Okeechobee Region	Features	Planning	Design	Construction
1 **Lake Okeechobee Aquifer Storage and Recovery (ASR) Pilot** Tests the use of large-scale underground water storage and withdrawal in the vicinity of Lake Okeechobee.		Complete	Installing & Testing	Not Applicable
2 **Lake Okeechobee Watershed** Components include areas north of Lake Okeechobee and Taylor Creek/Nubbin Slough Reservoirs, the Lake Okeechobee Watershed Stormwater Treatment facilities, and modifications to the Lake Istokpoga Regulation Schedule (Highlands County tributary). Includes a state-expedited component: Lakeside Ranch.		In Progress	Phase 1: Complete Phase 2: In Progress	Phase 1: In Progress
Caloosahatchee Region				
3 **Caloosahatchee (C-43) River ASR Pilot** Tests the use of underground water storage and withdrawal near the Caloosahatchee River.		Complete	Installing & Testing	Not Applicable
4 **C-43 West Basin Storage Reservoir** A large above-ground storage reservoir located along the Caloosahatchee River. This is a state-expedited component. Final plans and specifications are complete.		Complete	Conversion needed	Test Cell Complete
C-43 Watershed Evaluates the remaining restoration needs in the Caloosahatchee Basin.		In Progress		
St. Lucie Region				
5 **Indian River Lagoon-South** Components include several above-ground reservoirs and stormwater treatment areas. Revised since the 1999 plan to now include reduced storage in reservoirs and increased use of constructed wetlands along with the removal of muck to improve surface water management and water quality of several canal basins for habitat improvement in the St. Lucie Estuary and Indian River Lagoon. Includes a state-expedited component (see #6 below), which will be constructed by the Corps.		Complete	In Progress	
6 **C-44 Reservoir and Stormwater Treatment Area** Now a component of Indian River Lagoon-South (see #5 above), this large above-ground storage reservoir and stormwater treatment area captures runoff in St. Lucie and Martin counties. This is a state-expedited component. Final design is complete and permits have been obtained for construction of the reservoir and stormwater treatment areas.		Complete	Complete Plan Conversion In Progress	Test Cell Complete

CURRENT CERP Projects

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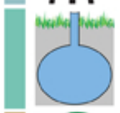

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Current CERP Projects

	Features	Planning	Design	Construction
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6 C-44 Reservoir and Stormwater Treatment Area Now a component of Indian River Lagoon-South (see #5 above), this large above-ground storage reservoir and stormwater treatment area captures runoff in St. Lucie and Martin counties. This is a state-expedited component. Final design is complete and permits have been obtained for construction of the reservoir and stormwater treatment areas.		Complete	Complete Plan Conversion In Progress	Test Cell Complete

	Features	Planning	Design	Construction
Lower East Coast Region				
7 Hillsboro ASR Pilot Tests the use of underground water storage and withdrawal near the Hillsboro Canal on Florida's east coast in Palm Beach County, south of the Loxahatchee National Wildlife Refuge.		Complete	Installing & Testing	Not Applicable
8 Loxahatchee River Watershed Restoration Project Combines several components to increase water supply: Water Preserve Areas/L-8 Basin,Pal-Mar and J.W. Corbett Wildlife Management Area Hydropattern Restoration, Lake Worth Lagoon Restoration and the restoration of the Loxahatchee River, a federally designated Wild and Scenic River. Includes a state expedited component: Southern L-8 Reservoir. Construction is complete on Phase 1. Conceptual design for additional capacity is complete.		Complete	L-8 Phase 1 & 2 Complete	L-8 Phase 1 Complete
9 Broward County Secondary Canal System A series of water-control structures, pumps and canal improvements located in the C-9, C-12 and C-13 canal basins and east basin of the North New River Canal in central and southern Broward County.		Future		
10 Broward County Water Preserve Areas Serves as a seepage control buffer between developed urban areas and the Everglades. Components include: C-9 impoundment, C-11 impoundment and Water Conservation Areas 3A and 3B Levee Seepage Management. Design of all components was expedited by the state, but has been transferred to USACE for completion.		In Progress	In Progress	
11 Acme Basin B Discharge Construction of a wetland and a water storage reservoir located adjacent to the Loxahatchee National Wildlife Refuge in Palm Beach County. Includes state expedited components: Phase 1 for the C-51 pump stations and C-1 canal improvement and Phase 2 Section 24 impoundment.		Complete	Complete	Phase 1: Complete Phase 2: In Progress
12 Site 1 Impoundment (Fran Reich Preserve) An above-ground reservoir to reduce the water-storage demands on Lake Okeechobee and the Loxahatchee National Wildlife Refuge. Contract 1 design was completed in February 2010.		Complete	Phase 1: Complete Phase 2: In Progress	In Progress
13 Strazzulla Wetlands Water control structures and the acquisition of more then 3,300 acres of pristine wetlands located in Palm Beach County. This expansion of wetland areas will provide connections between vital habitats for species that require large tracts of land for survival.		Future		
14 Biscayne Bay Coastal Wetlands Expands and restores wetlands adjacent to Biscayne Bay in Miami-Dade County, enhancing the ecological health of Biscayne Bay National Park. Includes a state expedited component. Final design of Phase 1 is complete; construction underway.		In Progress	In Progress Phase 1: Complete	Phase 1: In Progress
15 Lake Belt In-Ground Reservoir Technology Pilot Evaluates the use of reservoirs in areas where limerock mining has occurred in Miami-Dade county.		Future		Not Applicable
16 Wastewater Reuse Technology Pilot Investigates water quality issues associated with using treated reuse water to replace and augment freshwater flows to natural areas.		Future		Not Applicable
Everglades Agricultural Area Region				
17 Everglades Agricultural Area Storage Reservoirs Consists of a large Storage reservoir on former farmlands. Includes a state expedited A-1 component. Construction on the A-1 Reservoir was initiated in 2006; temporarily suspended in June 2008 due to litigation.		In Progress	In Progress A-1 Complete	In Progress
Everglades Natural Areas Region (Water Conservation Areas, Everglades National Park, Big Cypress National Preserve)				
18 Water Conservation Area 3 Decompartmentalization and Sheetflow Enhancement – Part 1 Modification or removal of levees, canals and water control structures in Water Conservation Areas 3A and 3B located in western Broward County for re-establishment of the ecological and hydrologic connection with Everglades National Park (ENP).		In Progress Test: Complete	Test: In Progress	
19 L-31N (L-30) Seepage Management Pilot Evaluates the uncertainty in seepage management technology and constructability to use full-scale for Everglades National Park (see below).		Complete	Complete	
20 Everglades National Park Seepage Management Evaluates various seepage management technologies that may be implemented to reduce seepage losses and improve wetland hydro-periods in the park for restoration. It includes the components: L-31N Improvements, S-356 Structure Relocation and Bird Drive Recharge Area.		Future		
Florida Bay/Florida Keys Region				
21 C-111 Spreader Canal Enhances freshwater wetlands and improves freshwater flows in the Southern Glades and Model Lands in South Miami-Dade County for a sustainable ecosystem and improves the hydrology of Taylor Slough and the coastal marshes of northeast Florida Bay. Includes a state expedited component which will reduce seepage of water from Taylor Slough to the lower C-111 canal system.		In Progress	Complete	In Progress
22 Florida Keys Tidal Restoration Removes impediments and uses bridges and culverts to restore the tidal connection between Florida Bay and the Atlantic Ocean in Monroe County blocked during the construction of U.S. Highway 1.		Future		
Southwest Coast Region				
23 Lakes Park Restoration Creates a meandering 40-acre flow way in Lee County with shoreline vegetation and by removing aquatic and upland exotic vegetation. Federal efforts on this project has been discontinued, however SFWMD has assumed lead agency responsibility.		Complete	Complete	In Progress
24 Henderson Creek/Belle Meade Restoration Includes a marsh filtering system; four culverts under State Road 951; hydrologic restoration around Manatee Basin, ditching, removal of some roadbed; invasive, exotic plant removal; a public-access point and interpretive boardwalk; construction of a swale and spreader system; and removal of the Road-to-Nowhere.		Future		
25 Picayune Strand Restoration Restores wetland function to more then 55,000 acres in Collier County. The plan will reduce over-drainage in Southern Golden Gate Estates which will, restore wetlands, improve aquifer recharge, restore and enhance habitat for fish and wildlife and improve the water quality of coastal estuaries. Includes a state expedited component. Partial canal filling and road removal has resulted in the restoration of more than 13,000 acres., while maintaining current levels of flood protection on adjacent lands.		Complete	In Progress	In Progress

	Lower East Coast Region	Features	Planning	Design	Construction
7	**Hillsboro ASR Pilot** Tests the use of underground water storage and withdrawal near the Hillsboro Canal on Florida's east coast in Palm Beach County, south of the Loxahatchee National Wildlife Refuge.		Complete	Installing & Testing	Not Applicable
8	**Loxahatchee River Watershed Restoration Project** Combines several components to increase water supply: Water Preserve Areas/L-8 Basin,Pal-Mar and J.W. Corbett Wildlife Management Area Hydropattern Restoration, Lake Worth Lagoon Restoration and the restoration of the Loxahatchee River, a federally designated Wild and Scenic River. Includes a state expedited component: Southern L-8 Reservoir. Construction is complete on Phase 1. Conceptual design for additional capacity is complete.		Complete	L-8 Phase 1 & 2 Complete	L-8 Phase 1 Complete
9	**Broward County Secondary Canal System** A series of water-control structures, pumps and canal improvements located in the C-9, C-12 and C-13 canal basins and east basin of the North New River Canal in central and southern Broward County.		Future		
10	**Broward County Water Preserve Areas** Serves as a seepage control buffer between developed urban areas and the Everglades. Components include: C-9 Impoundment, C-11 Impoundment and Water Conservation Areas 3A and 3B Levee Seepage Management. Design of all components was expedited by the state, but has been transferred to USACE for completion.		In Progress	In Progress	
11	**Acme Basin B Discharge** Construction of a wetland and a water storage reservoir located adjacent to the Loxahatchee National Wildlife Refuge in Palm Beach County. Includes state expedited components: Phase 1 for the C-51 pump stations and C-1 canal improvement and Phase 2 Section 24 Impoundment.		Complete	Complete	Phase 1: Complete Phase 2: In Progress
12	**Site 1 Impoundment (Fran Reich Preserve)** An above-ground reservoir to reduce the water-storage demands on Lake Okeechobee and the Loxahatchee National Wildlife Refuge. Contract 1 design was completed in February 2010.		Complete	Phase 1: Complete Phase 2: In Progress	In Progress
13	**Strazzulla Wetlands** Water control structures and the acquisition of more then 3,300 acres of pristine wetlands located in Palm Beach County. This expansion of wetland areas will provide connections between vital habitats for species that require large tracts of land for survival.		Future		
14	**Biscayne Bay Coastal Wetlands** Expands and restores wetlands adjacent to Biscayne Bay in Miami-Dade County, enhancing the ecological health of Biscayne Bay National Park. Includes a state expedited component. Final design of Phase 1 is complete; construction underway.		In Progress	In Progress Phase 1: Complete	Phase 1: In Progress
15	**Lake Belt In-Ground Reservoir Technology Pilot** Evaluates the use of reservoirs in areas where limerock mining has occurred in Miami-Dade county.		Future		Not Applicable
16	**Wastewater Reuse Technology Pilot** Investigates water quality issues associated with using treated reuse water to replace and augment freshwater flows to natural areas.		Future		Not Applicable
	Everglades Agricultural Area Region				
17	**Everglades Agricultural Area Storage Reservoirs** Consists of a large Storage reservoir on former farmlands. Includes a state expedited A-1 component. Construction on the A-1 Reservoir was initiated in 2006; temporarily suspended in June 2008 due to litigation.		In Progress	In Progress A-1 Complete	In Progress
	Everglades Natural Areas Region (Water Conservation Areas, Everglades National Park, Big Cypress National Preserve)				
18	**Water Conservation Area 3 Decompartmentalization and Sheetflow Enhancement – Part 1** Modification or removal of levees, canals and water control structures in Water Conservation Areas 3A and 3B located in western Broward County for re-establishment of the ecological and hydrologic connection with Everglades National Park (ENP).		In Progress Test: Complete	Test: In Progress	
19	**L-31N (L-30) Seepage Management Pilot** Evaluates the uncertainty in seepage management technology and constructability to use full-scale for Everglades National Park (see below).		Complete	Complete	
20	**Everglades National Park Seepage Management** Evaluates various seepage management technologies that may be implemented to reduce seepage losses and improve wetland hydro-periods in the park for restoration. It includes the components: L-31N Improvements, S-356 Structure Relocation and Bird Drive Recharge Area.		Future		
	Florida Bay/Florida Keys Region				
21	**C-111 Spreader Canal** Enhances freshwater wetlands and improves freshwater flows in the Southern Glades and Model Lands in South Miami-Dade County for a sustainable ecosystem and improves the hydrology of Taylor Slough and the coastal marshes of northeast Florida Bay. Includes a state expedited component which will reduce seepage of water from Taylor Slough to the lower C-111 canal system.		In Progress	Complete	In Progress
22	**Florida Keys Tidal Restoration** Removes impediments and uses bridges and culverts to restore the tidal connection between Florida Bay and the Atlantic Ocean in Monroe County blocked during the construction of U.S. Highway 1.		Future		
	Southwest Coast Region				
23	**Lakes Park Restoration** Creates a meandering 40-acre flow way in Lee County with shoreline vegetation and by removing aquatic and upland exotic vegetation. Federal efforts on this project has been discontinued, however SFWMD has assumed lead agency responsibility.		Complete	Complete	In Progress
24	**Henderson Creek/Belle Meade Restoration** Includes a marsh filtering system; four culverts under State Road 951; hydrologic restoration around Manatee Basin, ditching, removal of some roadbed; invasive, exotic plant removal; a public-access point and interpretive boardwalk; construction of a swale and spreader system; and removal of the Road-to-Nowhere.		Future		
25	**Picayune Strand Restoration** Restores wetland function to more then 55,000 acres in Collier County. The plan will reduce over-drainage in Southern Golden Gate Estates which will, restore wetlands, improve aquifer recharge, restore and enhance habitat for fish and wildlife and improve the water quality of coastal estuaries. Includes a state expedited component. Partial canal filling and road removal has resulted in the restoration of more than 13,000 acres., while maintaining current levels of flood protection on adjacent lands.		Complete	In Progress	In Progress

DETERMINING A CERP WATER BUDGET
Distributing Water in South Florida

Once fully implemented, the CERP will allow water deliveries and overland flow to follow patterns that are more natural throughout the south Florida ecosystem. Water managers will be better able to convey water through canals and to store water for later use. CERP reservoirs will store excess water from Lake Okeechobee, receive flood control releases that would otherwise go to the estuaries, and collect stormwater runoff from developed areas. The stored water can then be used to help manage high and low water levels in Lake Okeechobee; help meet environmental targets in the estuaries, in the Everglades and other natural areas; and supplement urban and agricultural water supply. These benefits collectively achieve the goals of restoration for the CERP.

The water flow shown in the map below illustrates the volume and direction of water that enters and leaves various regions within south Florida. Flow is based on an average rainfall year using the prior 36-year rainfall record and results from a regional scale simulation model of the south Florida ecosystem.

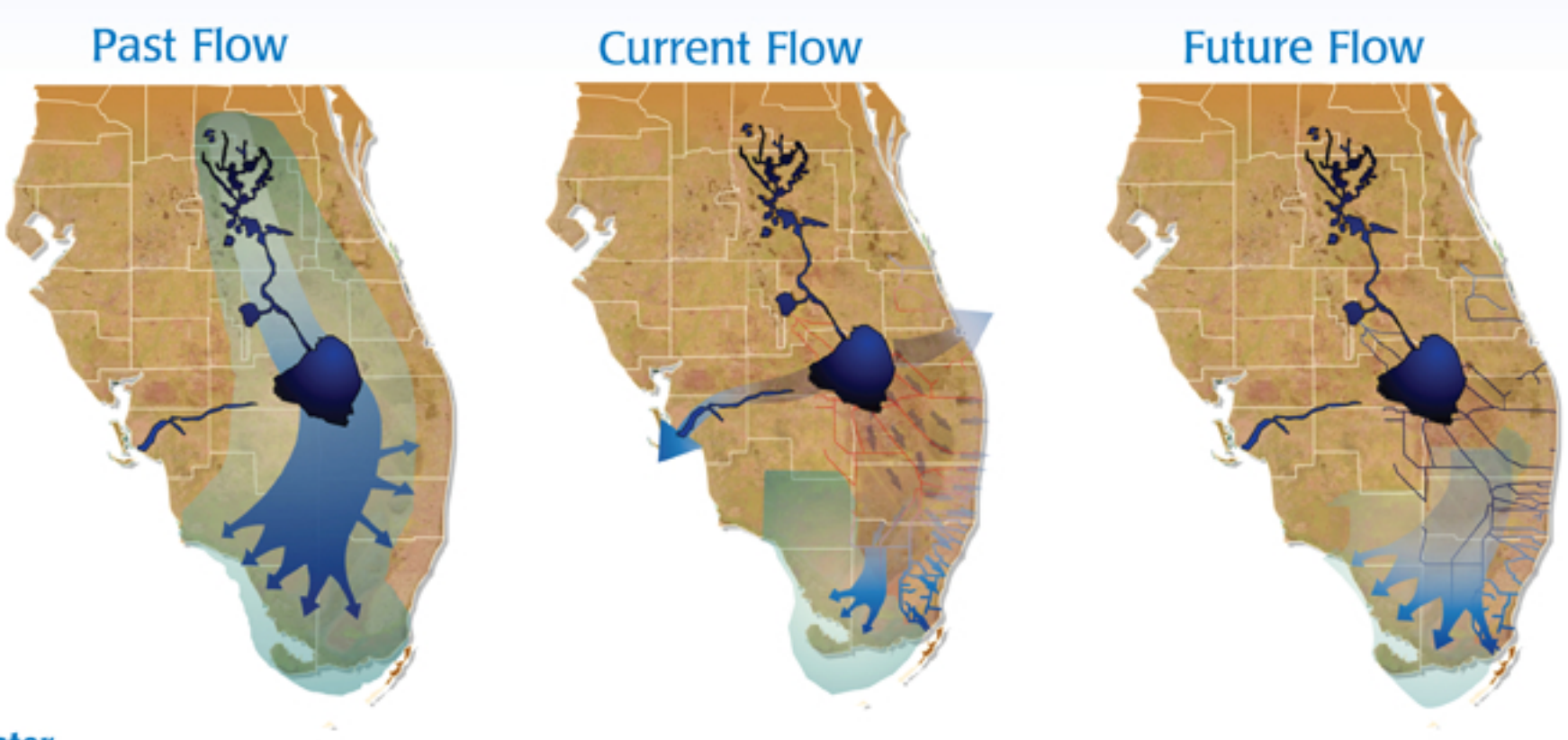
In developing a water budget, the volumes and flows of water are calculated for various water control categories that include: flood control discharges from Lake Okeechobee and developed areas to the Atlantic Ocean and the Gulf of Mexico, overland flow, water supply, groundwater flow and others.

The charts above represent estimates of fresh water going to the environment to developed areas, and to the ocean and gulf for three different periods of time.

Current Flow through Ecosystem Regions

The objective of CERP is to find the correct balance among the flow types throughout all regions to ensure a healthy and sustainable natural and human environment. For example, a certain level of flow to the estuaries and bays maintains favorable conditions for oysters, shrimp and seagrasses. Too much flow to these areas, however, causes damage to native organisms.

The maps below depict how water flowed historically through the south Florida ecosystem, and how water will flow in the future after CERP projects have been constructed.



Water Reservations

Prior to initiating construction of a CERP project, the state of Florida must use its water reservation or allocation authority to ensure that water identified in the Project Implementation Report (PIR) will be protected and available for the natural system once the project is completed. This identification involves technical evaluation of water necessary for the protection of fish and wildlife, in addition to changes resulting from the project operations that ultimately result in qualification of water to be conveyed to the natural system

To date, individual PIRs are completed for the Indian River Lagoon-South, Picayune Strand Restoration, Site 1 Impoundment (Fran Reich Preserve), and Caloosahatchee River (C-43) West Basin Storage Reservoir projects. Congress authorized three of these projects for construction in the latest Water Resources Development Act (WRDA 2007): Indian River Lagoon-South, Picayune Strand Restoration, and Site 1 Impoundment.

Protecting Water for the Environment

Fulfilling its commitment to meet the requirements of WRDA 2000 to set aside water generated through project construction first for the protection of fish and wildlife ahead of consumptive uses, the South Florida Water Management District (SFWMD) as CERP's local sponsor undertook rulemaking to reserve the water identified for the natural system in the three PIRs authorized by the Congress. The rulemaking also created a restricted allocation rule for the Everglades Protection Area.

- In February 2009 the SFWMD adopted a water reservation for the Picayune Strand and Fakahatchee Estuary, the first-ever water reservation for America's Everglades.
- The SFWMD adopted a second reservation for the St. Lucie River and Estuary as part of the Indian River Lagoon-South project.
- The SFWMD initiated rulemaking to reserve water for the Caloosahatchee River and Estuary on Florida's west coast as part of the upcoming C-43 West Basin Storage Reservoir project.